



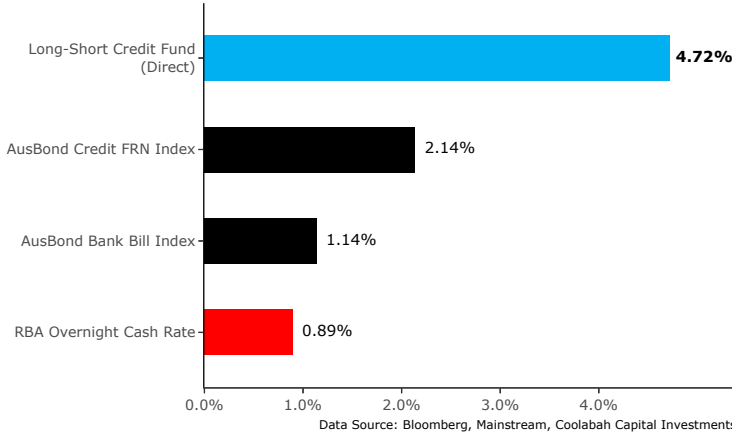
June 2021

Objective: An absolute return fixed-income strategy focused on exploiting long and short mispricings in credit markets that targets high-yield like returns above the Reserve Bank of Australia (RBA) cash rate plus 4% to 6% p.a. over rolling 3 year periods with volatility of less than 5% p.a. after Management Fees, Administration Fees and Performance Fees.

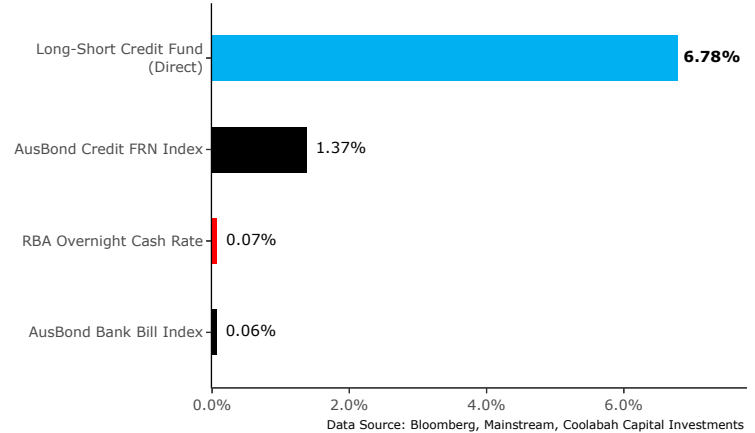
Strategy: We add value via active asset-selection using a range of valuation models with the aim of delivering superior risk-adjusted returns, or alpha, to traditional hedge funds. We primarily invest in senior and subordinated debt securities, hybrids and derivatives issued by Australian entities domestically, although we can invest in these securities when they are issued overseas, or by overseas entities (into Australia or offshore). The Fund can use gearing and targets holding the majority of its portfolio in investment-grade securities. It is managed by Coolabah Capital Investments.

Period Ending	Gross Return (Direct)	Net Return (Direct) [†]	RBA Cash Rate	Gross Excess Return [‡]	Net Excess Return (Direct) ^{†‡}
2021-06-30					
1 month	-1.61%	-1.35%	0.00%	-1.61%	-1.35%
3 months	-1.01%	-1.00%	0.01%	-1.02%	-1.01%
6 months	1.92%	1.14%	0.02%	1.91%	1.13%
1 year	9.59%	6.78%	0.07%	9.52%	6.71%
2 years pa	6.97%	4.66%	0.35%	6.62%	4.30%
3 years pa	7.51%	5.18%	0.73%	6.79%	4.45%
Inception pa Aug. 2017	6.87%	4.72%	0.89%	5.98%	3.82%

Long Short Credit Fund Returns (Net) vs Benchmark (pa)
Annualised Returns Since Inception in August 2017 to 30 June 2021



Long Short Credit Fund Returns (Net) vs Benchmark
12 Month Return to June 2021

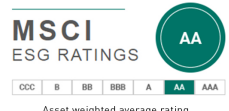


[†] Net returns are calculated from the historic gross returns using the current fee structure as displayed in the Product Disclosure Statement. [‡] The Excess Return columns represent the gross and net return above the RBA cash rate.

Disclaimer: Past performance does not assure future returns. Returns are shown net of all Management and Performance fees unless otherwise stated. All investments carry risks, including that the value of investments may vary, future returns may differ from past returns, and that your capital is not guaranteed. To understand Fund's risks better, please refer to the Product Disclosure Statement available at Coolabah Capital Investments' [website](#).

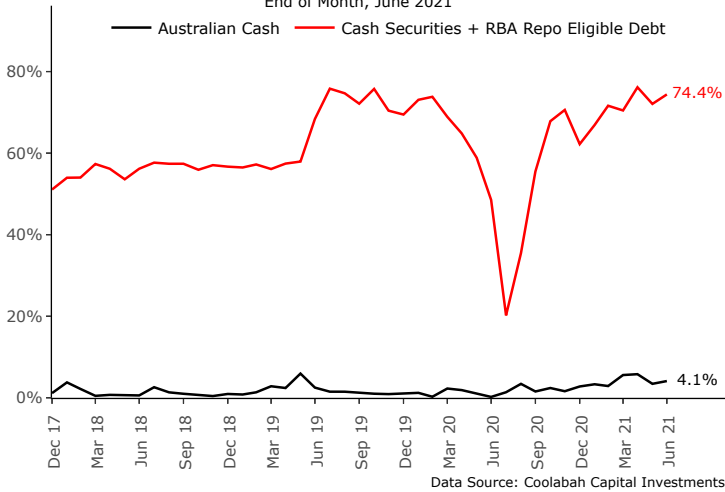
Net Monthly Returns > RBA Overnight Cash Rate	78%	Permitted Gearing	Yes
Gross Portfolio Weight to Cash Securities	4.1%	1 Year Av. Gross Portfolio Weight to Cash	3.2%
Gross Portfolio Weight to Bonds	96.3%	Gross Portfolio Weight to AT1 Hybrids	7.5%
Av. Portfolio Credit Rating	AA-	Gross Cash Securities + RBA Repo-Eligible Debt	74.4%
Portfolio MSCI ESG Rating	AA	Gross Portfolio Weight to ABS/RMBS	0.1%
No. Cash Securities	4	Net Credit Spread Duration Ex Govt	4.00 years
No. Notes and Bonds	80	Net Annual Volatility (since incep.)	3.13% pa
Av. Interest Rate (Gross Running Yield)	3.15%	Gross/Net Sharpe Ratio (since incep.)	1.84x/1.22x
Modified Interest Rate Duration	0.11 years	Awards: FE Alpha Manager 2019: Christopher Joye; Ratings: Lonsec available to advisers; Recommended (Atchison); 'Superior More Complex' (Foresight Analytics)	

Signatory of:

