

## Introduction

Last quarter, in our 2023 outlook article, we spoke about the stand-off between the "pivot" camp and the "higher for longer" camp in markets as well as the widespread market anticipation (and perhaps even perverse hope for) a recession. The first quarter of 2023 has boosted the hopes of the pivot camp, with cracks emerging in the global financial system as evidenced by the failure of Silicon Valley Bank and the forced merger of Credit Suisse and UBS. However, as the sports fans will know, the first quarter is not the match and which camp is proved correct will depend on whether the current cracks force further policy responses or alternatively, stability returns, and the focus of central banks returns to inflation.

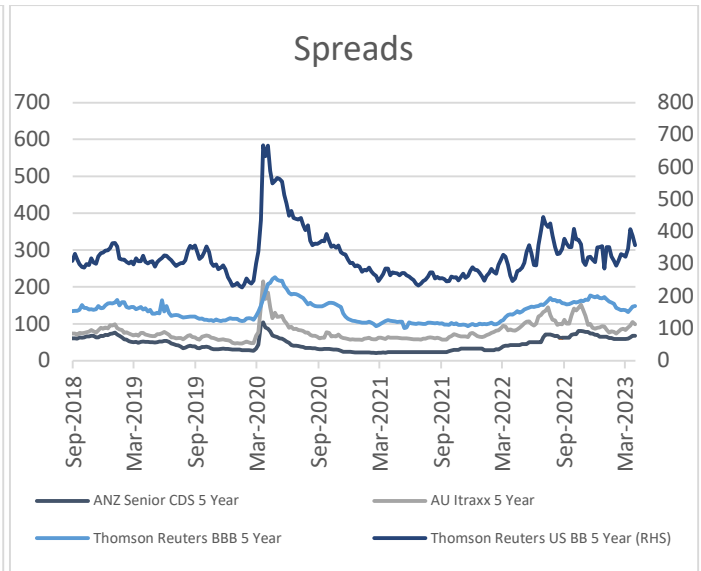
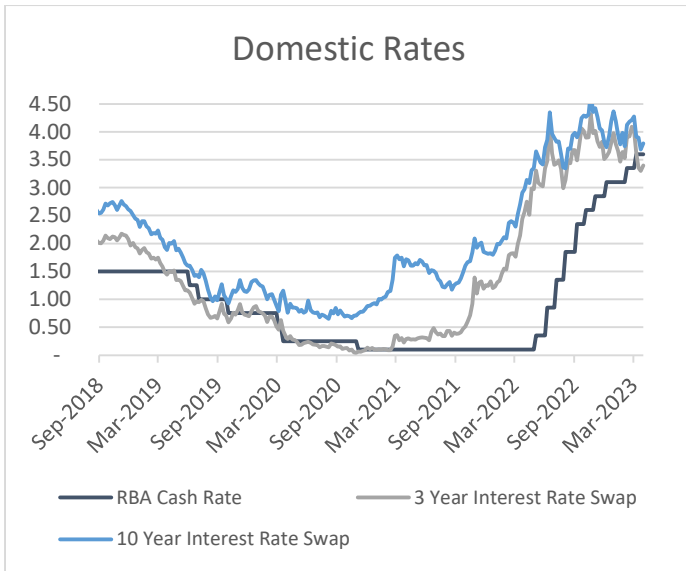
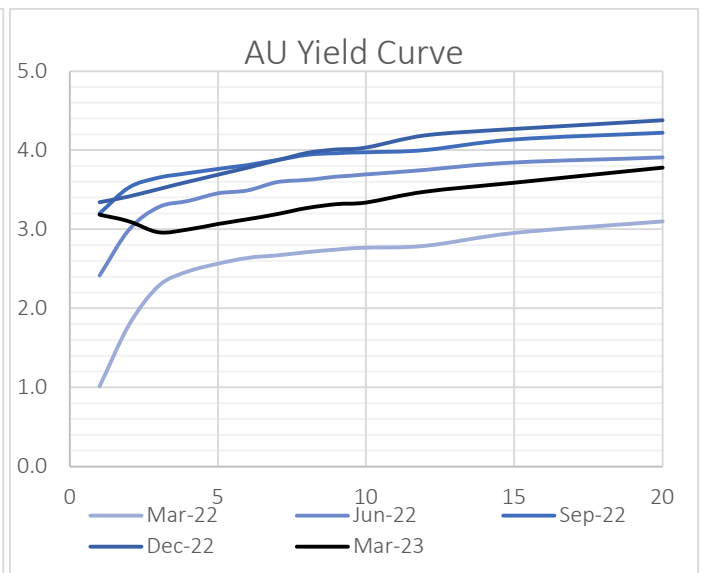
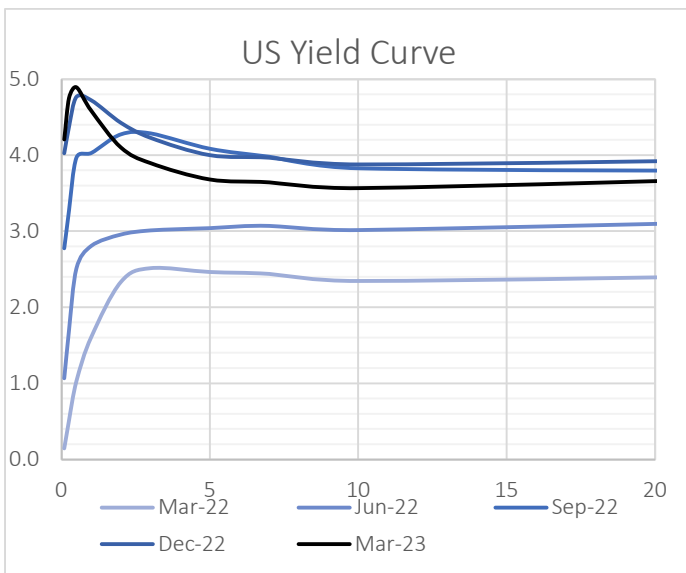
In contrast to seeming daily volatility in financial markets, energy markets and Australian infrastructure have had a relatively quiet quarter (particularly compared to some periods of 2022). Compared to 2022, electricity prices have been moderate – albeit supply has been quite tight at various points during what was a not particularly hot summer. With Liddell Power Station to fully close over the month ahead, the supply demand picture remains finely balanced in the short-term. Beyond this, the quarter marked the short-term digestion of longer term challenges. For infrastructure assets in the broad, the 2023 digestion challenge will be valuations adjusting to a world of higher risk-free rates and tighter liquidity. Given that senior debt now offers returns in 2023 that infrastructure equity investors were willing to accept in 2021, there is a re-pricing that needs to feed through into valuations. Within energy/electricity, the 2023 challenge (and to be frank, this is going to run for the next decade at least, not just 2023), is the tremendous ramp-up/roll-out required to hit the government's 2030 82% renewable target. This is starting, but is not easy, with many bumps/twists in the road ahead.

