COOLABAH CAPITAL INVESTMENTS™

THE INTELLECTUAL EDGE: MAKING EVERY BASIS POINT COUNT

Fund: **Smarter Money Long-Short Credit Fund - Direct Investor Class**

Strategy: **Alternatives/Unconstrained Fixed-Income**

Return (since Aug. 2017): **6.53% pa gross (4.44% pa net)**

Net return volatility (since Aug. 2017): **3.10% pa**

Atchison/Australia Ratings: **Recommended/Very Strong**

October 2021

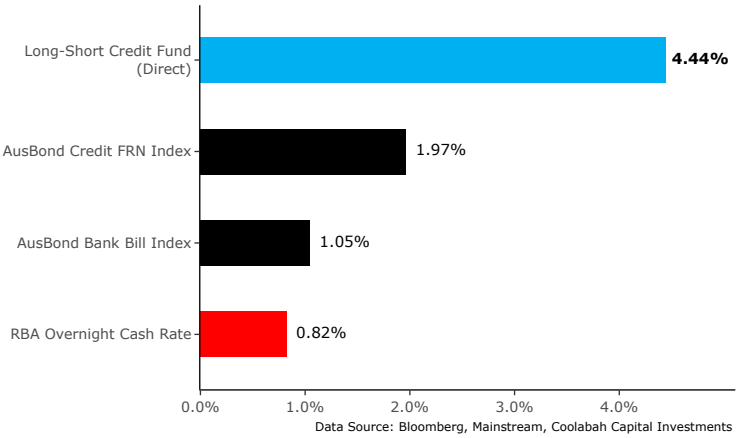
Objective: An absolute return fixed-income strategy focused on exploiting long and short mispricings in credit markets that targets high-yield like returns above the Reserve Bank of Australia (RBA) cash rate plus 4% to 6% p.a. over rolling 3 year periods with volatility of less than 5% p.a. after Management 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 2021-10-31	Gross Return (Direct)	Net Return (Direct)†	RBA Cash Rate	Gross Excess Return‡	Net Excess Return (Direct)†‡
1 month	1.24%	1.02%	0.00%	1.24%	1.02%
3 months	0.77%	0.40%	0.01%	0.76%	0.39%
6 months	-0.73%	-0.99%	0.01%	-0.75%	-1.01%
1 year	**5.52%**	**3.57%**	**0.03%**	**5.48%**	**3.53%**
2 years pa	6.50%	4.30%	0.20%	6.31%	4.10%
3 years pa	6.95%	4.71%	0.56%	6.39%	4.15%
Inception pa Aug. 2017	**6.53%**	**4.44%**	**0.82%**	**5.71%**	**3.62%**

Long Short Credit Fund Returns (Net) vs Comparisons (pa)

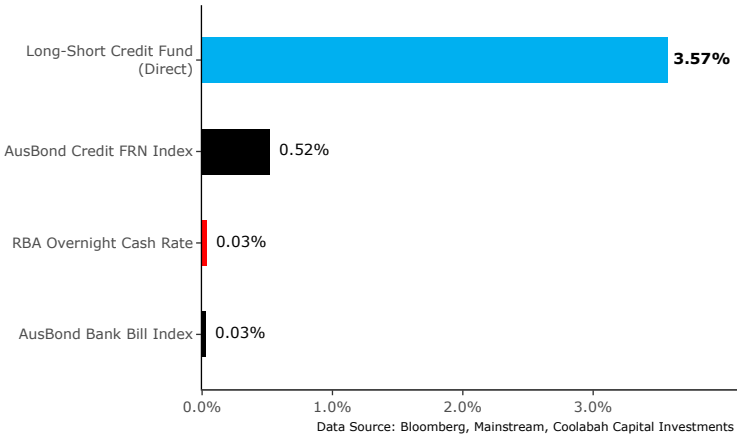
Annualised Returns Since Inception in August 2017 to 31 October 2021



Data Source: Bloomberg, Mainstream, Coolabah Capital Investments

Long Short Credit Fund Returns (Net) vs Comparisons

12 Month Return to October 2021



Data Source: Bloomberg, Mainstream, Coolabah Capital Investments

† 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.

Net Monthly Returns > RBA Overnight Cash Rate	78%	Permitted Gearing	Yes
Gross Portfolio Weight to Cash Securities	3.2%	1 Year Av. Gross Portfolio Weight to Cash	4.4%
Gross Portfolio Weight to Bonds	92.2%	Gross Portfolio Weight to AT1 Hybrids	5.7%
Av. Portfolio Credit Rating	AA	Gross Cash Securities + RBA Repo-Eligible Debt	83.3%
Portfolio MSCI ESG Rating	A	Gross Portfolio Weight to ABS/RMBS	0.0%
No. Cash Securities	4	Net Credit Spread Duration Ex Govt	1.39 years
No. Notes and Bonds	95	Net Annual Volatility (since incep.)	3.10% pa
Modified Interest Rate Duration	< 0.1 years	Gross/Net Sharpe Ratio (since incep.)	1.78x/1.17x
		Awards: FE Alpha Manager 2019: Christopher Joye; **Ratings:** Lonsec available to advisers; Recommended (Atchison); 'Superior More Complex' (Foresight Analytics)	