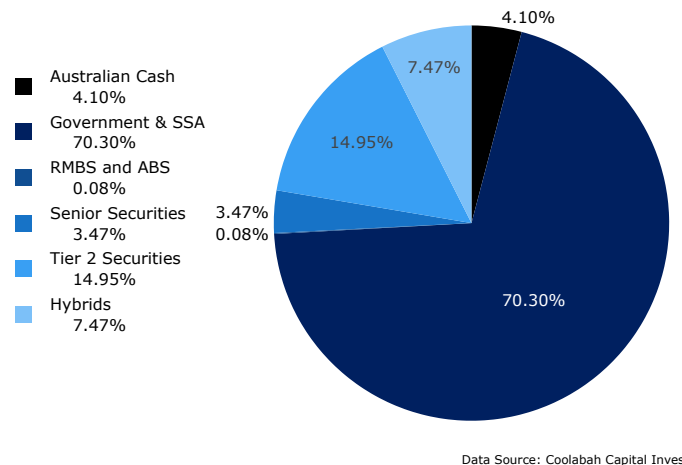


Asset weighted average rating

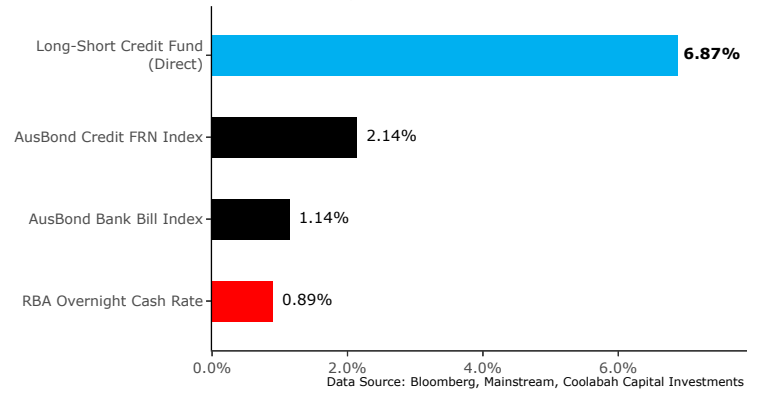
Portfolio Weights: Cash + RBA Repo Eligible Debt
End of Month, June 2021



Long Short Credit Fund Portfolio Composition (Gross NAV)
(Gross Levered Statistics) - 30 June 2021



Long Short Credit Fund Returns (Gross) vs Benchmark (pa)
Annualized Returns Since Inception in August 2017 to 30 June 2021



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The since inception gross (net) return of 6.87% pa gross (4.72% pa net) is the total annual return earned by the fund since Aug. 2017, including interest income and movements in the price of the bond portfolio after all fund fees (assuming net returns are calculated from the historic gross returns using the current fee structure as displayed in the Product Disclosure Statement). The net return quoted applies to the Smarter Money Long-Short Credit Fund - Direct Investor Class, with quarterly distributions reinvested. Each investor's return will vary depending upon their own investment date and any top-ups and withdrawals they make. The annualised volatility estimate of 3.13% pa is based on the standard deviation of net daily returns since inception, which are then annualised, attributable to the Smarter Money Long-Short Credit Fund - Direct Investor Class.

Portfolio Managers	Christopher Joye, Ashley Kabel, Dr Stephen Parker, Dr Nick Campregher (Coolabah Capital Investments)		
APIR Code	SLT2562AU	Fund Inception	31-Aug-17
ISIN	AU60SLT25623	Distributions	Quarterly
Morningstar Ticker	41597	Unit Pricing	Daily (earnings accrue daily)
Asset-Class	Alternatives/Hedge Funds	Min. Investment	\$1,000
Target Return	Net 4.0%-6.0% pa over RBA cash rate	Withdrawals	Daily Requests (funds normally in 3 days)
Investment Manager	Coolabah Capital Investments (Retail)	Buy/Sell Spread	0.00%/0.05%
Responsible Entity	Equity Trustees	Mgt. & Admin Fee	1.00% pa
Custodian	Mainstream Fund Services	Perf. Fee	20.5% of returns over RBA cash rate + 1.00% pa

Portfolio commentary: In June, the zero-duration and daily liquidity Long Short Credit Fund (LSCF) returned **-1.61% gross (-1.35% net)**, as the spreads on State government bonds over and above the interest rate on Commonwealth government bonds jumped during the month to the highest levels since before the COVID-19 crisis, which presented attractive entry opportunities that are expected to mean-revert and drive future performance. The increase in State government bond spreads was driven by a debt funding surprise from NSW, which dragged the interest rates on all State government bonds higher. In line with Coolabah forecasts, NSW reported an \$11 billion smaller whole-of-government budget deficit in FY2021, which was significantly better than market expectations. Yet NSW signalled that it might actively choose to ramp-up gross debt for discretionary reasons based on a range of non-viable assumptions that we expect to be reversed over time, resulting in correspondingly lower debt issuance downgrades. The recent COVID-19 outbreak in NSW will only reinforce the need for Australia's biggest state to focus on responsible budget management. The circa 15 to 20 basis point increase in the spreads on State government bonds fully removed all the benefits of the RBA's bond purchase program, which is expected to continue until the Q3 or Q4 2022, and entail another \$140 billion to \$180 billion of asset purchases (one-fifth of which will be dedicated to State government bonds).

LSCF ended June with a weighted-average credit rating of **AA-**, a portfolio weighted average MSCI ESG rating of **AA**, and a running yield of **3.15%**. Over the previous 12 months, LSCF returned **9.59% gross (6.78% net)**, outperforming the benchmark RBA Overnight Cash Rate (**0.07%**) by **9.52% gross (6.71% net)**.

Since the inception of LSCF 3.8 years ago in August 2017, it has returned **6.87% pa gross (4.72% pa net)**, outperforming the benchmark RBA Overnight Cash Rate (**0.89% pa**) by **5.98% pa (3.82% pa net)**. LSCF's since inception Sharpe Ratio, which measures risk-adjusted returns, has been 1.84x (1.22x) gross (net). While LSCF's return volatility since inception has been low at around 3.13% pa (measured using daily returns), as a daily liquidity product with assets that are marked-to-market using executable prices, volatility does exist. This contrasts with illiquid credit (eg, loans and high yield bonds) wherein assets that have very high risk can appear to have remarkably low volatility, which is, in fact, just a mirage explained by the inability to properly value these assets using executable prices.

Strategy commentary: The end of the financial year was an unusual month for fixed-income market performance with some fairly large and conflicting cross-currents that have opened up historically attractive investment opportunities.

On the one hand, Coolabah observed strong returns in our over-the-counter (OTC) cash credit markets, including robust performance in our US dollar and Euro senior and Tier 2 bond trading, coupled with healthy appreciation in the value of Aussie dollar Tier 2 bonds and hybrids.

Juxtaposed against this was a very aggressive move wider in spreads on semi-government bonds (aka "semis"), which was triggered by some unusual, and almost certainly unintended, NSW budget communications. This in turn pushed the cost of capital for all state governments, including NSW, dramatically higher.

In fact, over June and early July 10-year semi spreads blew to levels wider than those observed in the pre-Australian quantitative easing (QE) world between 2015 and 2018, peaking broadly in line with where spreads were just prior to the onset of the COVID-19 crisis.

This is remarkable insofar as the RBA has recently stated that given the success of its QE program in helping manage the Australian dollar and public sector borrowing costs, QE is no longer an "unconventional" option but now rather a permanent part of its increasingly diverse and powerful counter-cyclical policy toolkit.

Strategy commentary cont'd: RBA Governor Phil Lowe has explained that in future shocks the RBA will use QE in conjunction with its traditional overnight cash rate lever to influence both short- and long-term interest rates, which makes obvious sense. It also provides for a much more balanced mix of policy solutions.

It could for example mean that the RBA will not need to cut the cash rate as far as it has in the past because it will also be concurrently reducing long-term interest rates via QE. This could improve financial stability outcomes, and reduce the risk of housing bubbles emerging as a result of excessively low short-term interest rates in an economy where most borrowers have variable-rate debt.

For semis, however, this means that the central bank will be buying these bonds in future recessions, which should irreversibly change the way in which these assets are priced. If semis are going to trade where they have during the current RBA QE program in future shocks as a result of central bank buying, their equilibrium, through-the-cycle credit spread must be correspondingly lower than it has been in the pre-QE world.