This quarter we have four articles:

- Credit Spreads – is a recession priced in?
- LGC Demand vs Supply
- Regulated Assets WACC
- Let's get technical - BBSW vs BBSY

## Markets Update

Ongoing central bank rate increases continue to be a focus for markets – with short-term policy rates continuing to march upwards. The RBA raised rates for the 10<sup>th</sup> consecutive time in March. In its latest meeting the RBA noted that business conditions remained favourable, although GDP growth had softened in 2022. The RBA acknowledged that further tightening of monetary policy would be required to ensure inflation returns to target and that the current period of high inflation is only temporary. Despite this assessment, the RBA noted that monetary policy is in restrictive territory and that the economic outlook is uncertain, and they may pause rate rises in future meetings to assess the outlook for the economy. With a softer monthly inflation reading of 6.9% and turmoil in offshore banking systems, will there be an 11<sup>th</sup> consecutive rise? It is yet to be seen.



Sources: Refiniv Eikon

### New issuance and refinancing

Date	Borrower	Instrument	Size (\$m)	Term (Yrs)
January	ACEN Australia	Loan	277	N/A
January	Igneo Infrastructure Partners	Loan	175	N/A
January	Acciona	Loan	400	3
January	WSO Finance	Loan	405	9
February	Australian Gas Networks	Loan	250	10
February	Atmos Renewables	Loan	852	3/5
February	ConnectEast Finance Pty Ltd	Loan	295	10
February	NEXTDC Ltd	Loan	400	4

Date	Borrower	Instrument	Size (\$m)	Term (Yrs)
February	WSO Finance	Loan	624	5/6
March	Glenrowan Solar Finance Pty Ltd	Loan	110	3.5
March	QIC Private Capital	Loan	1900	N/A