Signatory of: PRI Principles for Responsible Investment

RECOMMENDED ATCHISON CONSULTANTS

ALPHA MANAGER 2019 Christopher Joye

SUPERIOR MORE COMPLEX Foresight Analytics

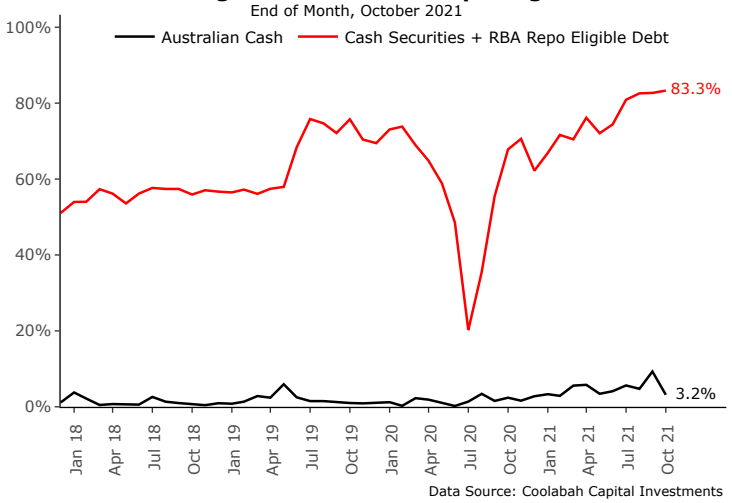
MSCI ESG RATINGS A

CCC B BB BBB A AA AAA

Asset weighted average rating

Portfolio Weights: Cash + RBA Repo Eligible Debt

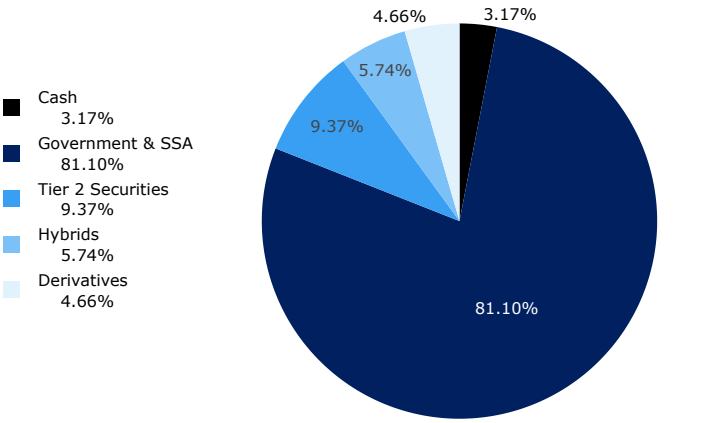
End of Month, October 2021



Data Source: Coolabah Capital Investments

Long Short Credit Fund Portfolio Composition (Gross NAV)

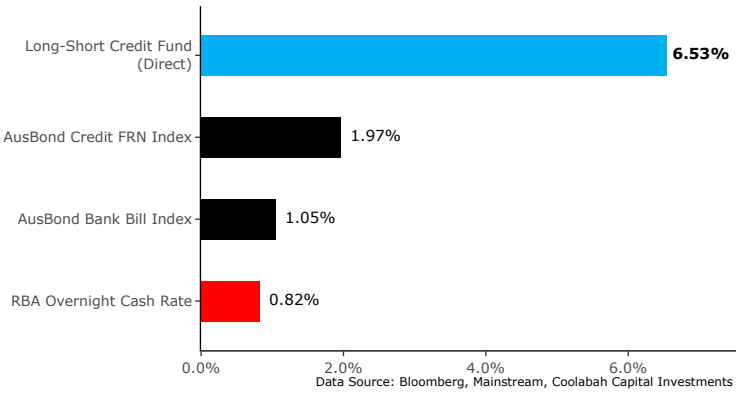
(Gross Levered Statistics) - 31 October 2021



Data Source: Coolabah Capital Investments

Long Short Credit Fund Returns (Gross) vs Comparisons (pa)

Annualized Returns Since Inception in August 2017 to 31 October 2021



Data Source: Bloomberg, Mainstream, Coolabah Capital Investments

The since inception gross (net) return of 6.53% pa gross (4.44% 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 3.10% 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 October, the zero-duration and daily liquidity Long-Short Credit Fund (LSCF) returned 1.24% gross (1.02% net), outperforming the AusBond Credit FRN Index (-0.10%), the AusBond Bank Bill Index (0.00%), and the RBA Overnight Cash Rate (0.00%). It is noteworthy that in the month of October the AusBond Composite Bond Index lost 3.55%, which was its second-worst month in 30 plus years (the worst was February 2021). This means the Composite Bond Index is now down 5.3% over the 12 months to October 2021. LSCF ended October with a weighted-average credit rating of AA, and a portfolio weighted average MSCI ESG rating of A. Over the previous 12 months, LSCF returned 5.52% pa gross (3.57% pa net), outperforming the AusBond Bank Bill Index (0.03% pa), the RBA Overnight Cash Rate (0.03% pa), and the AusBond Credit FRN Index (0.52% pa).

Since the inception of LSCF 4.2 years ago in August 2017, it has returned 6.53% pa gross (4.44% pa net), outperforming the RBA Overnight Cash Rate (0.82% pa), the AusBond Bank Bill Index (1.05% pa), and the AusBond Credit FRN Index (1.97% pa). LSCF's since inception Sharpe Ratio, which measures risk-adjusted returns, has been 1.78x (1.17x) gross (net). While LSCF's return volatility since inception has been low at around 3.10% 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: October was an extraordinary month, especially for bond markets with all Coolabah's strategies outperforming strongly. By way of example, the Long Short Credit Fund returned 1.00% to 1.07% net retail assisted/institutional class (1.21% gross) in October compared to the main bond benchmarks, which registered some of their largest losses in history. As we explain below, this outperformance was driven by a range of factors, including: hedging-out interest rate risk to insulate our portfolios from rate shocks; taking profits on all senior bank bond positions; and hedging bank credit risk in anticipation of wider credit spreads on these securities.