This will be amplified by the fact that the RBA will end-up owning about 30% of all semis once it completes its third QE program in the second half of 2022. History suggests that the RBA is unlikely to quickly shrink its balance-sheet, but rather continuously reinvest semi coupons and maturities into new bond supply. It will, therefore, serve as an ongoing source of demand in the period after its QE program ends at the end of 2022. None of this is reflected in current semis pricing, which is what begets the contemporaneous investment opportunity that we have been capitalising on.

The net result of these cross-currents in June is that some of our portfolios performed well, while others traded-off the benefit of much higher spreads (and yields) against short-term pay-back in performance in price terms.

Whereas our hybrids-centric portfolios like HBRD did exceptionally well in June, others that are focussed on the semis market gave back some recent returns as spreads jumped higher. We faded this move, actively buying semis after taking profits on about \$1 billion of these assets in May, which we believe sets these portfolios up well for future performance.

Semi spreads jump 15-20 basis points

Over the last month or so, 7-year and 10-year State government bond spreads above the Commonwealth government bond “curve” (ie, the spreads above the interest rates paid on Commonwealth bonds) have soared back to levels above where they once traded in a pre-QE-world. As we touched on above, this is ostensibly surprising given that the RBA is buying \$1 billion a week of these semi-government bonds via its bond purchase or QE program, which is a topic we will dive into in more detail later.

By way of a brief primer, the RBA is seeking to influence the interest rates on 5-year to 10-year Commonwealth and semi-government bonds for several reasons:

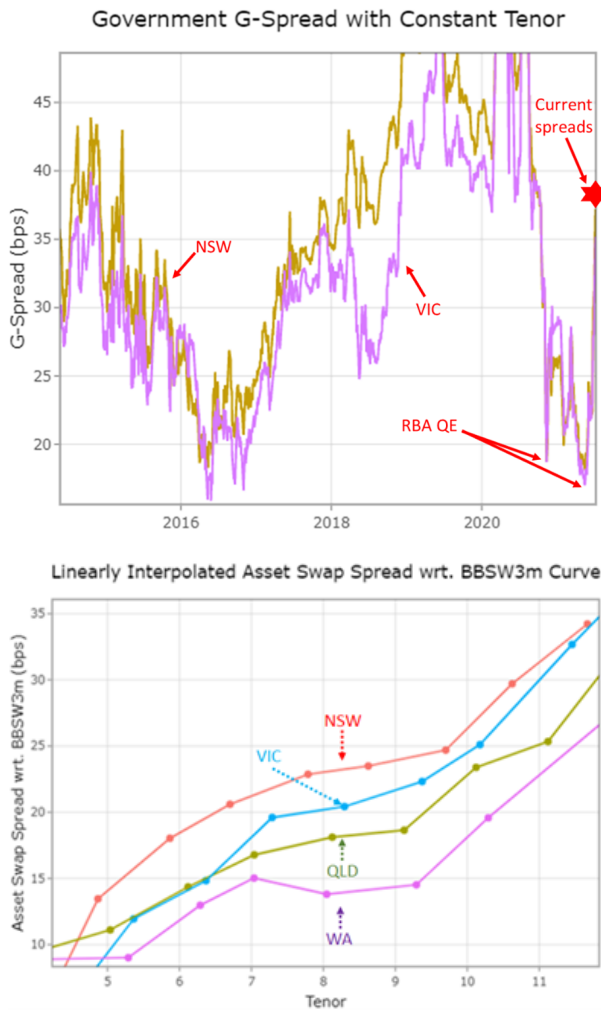
(1) These securities are key determinants of Australia’s long-term risk-free rates, and are used as the basis for estimating where the fair value is for Australia’s exchange rate vis-à-vis other currencies. The RBA’s QE program has reduced the Commonwealth government’s 10-year bond yield by at least 30 basis points, which makes Australia’s exchange rate less attractive relative to the rest of the world. RBA QE has also lowered the yield on the \$400 billion plus worth of semis, which reduces the incentives for foreign investors to buy them, further reducing demand for Aussie dollars. (Notwithstanding this, Australia’s 10-year Commonwealth and semi-government bond yields are still the highest in the AAA and AA rated sovereign bond world.)

Collectively, this has put substantial downward pressure on the Aussie dollar, which at US75 cents is arguably at least 10-15 cents below where its current fair value should be given record high commodity prices. The lower Aussie dollar has helped save Aussie exporters and import-competing businesses.

Strategy commentary cont'd:

(2) Commonwealth and semi-government bond yields represent the public sector’s borrowing costs. In the same way that the RBA slashes its overnight cash rate in a recession to compress business and household borrowing costs on variable-rate loans, using QE to lower the yields on government bonds directly contracts public sector borrowing costs. This is important to both alleviate the interest repayment burden on taxpayers when public debt is rising rapidly in a recession, and to motivate and incentivize governments to capitalise on cheap debt to raise funding to invest in counter-cyclical stimulus, such as new infrastructure projects. This fiscal and monetary policy fusion is exactly what the RBA has achieved via its unprecedented QE program, convincing the historically parsimonious States, for example, to commit to long-term infrastructure projects. While the cost for some States, like NSW and VIC, has been losing their AAA credit ratings in the short-term, the RBA’s Governor, Phil Lowe, has promised publicly to protect them via very low borrowing costs assured by his QE program.

Turning back to asset pricing, the spreads on 10-year NSW government bonds above the Commonwealth government bond curve jumped 10 basis points (bps) during the month of June, and were some 18bps higher than their recent May tight at one point in July. The first chart below shows the change in the spread above Commonwealth government bonds on a constant-maturity, 10-year NSW and VIC government bond over time. The sudden spike in June looks like a vertical line, and is hard to make out on the far right-hand-side of the chart. NSW’s budget communications issues have unfortunately also dragged-up the cost of capital for all the States (by about 15bps), although NSW has been punished relatively speaking, and now has the highest borrowing costs of all the major States. In some parts of the yield curve even tiny states like South Australia can theoretically borrow more cheaply than NSW. But as we will see, there are reasons to believe that this historically unprecedented event will be a temporary dislocation.



Strategy commentary cont'd: In fact, in early July there is some preliminary evidence that semi spreads may have started their inevitable mean-reversion as buyers have sought to capitalise on conspicuously cheap levels.

Budgets' surprise – as expected

Coming into June, Coolabah forecast that both the Commonwealth government and the individual States would report budget deficits that were substantially less than both the market, and the governments themselves, had projected.

In theory, this should mean that both the Commonwealth and the States would announce debt issuance tasks, or new bond supply, for the 2022 financial year that was materially less than what the market had assumed.

In respect of the reported 2021 budget deficits, which were revealed in May and June, both the Commonwealth and States materially outperformed the market's expectations, and of course their own pessimistic assumptions dating back to their original 2020 budget forecasts (these results were also a lot better than the slightly more optimistic mid-year budget updates).

This included NSW, which on a whole-of-government cash basis, reported a 2021 budget deficit that was a remarkable \$11 billion lower than NSW's original estimate in late 2020, which triggered a credit rating downgrade from AAA to AA+ from Standard & Poor's. (Victoria also lost her AAA rating).

The States are now either in full operating budget surplus (Western Australia) or expected to head into operating surpluses over the next few years. At the Federal level, the Commonwealth has [reported budget surpluses over the past three months](#), and is already around \$14 billion ahead of its May budget projections.

The corollary has been that both the Commonwealth and the States have materially downgraded their bond issuance tasks in line with Coolabah's expectations, with the notable exception of NSW. And it appears that the Commonwealth and the States will further downgrade their debt issuance tasks at their mid-year updates.