### Equity and other news

- A controlling stake in Melbourne tollroad, EastLink, is being put to market. Transurban has signalled interest and is currently the most likely buyer.
- Barrenjoey is collecting bids for REST Super's 10% stake in NSW electricity distributor Endeavour Energy.
- Mugga Lane Solar farm was purchased by CleanPeak Energy for an estimated \$30-\$40 million.
- Zen Energy plans to raise \$200-\$300 million to fund power generation and storage projects in South Australia.
- Brookfield Asset Management and EIG have signed a binding deed for a \$18.2 billion takeover of Origin Energy. The deal is yet to be approved by the ACCC and FIRB.
- Petronas has acquired Wirsol Energy's Australian assets for a price potentially between \$900 million and \$1 billion. The deal includes 750 MW of operational assets and a development pipeline.
- Palisade Investment Partners has launched a new Renewable Energy Platform – Intera. The fund has been backed by Hesta, Aware Super and the CEFC. The platform includes Palisade's existing operational windfarm assets and will look to fund new projects.
- Lightsource BP announced its intention to sell its Australian solar farm portfolio. This continues the theme (see Wirsol above and CWP last year) of many offshore players in renewables choosing to exit their Australian operations.

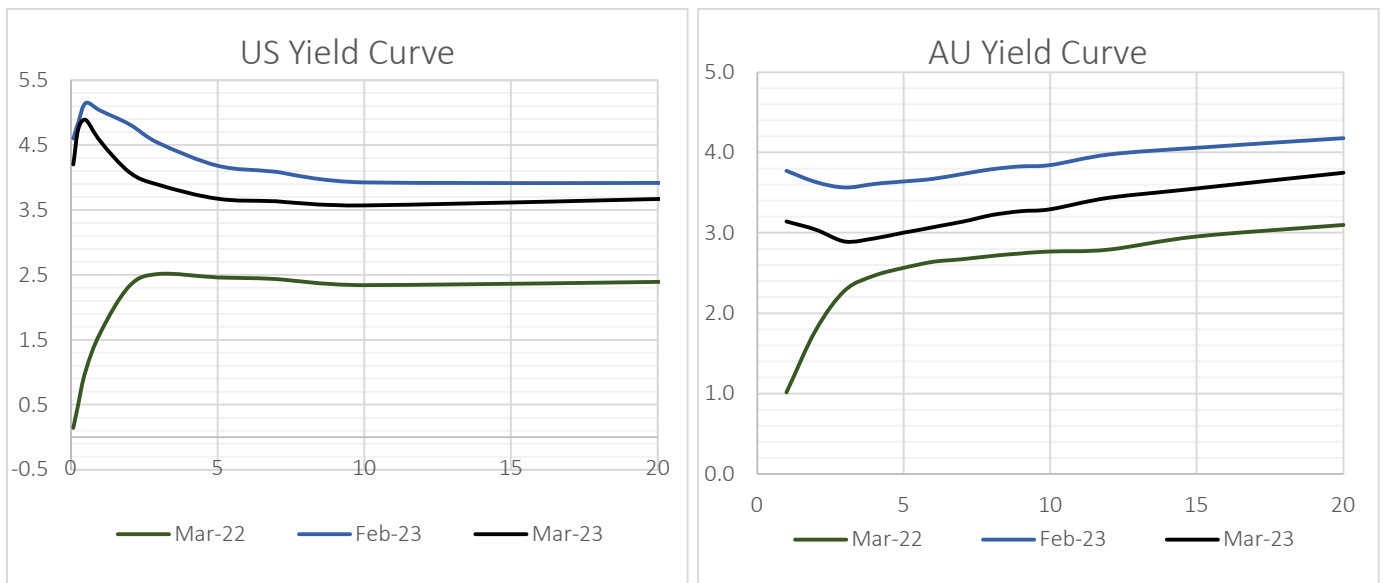
Sources: Refinitiv Eikon, AFR

## Credit Spreads – is a recession priced in?

In the wake of the collapse of Silicon Valley Bank and the shotgun marriage of Credit Suisse and UBS, it would be sacrilegious to not mention yield curves and credit spreads in this quarter's newsletter. While swift policy action seems to have mitigated the short-term issues for bank liquidity, time will tell whether there are further shoes to drop. In this context, it is useful to review what rates and credit markets are already pricing in.