In Australia, both short- and long-term interest rates surged as a result of an upside inflation surprise, with core inflation printing at 0.7% for the September quarter, and 2.1% for the 12 months (versus consensus forecasts of 0.5% and 1.8%, respectively). In turn, the year-on-year inflation pulse slipping into the RBA's target 2-3% band well-ahead of schedule generated a dramatic shift in market pricing for the cash rate with more than 130 basis points (bps) of RBA hikes predicted for 2022 at one point (or circa five standard 25bps rate increases).

Bond bandits battle RBA

This was awkwardly juxtaposed against the RBA's claim that it would not touch its target cash rate until 2024. Since February bond markets had been seeking to boldly challenge the RBA's yield curve target policy, which sought to hold the interest rate on the April 2024 Commonwealth government bond at 0.1%.

This policy was the centerpiece of the RBA's forward guidance that it would not lift the cash rate until 2024 at the earliest. In the first quarter of 2021 the RBA changed the rules around the market's ability to borrow the April 2024 bond to make it harder and more expensive for short-sellers to bet on the price of the bond declining and its yield rising (see our analysis here).

Following the upside surprise in the New Zealand inflation data on 18 October, the market once again turned its attention to selling the April 2024 bond and punting on its yield climbing above the RBA's 0.1% target. Initially the RBA fought back, buying more of the bond, and forcing the yield down from circa 0.2% towards its 0.1% target. But the domestic inflation shock finally eviscerated the RBA's commitment to the yield curve targeting policy, and the market was allowed to have its way. After the RBA failed to defend the target, the yield on the bond spiked to 0.7%, which was broadly in line with our published theoretical estimates for fair value.

Strategy commentary cont'd: Did the bond market bandits prevail? Yes and no. On the one hand, they were right insofar as the RBA was forced to dump the policy in 2021, years ahead of its 2024 commitment. On the other hand, the RBA would argue it was always data- or state-dependent. The time-based guidance was an exceptional response to exceptional circumstances in the form of the 1-in-100 year pandemic, which was always covered by the caveat that the RBA would ultimately be governed by the data. It is doubtful, however, that the RBA will ever repeat this long-term forward guidance again given the perceived damage it has inflicted on its credibility.

In contrast, the much less prescriptive and more agile bond purchase program has been an immense success for the RBA, and affords Martin Place far greater optionality vis-à-vis unexpected downside risks. And for all the hoopla about inflation, those risks remain.

There is a case for the RBA harnessing the bond purchase program (which has reduced both the exchange rate and longer-term interest rates well-below their counterfactual levels) alongside reductions in the overnight cash rate in future downturns. This would attenuate the extent to which the RBA relies exclusively on the cash rate and mitigate housing bubble risks that excessively low short-term rates generate in an economy with a preponderance of variable-rate debt.

If the RBA had limited faith in its forecasting prowess prior to the pandemic, it should have none now: the RBA's forecasts for the shock proved to be far too dire while it has probably underestimated the strength of the recovery. And every time it has predicated policy decisions on predictions for the future—rather than nowcasting or divining the present—it has tied itself up in knots.

Having said that, it is unquestionable that the yield curve target played its part for as long as it was required, as did the RBA's similar Term Funding Facility (TFF) under which it lent banks $188bn for a 3-year term at a cost of between 0.1% and 0.25% annually. Both measures have provided tremendous support to the Australian economy at a time when it desperately needed it.

Bond benchmarks hammered

The sharp increase in short-term interest rates in October was echoed by a striking rise in the 10-year Australian government bond yield, which lifted from 1.49% at the end of September to 2.09% by 29 October. This smashed fixed-rate bonds, as proxied by the APRA's benchmark for the superannuation industry, which is the AusBond Composite Bond Index.

In October, the Composite Bond Index declined by a stunning 3.55%, which was its second worst month in the last 30 plus years. The worst month was February 2021 when the index lost 3.58%. This means that the Composite Bond Index has now registered a -5.30% return over the year to October 2021, which is its third worst rolling 12 month return since 1989.

Coolabah's products have been deliberately designed as zero duration, or floating-rate, strategies to protect against precisely this sort of interest rate shock (the one exception is Coolabah's Active Composite Bond Index Strategy (Chi-X: FIXD), which tracks this index and outperformed it by 0.27% in October and by 0.63% over the last 12 months).

The floating-rate benchmark, known as the AusBond Floating-Rate Note (FRN) Index, also declined by 0.10% in October, which was its 7th worst month on record. This was unusual because in contrast to a fixed-rate bond that suffers price falls as yields climb, the FRN Index is not ostensibly impacted by rising interest rates given the bonds underlying it have variable interest rates that are meant to adjust along-side changes in short-term rates. The headwinds for the FRN Index were, however, powered by entirely different drivers, which Coolabah had been forecasting for some time.

Senior bank spreads move wider

Many months ago, Coolabah took profits on all its senior bank bonds and further hedged other bank credit exposures because of our view that the credit spreads on these securities would have to increase quite materially.

Strategy commentary cont'd: We've repeatedly argued that the need for the banks to repay the $188bn they owe the RBA under the TFF combined with the requirement to replace the circa $139bn Committed Liquidity Facility (CLF), the rapid shuttering of which we were the first to call, would mean that they have to issue more than $150bn of wholesale debt annually for the next few years (see here, here, here, here, and here).