Ignoring NSW, there is only about \$50 billion of semi bond supply forecast for 2022, which then jumps to about \$85 billion when one includes the official borrowing task claimed by the biggest State. But NSW's numbers will have to be revised down materially for reasons that we explain below. Even without any such revision, total potential semi supply of \$85 billion is still less than the issuance observed in 2021 (\$88 billion) and 2020 (\$94 billion), primarily because the skinnier issuance announced by all the other States was negated by the upside surprise from NSW.

NSW funding shock

The anomaly with NSW has been the as-yet-unexplained proposal flowing from its the June budget to issue extremely large volumes of debt primarily to fund undisclosed "financial assets"—up to \$20 billion or more—in 2022 and the three financial years following.

In our view, this proposal is based on unrealistic assumptions that will need to be modified by the NSW government over time, which will in turn result in nontrivial reductions to NSW's debt issuance task. There are some echoes here of 2021, when NSW initially announced that it would issue \$36 billion, only to slash this down to \$24 billion.

Back in 2018, NSW's Treasurer Dominic Perrottet prudently established a Debt Retirement Fund under the aegis of something called the NSW Generations Fund Act 2018. The sole purpose of the Debt Retirement Fund (DRF), which sits under the NSW Generations Fund (NGF), is to "reduce the debt of the State".

And the DRF needs to be managed in accordance with the Fiscal Responsibility Act 2012, which has a singular objective of maintaining NSW's AAA credit rating to minimise taxpayers' debt servicing costs.

Strategy commentary cont'd: In 2018, NSW was running a circa \$4 billion budget surplus and had negative net debt. It made perfect sense to establish a debt reduction vehicle to meet future liabilities, much like the Commonwealth's Future Fund.

The characteristically parsimonious Perrottet put \$3 billion of his budget surpluses into the DRF and the \$7 billion proceeds of the sale of the first half of WestConnex, consequently seeding it with \$10 billion in total.

Perrottet explained that his mission was to build cash via asset sales and budget surpluses in the DRF such that when NSW eventually did start racking-up large deficits, and significant amounts of public debt, the DRF could be called into action to help pay-back this debt and thereby reduce borrowing costs. If the AAA were lost, as it has been, the DRF would help win it back.

The DRF was, therefore, to serve as an entirely appropriate, counter-cyclical buffer for fiscal policy: save a little from the generations today to protect the generations of the future.

There was another vehicle established inside the NGF that was meant to be used to pay for community infrastructure investments, although curiously this has never actually disbursed much money despite the NGF now holding almost \$15 billion.

(One presumes that the superficial unwillingness to disburse funds from the NGF has nothing to do with the fact that those running the NGF for the NSW government would see their funds under management, and any fees or compensation tied to FUM, decline if the NGF were to use its vast capital base for debt repayment and/or infrastructure funding purposes.)

The wave of record budget deficits and gigantic increases in NSW debt duly arrived in 2020 with the COVID-19 crisis. The opportunity has therefore arrived for NSW to put the DRF to its intended legislative purpose of reducing State debt and the interest repayments on that debt.

This will be facilitated by the sale of the second half of WestConnex in October 2021, which is expected to crystallise \$12 billion to \$13 billion this year. Combined with the ~\$15 billion already in the DRF, NSW is in the financially robust position of not having to issue any debt at all.

(The NSW government placed an extra \$2 billion in the DRF in October 2020, oddly enough when its deficits and debt was exploding. It is not clear how this money was actually funded.)

This was the genius behind Perrottet's inspired 2018 decision to set aside these reserves for a rainy day, and thereby spare NSW taxpayers' decades of unnecessary indebtedness. The Future Fund's boss Peter Costello had similar plans when he served as Commonwealth Treasurer and paid-back virtually all the Federal Government's public debt during this time.

For the time being, NSW has not had an opportunity to shed light on why its proposed borrowing task is accelerating gross debt issuance rather than reducing, presumably because the government has been understandably focussed on fighting the current COVID-19 outbreak.

Debt cannot repay debt

One utterly implausible explanation is that NSW actually wants to raise the extra circa \$20 billion of debt to invest in equities and other speculative asset-classes in what would be literally a multi-billion dollar leveraged equities "carry trade" using taxpayer money.

This impossibly silly idea would involve the notion that the DRF can earn guaranteed returns of say 5%-6% per annum on global equities and other high-risk assets, like junk bonds, which it could use to cover the cost of the taxpayer debt being used to fund the DRF. The plan works perfectly on the assumption that equities never fall in value, and certainly never suffer 30% to 50% losses along the lines of those incurred in 1987, 2001, 2008-09, and March 2020.

This claim obviously makes no sense for many reasons. First, the DRF was established to reduce public debt, not increase it. As noted above, the NSW Generations Fund Act 2018 requires the DRF to be used to "reduce the debt of the State". And this is a reference to gross debt, not net debt, which we will return to later.

Strategy commentary cont'd: It would also breach NSW's Fiscal Responsibility Act 2012, which requires NSW to manage the DRF such that it does not increase the cost of government borrowing, which has exploded because of NSW's extra debt issuance, and to maintain NSW's AAA credit rating, which has been lost because of the explosive increase in debt outstanding.

S&P assesses NSW's credit risk using both a gross debt measure and a net debt measure. The gross debt measure is NSW's interest repayments on gross debt divided by its operating revenue. By raising large amounts of extra gross debt to fund the DRF (or anything else), NSW would be directly impairing this key credit rating metric.

The second metric S&P focuses on is net debt to operating revenue. But if NSW funded the DRF with gross debt, it would not reduce net debt (because the increase in gross debt offsets this).

S&P only normally evaluates state government credit risk using gross, not net, debt measures. In the case of NSW, it has granted it a globally unusual exception to be able to deduct the DRF off its gross debt, and thereby also be evaluated on a net debt basis.

But using gross debt to fund the DRF would not reduce net debt. Likewise, keeping the \$23 billion of WestConnex sale proceeds in the DRF when NSW is running large budget deficits, and needs money to pay for \$108.5 billion of infrastructure commitments, would mean that NSW is actively choosing to boost gross debt. While the DRF might offset that using the WestConnex sale proceeds, it would not reduce net debt, which would be unchanged because of the jump in gross debt.

On this note, S&P's highly regarded analyst team of Martin Foo, Anthony Walker, and Sharad Jain very clearly warned NSW in December last year that it might withdraw NSW's ability to use the DRF to reduce its gross debt if the DRF was not being applied for its strictly intended purpose.

Based on its last annual report, the DRF is somewhat surprisingly 74% invested in equities, and has more allocated to high-risk asset-classes, such as junk bonds.

If the DRF was debt funded, this would mean that any fall in the value of the DRF would immediately increase NSW's net debt. And, of course, the DRF did decline in value in 2020, and would be expected to suffer large losses in any material shock or recession, given its equities exposures, which make the impact of the DRF on the NSW budget highly pro-cyclical, rather than counter-cyclical, in this unlikely debt-funded scenario.

So while it is improbable that NSW would be using its balance-sheet as a levered equity hedge fund, on the off chance that it was, one would expect S&P to remove the DRF's ability to be netted against gross debt, which would make debt-funding the DRF impossible, because it would then increase both gross and net debt.

This confusion is certain to be clarified by the NSW government in due course, which we believe will result in a material reduction in NSW's expected debt issuance program. If NSW simply deducts the \$13 billion WestConnex sale proceeds off its 2022 funding task, debt issuance would fall from about \$35.5 billion to circa \$22.5 billion. If NSW further used the DRF's existing \$15 billion to reduce its gross debt issuance, the funding task would obviously fall a lot further.