### Yield Curves

March 2022 marked the beginning of the Fed's rate raising program to tackle inflation. It has been a year since the start of the program and the shape of the yield curve has changed drastically. In early March 2023 we witnessed the US yield curve reaching its deepest inversion since 1981.



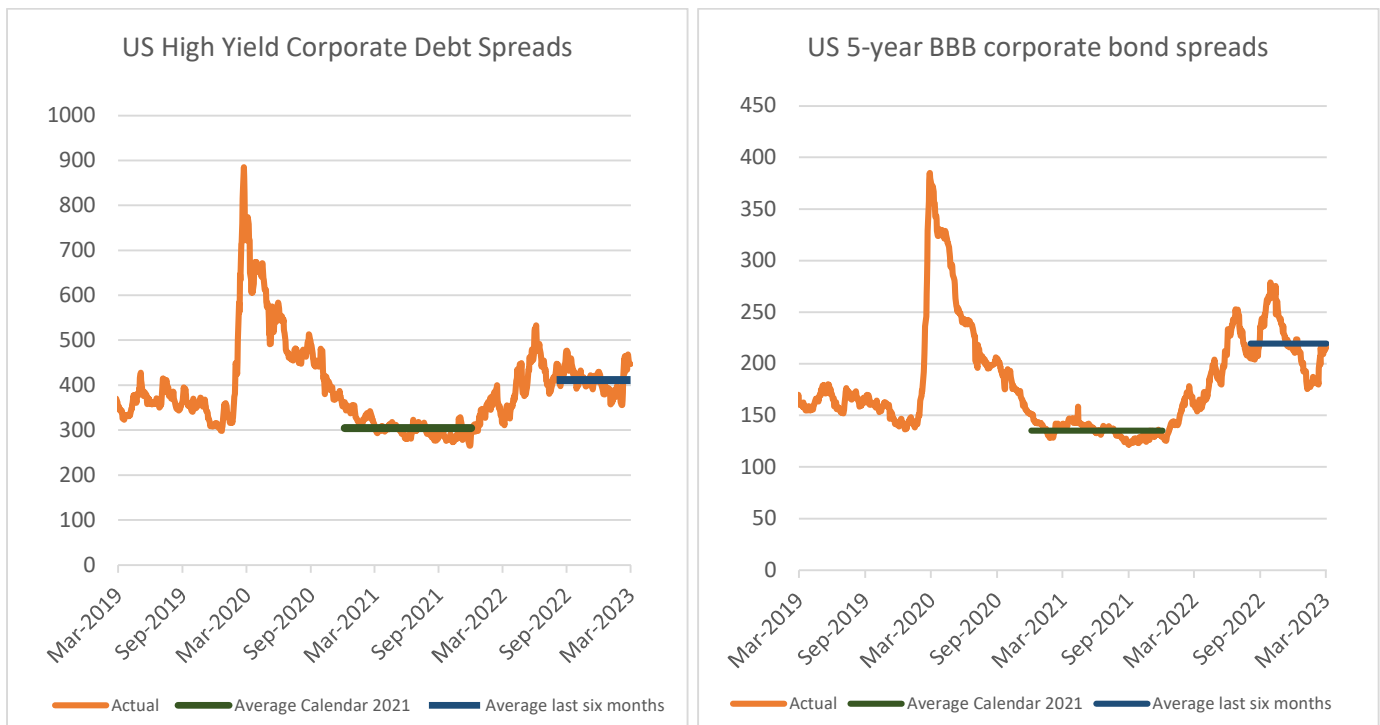
Sources: Refinitiv Eikon

Why do we care about the inversion? The yield curve is normally upward sloping as a function of duration – investors want a return premium for taking the risk of investing in a longer term bond. An inverted yield curve happens when yields on shorter-dated bonds are higher than those of longer-term ones. This signals that investors expect interest rates to be steady or rise in the short-term, but they also believe that higher borrowing costs will eventually harm the economy, resulting in rates cuts and, hence, lower long-term bond rates. That is, an inverted yield curve is effectively the market forecasting a recession (and future rate cuts).

The SVB crisis has seen a rapid adjustment to the shape of the front end of the US yield curve. Expectations of continued rate rises in the short term remain – but now the peak is expected to be soon – with the market starting to price in rate cuts in 2023. Prior to SVB, the market consensus was “higher for longer” where the Fed was expected to raise rates and hold them steady well into 2024.