In the past, the banks have been the biggest buyers of their own bonds in Aussie dollars for their CLF portfolios with the local bond market accounting for about half of all their global debt issuance. The abolition of the CLF means that this domestic demand via bank balance-sheets will no longer exist, which will compel the banks to rely more heavily on overseas issuance. They will also have to issue at wider credit spreads.

In the post-GFC period, 5-year major bank senior bonds have historically traded on a credit spread range of between about 70bps to 100bps, albeit that was with the benefit of the huge domestic bank balance-sheet bid for these assets. We would expect that the new-normal for 5-year major bank senior bond spreads is slightly higher at somewhere between 80bps and 110bps.

This played out in October with Coolabah's proprietary 5-year major bank senior bond benchmark, which is a constant maturity index, increasing from 47bps to 60bps over the month. At the margin, this also pressured 5-year major bank Tier 2 bond spreads, which climbed from 132bps to 142bps over the same period. While Coolabah has taken substantial profits on our global Aussie bank Tier 2 positions in recent months, we have been more neutral on the sector given the multiple of Tier 2 spreads to senior spreads has been at historically cheap levels of around 2.8 times. By the end of October, the Tier 2/senior spread multiple had declined to 2.4 times, which is still historically cheap given the standard post-GFC heuristic of circa 1.8 to 2.3 times.

One sector Coolabah has been positive on coming into year-end has been the ASX hybrid market, where we have argued that large repayments flowing from the redemptions of the CBAPE and WBCPG hybrid securities in October and December, respectively, would inject a mountain of about $2.1bn of cash into retail investors' hands looking for a high-yielding home. This played-out in October with ASX Hybrids Index delivering a robust 0.63% fully-franked return as the 5-year major bank hybrid spread compressed from 241bps to 231bps. We believe it's possible these spreads could test 200bps before year-end.

Semis outperform again

Another outperformer in October was the State government bond (or "semis") market, which was supported by a range of factors. Across the semis, Coolabah's constant-maturity 10-year index declined modestly from 34.8bps to 30.9bps on a spread to the Commonwealth government bond curve basis, generating attractive capital gains. These spreads remain well-above their recent May 2021 tights of circa 17.2bps despite the fact that Coolabah estimates Aussie banks will have to buy between $250bn and $450bn of State and Commonwealth government bonds over the next few years to both replace the CLF and to compensate for the loss of high-quality liquid assets that flows from the repayment of the $188bn owing under the RBA's TFF.

The latter is somewhat technical, but in short when the RBA lent this money to banks it created digital cash in the form of deposits held by banks at the RBA. These deposits count as emergency liquidity under the banks' regulatory Liquidity Coverage Ratios (LCRs). The repayment of the TFF will automatically destroy $188bn of this digital cash, which the banks will have to replace with new high-quality liquid assets in the form of buying State and Commonwealth government bonds.

A similar dynamic holds with the RBA's bond purchase program, aka quantitative easing (QE). When the RBA buys government bonds, it creates digital cash and gives it to the banking system in the form of the deposits held at the RBA. This counts towards the banks' LCRs. As the RBA tapers, or reduces, its bond purchases, there is less digital cash created.

On Coolabah's modelling, the banking system suffers a particularly large hole in terms of its high-quality liquid assets in 2023 and 2024. This was, however, based on the assumption of a slow RBA taper of its QE program, dropping from $4bn/week of purchases in February to $3bn/week in the following quarter, and so on. A faster taper would bring-forward the need for banks to buy more high-quality liquid assets in 2022.

There are a number of other variables that are driving demand for semis right now. These include:

Strategy commentary cont'd:

1. Australian 10-year government bond yields have jumped to more than 30bps above equivalent US yields

We have had a contrarian view for a while that Aussie 10-year government bond yields would rise to 30bps above equivalent US yields, which only a few weeks ago was regarded as fanciful by market participants. Yet in the final week of October, this spread differential did indeed climb from around 10bps to more than 30bps, making Australian yields incredibly attractive to foreign investors. In fact, at one point the differential jumped to around 50bps. This has precipitated a wave of offshore buying of especially high-yielding semis, which offer spreads over Commonwealth government bonds that are as much as 30bps-55bps depending on the tenor. We observed offshore demand for semis ramp-up in the latter part of October, and this has continued into November.

2. Rapid vaccination coverage enabling NSW and Victoria to reopen faster than markets had assumed.

Coolabah's herd immunity modelling back in June 2021 (see here) had forecast that Australia could vaccinate 90% of the adult population by January 2022 (we are at 78% currently). This projection is on track to be realised, with NSW and Victoria leading the way with double-vaccination coverage of 88% and 81%, respectively. Markets had assumed that these States would not fully reopen until November or December, which has proven to be overly pessimistic.

3. State budgets have been much stronger than expected

Coolabah forecast that the State budget deficits for FY2021 would be a fraction of what the States predicted, which continues to play out. In November 2020, Victoria forecast a gargantuan $38bn deficit for the financial year ended June 30. In May, it slashed this to $29bn. And in the final June 2021 budget outcome, this was reduced by another $4bn to $25bn ($13bn less than first predicted).

A similar pattern occurred across other states. Queensland originally projected an $8.6bn net operating deficit for financial 2021. This was crushed to $3.8bn in June. You would think with the financial year behind it, Queensland would know how big the deficit was. But it turned out much better than expected, coming in at just $900m. Queensland is likely in surplus right now.