NSW Treasurer Dominic Perrottet is sure to want to protect NSW's position as the most economically powerful, and least risky, Australian state, which unfortunately has been ceded in recent months.

The bottom-line is that once this debt issuance uncertainty is resolved, NSW's cost of capital should mean-revert, and could actually move tighter than the other States if NSW does revise down its funding needs.

Finally, QE3 arrives!

After months of anticipation, the RBA finally delivered on its third QE program. Way back on 5 February 2021, when [Coolabah first forecast a \\$100 billion QE3 program](#), the notion of a third stanza of QE extending into 2022 was not fashionable amongst economists at the time. (On January 22 we had [predicted \\$100 billion of QE2](#), which the RBA delivered on 2 February.)

Strategy commentary cont'd: On 1 June 2021, we updated our QE3 forecast to a **flexible, open-ended and state-dependent** program, which was calibrated at the same weekly bond purchase pace as QE1 and QE2 (most other banks, save CBA, embraced this view later in the month).

The idea had come from the insights published by The Australian Financial Review's Economics Editor, John Kehoe, a key RBA media conduit, who first canvassed an open-ended bond-buying program following the RBA's May 2021 board meeting, and then **doubled-down on the proposal** after the RBA's June board meeting.

As it turned out, we are indeed getting a new open-ended and state-dependent form of QE3 once QE2 expires in September, which will be reviewed by the RBA on a quarterly basis at the same time as it releases its long-term forecasts via its Statement on Monetary Policy. The first quarterly review will be in November 2021, followed by subsequent reviews in February, May, and August.

One modest surprise from the RBA's July meeting was the sizing of the weekly run-rate of purchases. Whereas we had been expecting \$5 billion/week based on Kehoe's repeated guidance, the RBA ultimately opted for a slight taper to \$4 billion/week in what was very likely a line-ball call driven by the dramatic drop-off in bond issuance by the Commonwealth government, according to News Ltd's Terry McCrann (see more on this later).

We don't currently know exactly how big QE3 will be because the RBA has now shifted from time-dependent bond purchase programs (i.e., QE1 and QE2) to a state-dependent model.

Having said that, it is easy to make some educated guesses that suggest QE3 will be between \$105 billion and \$142 billion in size, give or take. There is also \$41 billion remaining in QE2 that you need to add to these numbers (see the table below). These QE3 estimates have been subsequently adopted by banks such as ANZ (above \$100 billion), Goldman Sachs (\$130 billion) and Citi (\$145 billion).

Assume, for example, that the RBA tapers its weekly bond purchase pace by \$1 billion at every quarterly review meeting (i.e., from \$4 billion/week in quarter one to \$3 billion/week in the next quarter, etc), which would be relatively fast compared to the US Federal Reserve and other key central banks.

To consistently taper in this fashion, the RBA would have to be highly confident of hitting its ambitious wages growth and inflation goals of more than 3% annualised and 2% annualised, respectively. **Even in this positive scenario, the RBA will end-up buying \$105 billion of bonds via QE3.** And that supposes a straight-line recovery in the economy with zero adversity.

Some may argue that the RBA could get radical and slash its bond purchases from \$4 billion/week to \$2 billion/week and then say \$1/billion per week over three quarters for a total program size of \$69 billion in a super-fast taper. Yet this is (1) inconsistent with both Governor Lowe's statements and his media signalling that any potential future tapering of QE will be very gradual and extend well into 2022 (see more on this later), along the lines of the Bank of Canada's model, and (2) would put the RBA miles ahead of the US Federal Reserve, which has led the market to believe that it will be tapering QE all the way through 2022. That would in turn risk putting serious high upward pressure on the Aussie dollar, which the RBA is very keen to avoid.

NAB's economics team, which had previously been in the hard-taper camp apropos QE3, concluded following the RBA statements that:

“QE purchases will likely have a long taper. The Governor indicated little appetite to taper quickly, suggesting the Bank would want to see evidence of the improvement in activity and employment translating into higher wage and inflation pressures before further tapering QE purchases” NAB economics

During his remarks, Governor Lowe repeatedly stated that the RBA could **increase or decrease QE3 at its quarterly reviews**, with perhaps a more likely situation being that it holds the bond purchases steady at say \$4 billion/week or \$3 billion/week over at least a couple of quarters.

Strategy commentary cont'd: A scenario involving one pause at say \$3 billion/week over two quarters implies a total program size of \$142 billion (plus the remaining QE2), highlighted in the second row below. An even slower taper again gets the RBA to about \$192 billion of purchases for QE3.

Given how eager the RBA has been to appropriately highlight the tremendous success it has had with its QE program thus far (in various speeches and [recent Bulletin research papers](#)), and in particular how cheap the Aussie dollar remains relative to fair value estimates north of US85 cents, it is hard to imagine that the RBA will be rushing to aggressively taper QE3 in view of the asymmetric consequences of doing so.

If it tapers QE3 too quickly, and its forecasts prove wrong and/or the Aussie dollar appreciates materially, it will have to undertake the humiliating exercise of accepting defeat and ramping it back-up again. Going slow on any future QE3 taper, and keeping the Aussie dollar low while supplying some extra support to the economy, has few if any downside risks.

Weekly RBA Purchases \$bn (80:20 ACGS/Semis)							
QE3 Program	Sep-Nov	Nov-Feb	Feb-May	May-Aug	Aug-Nov	Nov-Feb	Total (\$bn) + QE2 left (\$bn)
Constant Taper	4	3	2	1			105 146
Slower Taper	4	3	3	2	1		142 183
Very Slow Taper	4	4	3	3	2	2	192 233
Very Fast Taper	4	2	1				69 110

Source: Coolabah Capital Investments

Dropping \$5bn/week to \$4bn/week driven by smaller budget deficits

It would appear that the "line-ball call" for the RBA to opt for bond purchases of \$4 billion/week rather than \$5 billion/week was not driven by any especially strong desire to taper ahead of the rest of the world, but rather due to the fact that Australia's budget deficit, and hence government bond issuance, has been dropping like a stone.

Key RBA watcher Terry McCrann [wrote recently](#) that "although the RBA would not concede this, the cutback really only follows the budget deficit down as it drops sharply, not just from year-to-year as specific measures like JobKeeper end, but as the deficit falls faster than expected because the economy's been stronger than Treasury (and the RBA) expected".

"A lower deficit means quite simply that the RBA has to buy fewer bonds to offset any interest rate pressure and maintain liquidity in the financial market," McCrann added.

Heading into the meeting, this was our number one question: while the RBA had repeatedly conditioned the market to expect \$5 billion/week via Kehoe, the Commonwealth government was at the same time signalling a potentially large reduction in its own weekly bond issuance via its debt issuance agency, the Australian Office of Financial Management (AOFM).

Based on the May budget, the Commonwealth was planning on issuing \$130 billion of bonds this financial year. Yet the AOFM recently advised market participants that the federal budget is running \$14 billion ahead of the government's excessively conservative forecasts (we've repeatedly argued that both Federal and State budgets will blow their gloomy forecasts out of the water). Accordingly, the AOFM has signalled that its total debt issuance will be materially reduced once the government updates its budget outlook in December.

As Commonwealth bond issuance is slashed, the RBA is buying more securities on a relative basis, de facto increasing QE rather than holding it constant. The massive upside surprise on the Commonwealth budget seems to have left Martin Place no choice but to trim the weekly run-rate of purchases for fear of generating enormous negative bond supply and injecting much more QE stimulus than it had planned (eg, buying in secondary markets double what the Commonwealth was actually issuing as new bonds in primary markets).