As we come out of lockdown, there is every reason to think the NSW and Victorian economies will start roaring again. The rest of the country was already on fire. And the transition from the pandemic-induced lockdowns to the more normal notion of living with COVID-19 will inevitably drive bond markets to price in long-term interest rates that are likewise more normal.

4. NSW shocks with $22bn of debt repayment

Coolabah's activist ESG campaign to ensure NSW did not leverage up its balance-sheet with $20bn to $47bn of unnecessary taxpayer debt to allow it to run a huge, equities-centric carry-trade has rendered considerable results in recent month in what has been a major shock for investors.

On 22 October the NSW government sensationally announced that it will be suspending $11bn in projected taxpayer revenue contributions to the NSW Generations Fund's (NGF) Debt Retirement Fund. This is on top of the unprecedented $11bn in debt repayments that Premier Dominic Perrottet announced on 20 September, which will be made using the capital accumulated in the Debt Retirement Fund. The latter is a unique creation of Perrottet's and had increased in size from $15bn in May to $26bn following the sale of the second half of WestConnex in September. By rediverting this $11bn of taxpayer revenue from the fund back to NSW's budget and repaying $11bn in debt, new Treasurer Matt Kean, a long-time ESG advocate, will both radically reduce NSW's fiscal pressures and cut taxpayers' debt burden by a never-before-seen $22bn. The AFR's John Kehoe reported:

> ***The NSW government will stop borrowing billions of dollars to pay for inflows into its $15bn financial market investment fund, in a U-turn that will help the state manage debt pressures from the pandemic.***
>
> ***NSW Treasury Corp announced the state government had decided to "temporarily suspend" certain contributions to the NSW Generations Fund, because of the economic impact of COVID-19.***

Strategy commentary cont'd:

> ***The decision to stop leveraging up the state government's balance sheet for the NSW Generations Fund (NGF) follows a series of stories in The Australian Financial Review warning the plan had raised concerns among credit rating agencies, bond investors, Labor and public finance experts.***
>
> ***NSW Treasurer Matt Kean said on Sunday, "given the unprecedented impact of COVID, it is appropriate to consider the right policy settings of the NGF going forward and that's what the government is doing.***
>
> ***"The government's approach to funding the NGF going forward is expected to be set out at the 2021-22 half-yearly review in December, once a final decision is made.***

In Coolabah's ESG activism campaign (see here, here and here), we had argued that NSW should stop diverting scarce taxpayer revenues to the NGF's Debt Retirement Fund, which have to be replaced with additional debt issuance given NSW is running budget deficits. That is, this approach to funding the Debt Retirement Fund would have paradoxically increased NSW debt—and hence the fiscal risks the state faces—at the worst possible time.

Prior to the COVID-19 shock, NSW had made the policy decision to divert all state royalties and state-owned corporation dividends to the NGF's Debt Retirement Fund. The AFR's Kehoe reveals that this was forecast by Treasury to sum to an enormous $11bn of de facto taxpayer debt funding into the Debt Retirement Fund this financial year and over the forward estimates in what was equivalent to running a huge leveraged carry trade (by raising debt and betting this money on equities and junk bonds). By suspending these funding commitments, Treasurer Kean has, therefore, saved taxpayers $11bn of future debt issuance on top of the $11bn Premier Perrottet has promised to repay:

> ***Dividends paid to the government from NSW state-owned corporations (SOC) and mining royalties had been forecast to add almost $11bn to the fund over the four years to 2024-25.***
>
> ***But because the government's budget is deep in deficit due to COVID-19, the diversion of SOC dividends and mining royalties to the fund would have added to the state's $120bn-plus gross debt bill.***
>
> ***The decision to freeze the inflows comes after the government announced in September that the $11bn received from the privatisation of the remaining 49% share of WestConnex would be used to repay state debt, and not be retained in the Generations Fund.***

Treasurer Kean also announced a review of the Debt Retirement Fund's approach to ESG following revelations in The Guardian that it was providing debt and equity funding to authoritarian states and tax havens.

Following Premier Perrottet's announcement in late September that NSW would use the $26bn that had accumulated in his Debt Retirement Fund to repay $11bn of NSW debt, there was much speculation as to what this meant in practice. In particular, there were repeated suggestions that NSW might **not** actually repay any debt with this money, or if they did it would be a lot less than $11bn.

The most popular claim was that NSW might simply allow its bonds to mature and not be officially refinanced while leaving the $11bn in the Debt Retirement Fund to be punted on global stocks, private equity, and illiquid loans/junk bonds. Coolabah rejected these assertions, arguing that NSW would do precisely what Perrottet stated: that is, use the $11bn to buy back and/or repay NSW bonds directly from the Debt Retirement Fund. And on 20 October, Treasurer Kean again delivered with gusto, surprising the market with the following announcement via his debt-issuance and investment agency, TCorp:

> ***Today the NSW Government has advised TCorp it has completed the sale of its remaining 49% interest in WestConnex... and provided the following guidance with respect to the proceeds and debt retirement. As per the NSW Generations Funds Act (2018) net sale proceeds will be deposited into the NSW Generations Fund – Debt Retirement Fund (DRF).***

Strategy commentary cont'd:

> ***Approximately $11bn of debt will be retired over the next two years, including TCorp's debt maturing on 1 March 2022. Based on an assessment of both value to the State and prevailing market conditions, the NSW Government via TCorp may retire bonds across the maturity spectrum via reverse enquiry or tender. The primary focus is expected to be placed on shorter dated maturities which reduce the borrowing programme across the forward estimates. In conjunction with the above, proceeds may also be applied to maturities as they come due.***

So NSW is, in fact, actively buying back bonds across the maturity spectrum in the secondary market via reverse inquiry and/or tender, and it may also use this money to repay any upcoming maturities. And TCorp notes this should directly reduce NSW's funding task: **"All net proceeds received from the transaction will be used for debt reduction"**. In this context, TCorp comments that the types of bonds NSW buys back will be determined according to the "value to the State", with this being driven by the impact of the purchases "on the borrowing requirement over the forward estimates pricing". In a Q&A published alongside the announcement, TCorp poses the question: "Will you lower your funding program by the maturity proceeds?" A clear response is provided:

> ***It is expected that, all else equal, by managing WestConnex proceeds together with the State's overall cash balances the funding program will be reduced by $11bn over time.***

There remain some important outstanding policy issues for Treasurer Kean to resolve in respect of the NGF's Debt Retirement Fund. These include:

- **What to do with the circa $2.3bn of debt-funded contributions NSW previously made to the fund in the 2021 financial year.** These should self-evidently be harnessed for infrastructure funding and/or debt repayment (otherwise they will just represent NSW leveraging-up taxpayer money to punt on markets); and
- **What to do with the circa $15bn of capital (including the $2.3bn of abovementioned contributions) left in the Debt Retirement Fund once NSW repays its $11bn in debt.** Rather than gambling this on financial markets, the $15bn should be deployed to pay for the $108.5bn in infrastructure spending that Premier Perrottet has signed-up for. After all, the $7bn from the sale of the first-half of WestConnex that seeded the Debt Retirement Fund in 2018 was committed by Perrottet to pay for new infrastructure spending. This could be easily achieved by the Debt Retirement Fund buying bonds issued by the NSW to pay for future infrastructure spending, which is permitted under the NGF's legislation.

Make no mistake, the $26bn Debt Retirement Fund is an extraordinary innovation. Premier Perrottet had the exceptional foresight to create it in 2018 when NSW's budget was recording huge surpluses and the state had negative net debt. Perrottet's vision was to use the Debt Retirement Fund to accumulate reserves to repay debt whenever the budget lurched into deep deficit, which of course it did in 2020 during the 1-in-100 year shock wrought by the pandemic.

And it is because of Perrottet and now Treasurer Matt Kean that NSW is in the remarkable position whereby it can draw-down on the Debt Retirement Fund during this crisis to slash taxpayer debt by $22bn or more.

Importantly, the Debt Retirement Fund can be replenished by Kean when the NSW budget returns to surplus via future reserves and asset sales. Taking profits on stocks when they are trading at all-time highs while interest rates are near record lows is also a very smart move.

As a lender to all the major state governments, Coolabah and our stakeholders, including super funds, believe that these are responsible ESG decisions that we would strongly support.

Strategy commentary cont'd:

House prices could fall 15%-25% after the RBA hikes 100bps

Looking ahead, one existential question is where the RBA and the US Federal Reserve's so-called "neutral" cash rates lie. Most economists think the local neutral rate is between 2% and 4%. If this is correct, it would mean that the RBA has to raise the cash rate to around 3% to ensure it is neither contractionary nor stimulatory. While we have different views on this internally, our hunch is that the neutral rate is a lot lower than people think, and closer to 1% to 1.5%. It's ultimately an empirical question: only time will tell.

Even 100 basis points of hikes would have profound consequences for asset pricing. Combined with some out-of-cycle hikes from banks care of normalising funding costs, this would likely force house prices, for example, to correct circa 15% to 25%. In fact, the RBA's own house price forecasting model, which Coolabah has replicated and refined, implies a larger draw-down of circa 33%.

In the decade since the GFC, central banks have been able to pour seemingly infinite amounts of money on all economic problems because there have been no inflationary costs. We've long argued that these policies will prove inflationary. And today central banks increasingly face that invidious choice that their predecessors confronted decades ago: do you want higher growth or lower inflation in a climate in which inflation expectations are climbing.

Using artificial intelligence to forecast global conflicts

In October, Coolabah also released some globally cutting-edge modelling and forecasts for the risk of international conflicts. Back in 2012 we argued that notwithstanding a wealth of data on the history of military conflicts, and the so-called "correlates of war", there was a staggering paucity of serious quantitative research on the actual empirical probability, or risk, of these existential events materialising.

There was a further absence of efforts to rigorously predict conflicts between specific country pairs leveraging the extraordinary array of longitudinal information that we can now access, which affords potentially powerful insights into the shifting probabilities of nations engaging in warfare.

We observed that although "the most profound hazard face is the risk of war… we invest vast taxpayer resources nominally insuring against it… there is a startling dearth of quantitative research on forecasting the frequency and severity of wars... despite more than 200 conflicts since 1900, causing 35 million deaths."

In a 2012 paper, the Swiss professor Thomas Chadefaux similarly noted that, "the prediction of war has been the subject of surprisingly little interest in the literature, in marked difference to a wide range of fields, from finance to geology, which devote much of their attention to the prediction of extraordinary – black swan – events such as financial crises or earthquakes".

After advocating for the development of conflict forecasting models (including via a piece published by the Lowy Institute), a researcher from the Department of Defence approached us to discuss the proposal, suggesting that the military was interested in pursuing it. But nothing eventuated.

As an investor in global financial markets with a team of 30 professionals, including 11 quantitative specialists, five of whom have PhDs in maths, physics, computer science and engineering, we are constantly grappling with the prediction business. Last year, for example, we developed COVID-19 forecasting models for every country globally that allowed us to anticipate an earlier-than-expected peak in the first wave of infections in April 2020.