Strategy commentary cont'd: Trimming the QE3 weekly purchases from \$5 billion/week to \$4 billion/week is not, therefore, economically a taper when juxtaposed against the dramatic reduction in Commonwealth bond issuance: it is rather a **rightsizing of the QE3 program** to significantly changed conditions.

It also explains why Governor Phil Lowe remains “uber-dovish”, as Westpac’s Bill Evans described it, while presiding over what appears to ostensibly be a tightening of policy.

QE3 likely to be elongated affair

While the RBA’s 2.30pm statement on the new QE3 program was sparse on details, it did state that the “the Bank will continue to purchase bonds given that we remain some distance from the inflation and employment objectives”.

In a [separate speech](#) after the meeting, Governor Lowe outlined the benefits of additional QE, including lower bond yields, lower funding costs, a lower exchange rate, and higher asset prices, which has “supported the economic recovery in Australia”.

He then set the expectation for a prolonged QE3 program, stating that after QE2 ends in September, the RBA “will continue to purchase bonds after this date, providing ongoing support to the Australian economy”.

Lowe explained that the RBA will review the pace of QE3 bond purchases in November, timed to coincide with its updated economic forecasts released via its quarterly Statement on Monetary Policy, which “allows the possibility of a timely recalibration of the Bank’s bond purchases **in either direction**”. Many RBA watchers noted the reference to symmetrical changes up or down.

So, after November, QE3 could remain at the same pace, be lifted a little, or trimmed further (the ECB increased its run-rate of bond purchases earlier this year). To underscore this point, Lowe reiterated that “we are not locked into any particular path and bond purchases could be scaled up again if economic conditions warrant”.

Crucially, Lowe made it clear that QE3 is state-dependent, and will continue until the RBA is confident of hitting its inflation and employment targets, both of which subsume a wages goal:

“We will continue buying bonds until there is further material progress towards the goals for full employment and inflation. We want to see clear evidence that the stronger economy is translating into a pick-up in aggregate wage growth and a lift in inflation towards the target. We will also be reviewing the ongoing rate of purchases in light of our forecasts for future progress towards our goals. So, both the outcomes and the forecasts are important here...The additional bond purchases that we announced today provide an ongoing important source of support to the Australian economy. I want to emphasise that the step-down from \$5 billion to \$4 billion does not represent a withdrawal of support by the RBA.”

Flagging the likelihood that QE3 will run well into 2022, Lowe declared that “we are still well short of our goals for full employment and inflation, and this means that a continuation of monetary support through bond purchases is appropriate”.

The decision-rules for tapering QE3 are clear. Lowe explained that “for inflation to be sustainably in the 2 to 3 per cent range, it is likely that wages growth will need to exceed 3 per cent”. “The current rate of wage growth is materially less than 3 per cent and we expect **it will be a few years still before it increases back above 3 per cent**. Further progress on reducing unemployment and underemployment will be needed to get there.”

To be confident that wages are heading above 3 per cent annually, the RBA will want to see at least two to three quarters of data to validate this view. This is unlikely to be obtained until sometime in 2023.

Strategy commentary cont'd:

Media proxies chirping

If there was any doubt that QE3 will be elongated, the RBA's trusted media proxies offered further guidance. Writing in the AFR after the meeting, John Kehoe commented that "the slight taper" would likely mean that QE3 could "run well into next year", emphasising that QE3 does not mean the RBA will reflexively reduce the weekly pace of purchases after every quarterly review.

"When the RBA board next reviews QE in November, it is not on a pre-set path to further reduce the \$4 billion weekly bond purchases and could sit at this level if not enough economic progress is made," Kehoe said. "Before further QE tapering, the unemployment rate will likely require a 4 in front of it."

"From there, gradual data-dependent reductions in QE will be considered periodically next year. Furthermore, Lowe signalled the RBA will only fully exit QE once it sees clear evidence that progress is being made towards its 4 per cent full-employment estimate, wages are accelerating, and inflation is rising towards the goal."

Despite differences in the Australian and Canadian inflation stories (Aussie inflation is much weaker), Kehoe highlighted that the RBA QE program is following in the Bank of Canada's footsteps, albeit with a lag. (He cited the Bank of Canada model of tapering when he first proposed a \$5 billion/week open-ended program after the RBA's May meeting.)

"Rather than waiting for a tapering from the world's most influential central bank, the US Federal Reserve, the RBA is in effect adopting the Bank of Canada's tapering model, albeit lagging its Canadian cousin," Kehoe said.

"The BoC has slowed its weekly bond purchases from a peak of \$C5 billion (\$5.3 billion) last year, to \$C4 billion since October 2020 and \$C3 billion since April 2021. But that's where the similarities end. The BoC expects to increase interest rates in late 2022. Canada is much closer to the 2 per cent midpoint of its inflation target. Annual inflation is only 1.1 per cent, well below the 2-3 per cent band."

Kehoe and others also highlighted an important statement from Lowe during his Q&A that "because the inflation and wage outcomes have been lower in Australia than other places, we're going to keep the stimulus going probably longer than the other countries". That is to say, the RBA remains committed to keeping its stimulus, including QE, around until it has high conviction that it will meet its targets, which might not be until sometime in 2023.

Finally, in a second speech after his QE announcement following the RBA's board meeting this week, Lowe provided important additional detail around the likely timing of the QE program:

"Back in February we thought the unemployment rate today would be 6.5% - it's 5.1% and job vacancies are at a record level. So, we thought consistent with the framework we had articulated, the third most important consideration is progress towards our goals - we had made progress and if we didn't decide to scale back when we had made such substantial progress I don't know when we would decide to scale back. It's a modest scaling back, and it's reflecting the progress that we have made. And we are going to keep buying these bonds until we make more material progress and really what we want to see, the key thing we want to see, is evidence that the stronger growth in jobs and output is translating into stronger wages and inflation. So, we are going to keep going until that happens. But as we get closer to those objectives - I hope you can understand that it makes sense to scale back a bit. And then by the time we get to those objectives, we will finish this."

Based on this, Goldman Sachs have increased the size of their expected QE3 program to \$130 billion, and forecast that it will continue to Q4 2022, [broadly in line with Coolabah's previously published estimates](#). Goldman Sachs comment:

Strategy commentary cont'd:

"In the Q&A, Governor Lowe hinted that by the time the QE program finishes the RBA would be 'close to' its objectives...In light of these comments, we now expect the QE program...[to end] in 4Q2022, when we also expect the Fed's QE program to end. We estimate this will take total QE purchases to c.A\$330bn since the start of the program in November 2020 (previously c.A\$300bn)."

Forecasting Australian herd immunity and opening up our borders

Coolabah has attempted to forecast both the advent of "herd immunity" in Australia and when governments will be comfortable opening-up our borders to both inflows and outflows of vaccinated human capital, subject to strict testing protocols at arrival and departure ports.

Leveraging off the extant empirical vaccination trajectories of comparable countries around the world, Coolabah projects that more than 90% of Australia's adult population should be vaccinated sometime between January and February 2022. This marries up with a potential Federal election in March 2022, following which governments would start opening-up the country via travel bubbles with select nations in mid 2022.

This has significant ramifications for policymakers given that open borders are likely to eventually precipitate a substantial positive labour supply shock via much higher population growth, which should ultimately more than offset the negative labour supply shock that resulted from the combination of closed borders and around 334,000 foreign workers fleeing Australia after the advent of the COVID-19 crisis. Any increase in wage growth in 2021 and 2022 could be counterbalanced by this positive labour supply shock.