For the past decade the single-biggest macro event risk that we have been seeking to understand is the spectre of war between the two dominant super-powers, the United States and China. Intuitively, the probabilities of a US-China conflict erupting appear to have accelerated under the hard-line presidency of Xi Jinping with many experts, including Dr John Lee, Dr Oriana Skylar Mastro, Dr Rory Medcalf and Dr Ross Babbage, now handicapping the risk of a lower-intensity conflict at circa 50%, if not higher (note all these individuals consult to us).

Strategy commentary cont'd: This week we revealed via the Australian Strategic Policy Institute, a defence think-tank, that a team led by Kai Lin, Nathan Giang, James Yang and Christopher Joye have been working on research that draws on 160 years of academic conflict data to develop advanced quantitative techniques, including the latest machine learning methods, to predict the empirical probability of different types of military conflicts (with varying severities) over a range of forecast intervals, focussing on horizons of 12 months, 5 years, and 10 years. This research, which covers most countries, is summarised in a technical academic paper and a companion non-technical summary, which are now publicly available.

Cases of military acts by one nation-state directed explicitly towards the government, official representatives, official forces, property, and/or territory of another state are known in the academic literature as "militarised interstate disputes" (or MIDs). MIDs can be classified into increasing tiers of severity, ranging from a threat to use force ("threat"), the actual use of force ("force"), an attack, clash or raid ("attack"), or all-out war with a minimum duration and number of battle deaths ("war"). We utilise these definitions in our forecasting models.

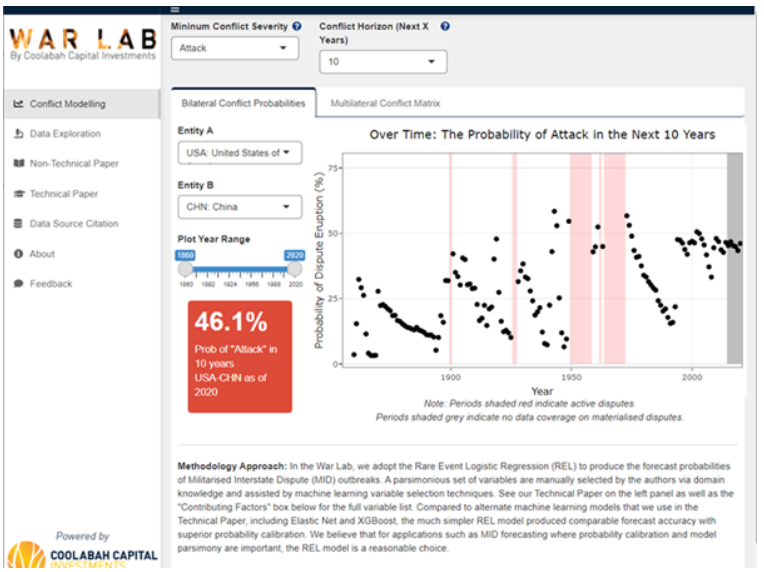
To tackle the relatively rare-event forecast problem that warfare represents, we applied a representative suite of data science, statistical, and machine learning techniques to an array of data sets on potential variables that explain MIDs, with the modelling approaches assessed on their ability to generate accurate and calibrated probabilities of future outbreaks of MIDs between nations.

Significantly, our research currently implies that the probability of a low-intensity kinetic military conflict between Taiwan and China over the next 10 years has trended higher over time towards approximately 75% today. Accounting for global alliance networks, the probability of a low-intensity military conflict over the next decade between the United States and China is also elevated at around 46%. Other country pairs likewise face seemingly high probabilities of low-intensity conflict, including the United States and Russia (30%), China and Russia (44%), China and Japan (46%), and China and India (55%).

When we raise the conflict intensity threshold from smaller-scale "attacks" to outright "war", the conflict probabilities decline noticeably, although they remain material. Our modelling suggests, for instance, that country pairs including China and India (22%), China and the US (12%), China and Taiwan (11%), and China and Japan (10%) all have a one-in-ten to one-in-five chance of engaging in a bona fide war in the next 10 years with potentially cataclysmic consequences. (The risk of war between the United States and Russia is, interestingly, much lower at 2%).

These models and their calibrated probabilities have a wide spectrum of potential applications, including military strategic planning, government foreign policy making, political decisioning, and financial risk management. In covering this research, The Australian newspaper's foreign editor Greg Sheridan argues that while "there is no risk more important than a potential US-China conflict... most analysis of such issues is necessarily impressionistic and subjective".

Strategy commentary cont'd: Beyond better understanding the threats we face, disclosing the real empirical probability of conflict could help decision-makers mitigate the tendency of the community to under-value defence spending—and the catastrophe insurance it provides—by extrapolating out from their own peaceful existence.



"This research indicates that every active player should be hedging conflict risk during the next five to 10 years especially," Sheridan concludes. In a Sky News interview with Peta Credlin on the modelling, Sheridan points out that this is precisely why Australia's inability to properly defend itself with credible asymmetric military capabilities is so inherently problematic.

To the best of our knowledge, the core contribution of this work to the academic literature is the integration of a wide range of historical data sets, including predictors of MIDs and advanced variable selection methods, with sophisticated modelling techniques to address a well-defined set of forecasting problems based on differing MID severities and time horizons, culminating in the generation of calibrated forecast probabilities of different types of MID outbreaks between any state pair of interest. We believe this is also the first time these insights and forecast probabilities have been disseminated via a publicly accessible graphical user interface system.