Forecasting Introduction

Outside of the outbreak of war between China and the US, perhaps the single-biggest event risk that policymakers, and the RBA specifically, should be thinking about right now is when Australia's iron-clad borders will finally open-up to new human capital flows in and out of the country. This is certainly something that we have been trying to turn our minds to a little more thoroughly of late.

Once the borders open, Australia is likely to experience a large skilled migration and general labour supply shock, which could over time put material downward pressure on wages and inflation. This will, however, be preceded by a temporary tightening of the labour market as the 334,000 jobs held by "non-residents" prior to the COVID crisis have been shifting to locals or residents.

As our Chief Macro Strategist, Kieran Davies, has explained, these jobs were not previously in the official employment data (because they were held by non-residents), and as they do magically shift into the official statistics when they are allocated to locals/residents, they have the potential to temporarily reduce the unemployment rate by more than two percentage points. This is almost certainly one key driver of the radical recent reduction in the jobless rate from 7.4% to 5.1%, and also the surge in the advertised vacancy rates.

Accordingly, policymakers are going to have to traverse the current negative labour supply shock juxtaposed against the spectre of a positive labour supply shock as skilled migration and population growth ramp-up in the years ahead.

The existential question is, therefore, when will the borders open back-up? To try to forecast this somewhat more rigorously, we have made a few assumptions:

- We think the Federal Government will not open any borders until after the next election, which would be optimally timed for either March or May 2022,
- We assume that the Federal Government will not hold the next election until all Australians who want to be vaccinated have obtained their jobs, which begs the question as to when this will likely be,

Strategy commentary cont'd:

- We assume that a lower-bound on this minimum acceptable vaccination rate to re-open the borders will be equivalent to the penetration necessary to be confident of the community capturing robust herd immunity, and
- Subject to these decision-making rules being satisfied, we believe that following the election the Federal Government will look to slowly allow fully-vaccinated Australians to start travelling overseas, and vaccinated foreigners to come to Australia, conditional on strict COVID testing of departures and arrivals, and home quarantine if and when required. This may initially be achieved through establishing a number of travel bubbles (eg, with New Zealand, Singapore, South Korea, Taiwan, Japan, etc), which could be rapidly expanded over time with other destinations that.

As noted above, opening our borders requires **herd immunity** to COVID-19, which means that a sufficient portion of the population have immunity either via recent infection or through effective vaccination that is approved by the Australian government.

The exact coverage required for herd immunity is not yet known, because it depends on factors such as vaccine efficacy, reinfection rates, and so on. The research consensus estimate is around **60% to 90%** of the total population. The upper end of this range may not be achievable without extending vaccine eligibility to children, and will likely require strong government incentives to overcome any vaccine hesitancy.

For Australia, we believe that once around 70% of the total population (or more than 90% of the adult population) have been fully vaccinated, the government will consider opening the borders subject to the various protections outlined above.

The technical challenge is therefore figuring out when Australia will likely have vaccinated 70% of its total population (or over 90% of all adults). Based on our research, we project that 70% of total population (or 90.8% of adults) will be fully vaccinated by January or February 2022. This potentially opens the door to a March election and the prospect of borders starting to open in mid-2022.

Projection Methodology

Our projections are developed using a three-phase process. **Phase one** involves estimating the time it takes for 80% of the adult population to have their initial jab, excluding children who are generally not eligible for vaccination. Note that 80% of the adult population is equivalent to 61.8% of Australia's total population.

We do this harnessing the empirically linear path of comparable nations' actual vaccination trajectories, where it appears that the vaccination campaign has been logistically established and is running at a mature capacity.

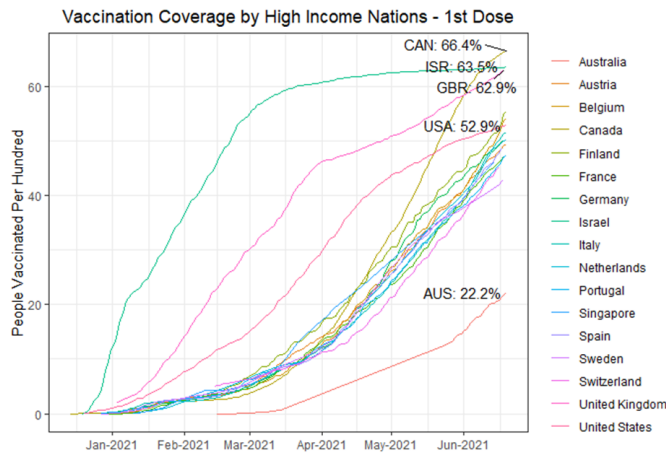
Australia is currently in this linear trajectory, having vaccinated 28.7% of its adult population at a rate of about 0.51% of all adults per day. Comparable nations vaccinate an average of 0.62% of their adult population per day (or 0.45% per day at a one standard deviation slower pace than the average nation).

The global vaccination coverage is shown in the first chart below, illustrating high-income nations comparable to Australia and the percentage of their total population that has had at least one vaccine dose. The four nations clearly ahead are Israel (early leader, but since slowed dramatically), Canada (late but very rapid rise), the UK and the US. Although Australia is the laggard, it does appear our trajectory has just time-shifted: that is, it started late, but with no indication of it being any slower than the others once it has ramped up.*

In **phase two** of the process, we estimate the non-linear deceleration in vaccination rates from 80% of adults having had their first shot to the idealised 90.8% of adults (equating to 70% of the total population) having had an initial shot, assuming children are not eligible for vaccination.

Strategy commentary cont'd: We do this by predicating Australia's vaccination path on the trajectory experienced by Israel, which has been demonstrably ahead of the rest of the world time-wise. Based on the evidence from Israel and others, there is some clear vaccine hesitancy once you vaccinate 80% of adults. This is highlighted by the significant deceleration in the pace of new vaccinations, as the chart shows. (Note that Israel is the only medium-to-large nation that has hit this saturation part of their trajectory.)

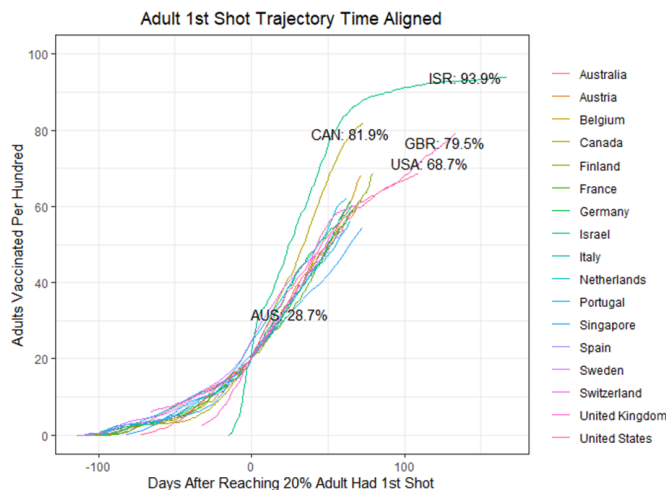
Finally, in **phase three** of the projection we calibrate the time lag between getting the first shot and being fully vaccinated based off the observed intervals between the Pfizer and AstraZeneca shots, adopting the latter's 90-day lag for conservatism's sake.



While the dramatic slowdown in Israel's vaccination coverage might appear worrying, it is actually more benign given that children under 16 years of age are not eligible for vaccination in Israel until June 2021. The minimum age for vaccine eligibility differs slightly across the world, either due to low queue priority or lack of safety approvals. For this analysis, we assumed 18 years of age was the cut-off.

The chart below shows the rate of coverage for adults' first shot. Observe that Israel started slowing down around the 80% adult mark, as did Canada, though the UK looks poised to power through.

This insight informs phase one of our projection. This is based on the observation that the daily increase in the adult population covered by at least one shot of vaccine increases **linearly** (ie, steadily) when the adult coverage is between roughly 20% and 80% range (ie, after logistics are set up, and before saturation of the adults that are willing vaccine takers). Note that we use the adult population in order to remove population-age distribution differences across nations, allowing their trajectories to line up well, as shown in the plot below.



Strategy commentary cont'd:

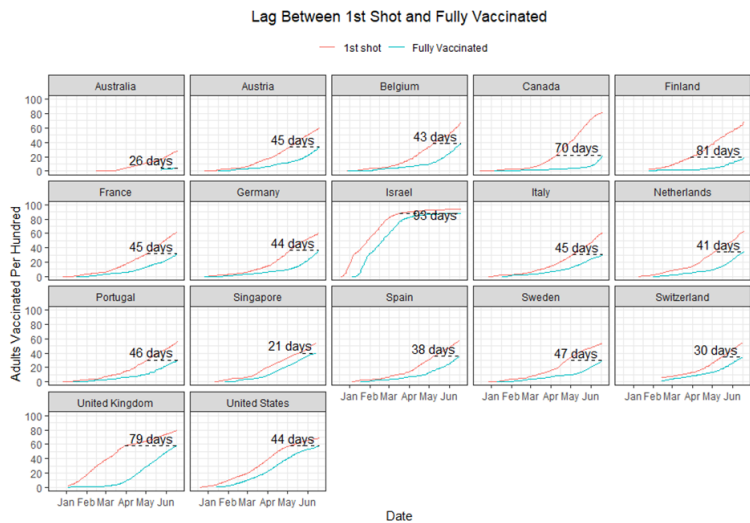
Results

Australia currently has 28.7% of adults covered by at least one shot. To get to 80% adult coverage (equivalent to 61.8% of total population coverage), Coolabah estimates that it should take 83 days based on the average of the days taken by these plotted comparable countries, or 114 days if Australia is one standard deviation slower. **That forms the basis of Coolabah's projection that Australia will likely obtain 80% adult vaccination coverage sometime between early September and mid October 2021, depending on the assumptions one makes.**

In a similar fashion to the 'substitute country' methodology Coolabah developed in its COVID-19 case forecasting models, we can substitute in the vaccination trajectory of other countries such as the UK, which took 108.8 days from where Australia currently is to the target 80% adult coverage. Our final table below allows the analyst to select any individual country's trajectory for the linear part of the phase one growth process.

Going beyond 80% of adults having had the first shot, Australia will likely experience the aforementioned deceleration in vaccination rates due to residual hesitancy. The only medium to large country having gone past this adult coverage is Israel. It took Israel 41 days to go from 80% adult to 90.8% adult coverage (the adult coverage required to achieve 70% total population coverage in Australia). We will add this to the above estimate of days to 80% adult coverage, to get projected time to 70% of the total population (90.8% of adults) getting their first shot.

Phase three of the projection is the time between getting the first shot and becoming fully vaccinated. This lag is plotted below for the comparable countries. The lags range between 1 and 3 months. However, note that as the population gets saturated, the lag blows out (eg, for Israel, to 90+ days). Of course, different vaccines have different time lags between the first and second shots: whereas Pfizer is roughly 1 month, AstraZeneca is 3 months. We remain on the conservative side of this range, and assume a lag of 90 days.



In summary, Coolabah's research estimates the duration of the three different components of Australia's journey to reaching herd immunity based on empirically observed experiences around the rest of the world. The first phase one roll-out takes about 114 days to ensuring 80% of the adult population gets their initial dose. The slower phase two process takes another 41 days to reach 90.8% of adult population (or equivalently 70% of total population). The final phase three process requires 90 days to secure 70% of total population having been fully vaccinated. This implies about 245 days from the time of writing, and suggests that Australia should get to herd immunity somewhere between mid-January 2022 and late February 2022. The table below shows Coolabah's herd immunity forecasts for Australia predicating off a range of different empirical vaccination trajectories.

Strategy commentary cont'd:

Australia's Projected Herd Immunity Vaccination Dates Predicated on Different Countries' Existing Vaccination Paths							
Comparable Nation	Australia: Adult Popn Covered Per Day (%)	Australia: Required Days to 80% Adult 1st Dose Using Comparable Nation's Rate	Australia: Date To 80% Adult 1st Dose	Australia: Further Days To 70% of Total Popn (90.8% Adult Population)	Australia: Further 70% Popn for Australia (90.8% Adult Population)	Australia: Further Days To 70% Popn Fully Vaccinated (90.8% Adult Population)	Australia: Date To 70% Popn Fully Vaccinated for Australia (90.8% Adult Population)
Australia	0.51	101.5	28/09/2021	41	8/11/2021	90	6/02/2022
Different Projected Herd Immunity Dates for Australia Predicating on Different Linear Phase One Paths plus Israel's Non-Linear Phase Two Path							
Austria	0.56	91.3	18/09/2021	41	29/10/2021	90	27/01/2022
Belgium	0.67	76.7	3/09/2021	41	14/10/2021	90	12/01/2022
Canada	0.94	54.5	12/08/2021	41	22/09/2021	90	21/12/2021
Switzerland	0.62	82.9	9/09/2021	41	20/10/2021	90	18/01/2022
Germany	0.61	84.5	11/09/2021	41	22/10/2021	90	20/01/2022
Spain	0.59	87.4	14/09/2021	41	25/10/2021	90	23/01/2022
Finland	0.6	84.9	11/09/2021	41	22/10/2021	90	20/01/2022
France	0.59	87.5	14/09/2021	41	25/10/2021	90	23/01/2022
United Kingdom	0.47	108.8	5/10/2021	41	15/11/2021	90	13/02/2022
Israel	1.09	47.2	5/09/2021	41	15/09/2021	90	14/12/2021
Italy	0.63	80.9	7/09/2021	41	18/10/2021	90	16/01/2022
Netherlands	0.61	84	11/09/2021	41	22/10/2021	90	20/01/2022
Portugal	0.56	91.8	18/09/2021	41	29/10/2021	90	27/01/2022
Singapore	0.46	111.2	8/10/2021	41	18/11/2021	90	16/02/2022
Sweden	0.48	107.2	4/10/2021	41	14/11/2021	90	12/02/2022
United States	0.45	115.1	12/10/2021	41	22/11/2021	90	20/02/2022
Different Projected Herd Immunity Dates for Australia Predicating on Different Linear Phase One Paths plus Israel's Non-Linear Phase Two Path							
Mean - 2SD	0.28	182.6	18/12/2021	41	28/01/2022	90	28/04/2022
Mean - 1SD	0.45	113.9	10/10/2021	41	20/11/2021	90	18/02/2022
Mean	0.62	82.7	9/09/2021	41	20/10/2021	90	18/01/2022
Mean + 1SD	0.79	65	22/08/2021	41	2/10/2021	90	31/12/2021
Mean + 2SD	0.96	53.5	11/08/2021	41	21/09/2021	90	20/12/2021

*The data is sourced from Our World In Data, citation: Mathieu, E., Ritchie, H., Ortiz-Ospina, E. et al. A global database of COVID-19 vaccinations. Nat Hum Behav (2021). Note there is a gap in the data for Australia during which no data for person level vaccination was available. We have linearly interpolated between these dates. This dataset only contains people vaccinated, and does not distinguish between adult or children. We assumed that all people vaccinated thus far are adults because vaccine eligibility for children is very limited around the world.



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