WAR LAB
By Coolabah Capital Investments

Our goal is to stimulate further academic study and inject greater objectivity into public debates around the risks of military conflicts, which are almost always predicated on qualitative and highly subjective opinions that are frequently devoid of a data-centric, evidentiary basis and lack empirical testing of their efficacy.

To further facilitate discussion and education around the risks of conflicts, we have developed an interactive graphical user interface that is available at www.predictingwar.com. This houses one of our simpler, logistic regression forecasting models and also provides data visualisations of the changing historical conflict probabilities between individual countries and animations of the shifts in national military capabilities over hundreds of years.

Don't forget to listen to Coolabah Capital's popular Complexity Premia podcast. You can listen on your favourite podcast app, or you can find it on Apple Podcasts or Podbean.

Performance Disclaimer:

Past performance does not assure future returns. 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. This information has been prepared by Coolabah Capital Investments (Retail) Pty Limited ACN 153 555 867. It is general information only and is not intended to provide you with financial advice. You should not rely on any information herein in making any investment decisions. To the extent permitted by law, no liability is accepted for any loss or damage as a result of any reliance on this information. The Product Disclosure Statement (PDS) and Target Market Determination (TMD) for the funds should be considered before deciding whether to acquire or hold units in it. A PDS and TMD for these products can be obtained by visiting www.coolabahcapital.com. Neither Coolabah Capital Investments (Retail) Pty Limited, Equity Trustees Limited nor their respective shareholders, directors and associated businesses assume any liability to investors in connection with any investment in the funds, or guarantees the performance of any obligations to investors, the performance of the funds or any particular rate of return. The repayment of capital is not guaranteed. Investments in the funds are not deposits or liabilities of any of the above-mentioned parties, nor of any Authorised Deposit-taking Institution. The funds are subject to investment risks, which could include delays in repayment and/or loss of income and capital invested. Past performance is not an indicator of nor assures any future returns or risks. Coolabah Capital Investments (Retail) Pty Limited (ACN 153 555 867) is an authorised representative (#000414337) of Coolabah Capital Institutional Investments Pty Ltd (AFSL 482238). Equity Trustees Ltd (AFSL 240975) is the Responsible Entity for these funds. Equity Trustees Ltd is a subsidiary of EQT Holdings Limited (ACN 607 797 615), a publicly listed company on the Australian Securities Exchange (ASX: EQT). A Target Market Determination (TMD) is a document which is required to be made available from 5 October 2021. It describes who this financial product is likely to be appropriate for (i.e. the target market), and any conditions around how the product can be distributed to investors. It also describes the events or circumstances where the Target Market Determination for this financial product may need to be reviewed. The Fund's Target Market Determination is available here' website.

Ratings Disclaimer:

Financial Express Alpha Manager Award Disclaimer: © 2019 FE fundinfo. All Rights Reserved. The information, data, analyses, and opinions contained herein (1) include the proprietary information of FE fundinfo, (2) may not be copied or redistributed, (3) do not constitute investment advice offered by FE fundinfo, (4) are provided solely for informational purposes and therefore are not an offer to buy or sell a security, and (5) are not warranted to be correct, complete, or accurate. FE fundinfo shall not be responsible for any trading decisions, damages, or other losses resulting from, or related to, this information, data, analyses, or opinions or their use. FE fundinfo does not guarantee that a fund will perform in line with its FE fundinfo Alpha Manager Rating as it is a reflection of past performance only. Likewise, the FE fundinfo Alpha Manager Rating should not be seen as any sort of guarantee or assessment of the creditworthiness of a fund or of its underlying securities and should not be used as the sole basis for making any investment decision.

Foresight Analytics Disclaimer: The Foresight Analytics, and Foresight Analytics & Ratings logo is used for information purposes only and does not constitute a recommendation or an offer or solicitation to purchase any fund or company securities offered by Coolabah Capital Investments (the manager). Investors should refer to the full disclaimer on the manager's rated funds that can be found at https://www.foresight-analytics.com/general-disclaimer/

Atchison Disclaimer: The Atchison Rating (assigned June 2019) presented in this document is published by Atchison Consultants Pty Ltd ABN 58 097 703 047 AFSL 230 846. The report contains recommendations and advice of a general nature and does not have regard to the particular circumstances or needs of any specific person who may read it. Investors should assess either personally or with the assistance of a licensed financial adviser whether the Atchison Consultants recommendation or advice is appropriate to their situation before making an investment decision. The information contained in the report is believed to be reliable, but its completeness and accuracy is not guaranteed. Opinions expressed may change without notice. Atchison Consultants does not accept any liability, whether direct or indirect arising from the use of information contained in this report. No part of this report is to be construed as a solicitation to buy or sell any investment. Atchison Consultants does not accept any responsibility to inform you of any matter that subsequently comes to its notice, which may affect any of the information contained in this report. The performance of the investment in this report is not a representation as to future performance or likely return.

MSCI Disclaimer: Neither MSCI nor any other party involved in or related to compiling, computing or creating the MSCI data makes any express or implied warranties or representations with respect to such data (or the results to be obtained by the use thereof), and all such parties hereby expressly disclaim all warranties of originality, accuracy, completeness, merchantability or fitness for a particular purpose with respect to any of such data. Without limiting any of the foregoing, in no event shall MSCI, any of its affiliates or any third party involved in or related to compiling, computing or creating the data have any liability for any direct, indirect, special, punitive, consequential or any other damages (including lost profits) even if notified of the possibility of such damages. No further distribution or dissemination of the MSCI data is permitted without MSCI's express written consent.