The shift in the near term outlook, and in particular, the market starting to price in rate cuts, is the market saying the Fed has been following a “raise rates until something breaks” strategy, and something has just broken!

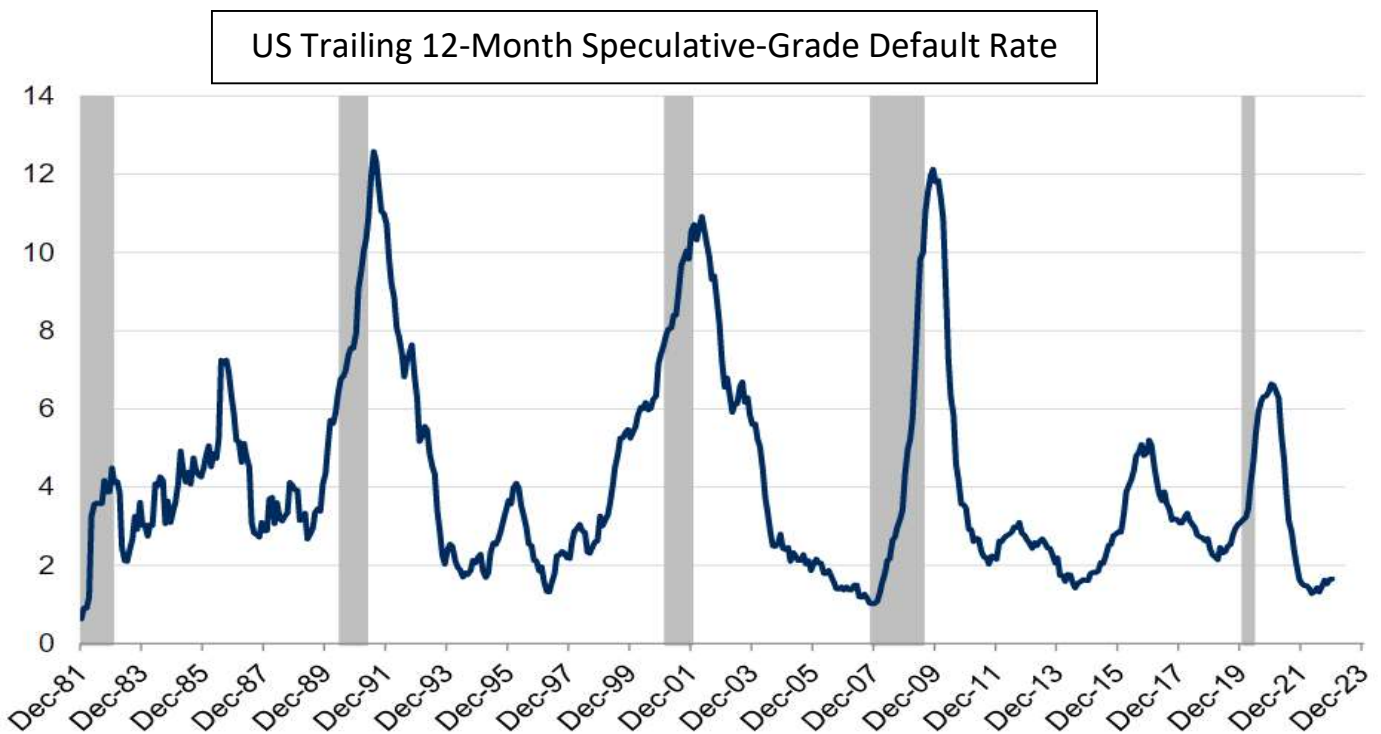
**Credit Spreads**



Sources: Refinitiv Eikon

Over the past year there has been an uptick in the credit spreads in the US corporate bond markets. While this is material compared to the low level of spreads in 2021 (see chart above), it is important to note that this is noting like the widening of spreads traditionally seen in a genuine financial crisis (eg during Covid or the GFC). That is, the recent widening reflects a modest reduction in liquidity rather than a genuine pricing in of a material recession or a significant uptick in defaults.

To provide context, the chart below shows the US high yield default rate. Defaults are lagging, with the peak of defaults occurring well after the start of a recession. It is also important to note that defaults are bimodal – they either tend to be relatively low (in good times) or 2-3 times above average (in recessions).



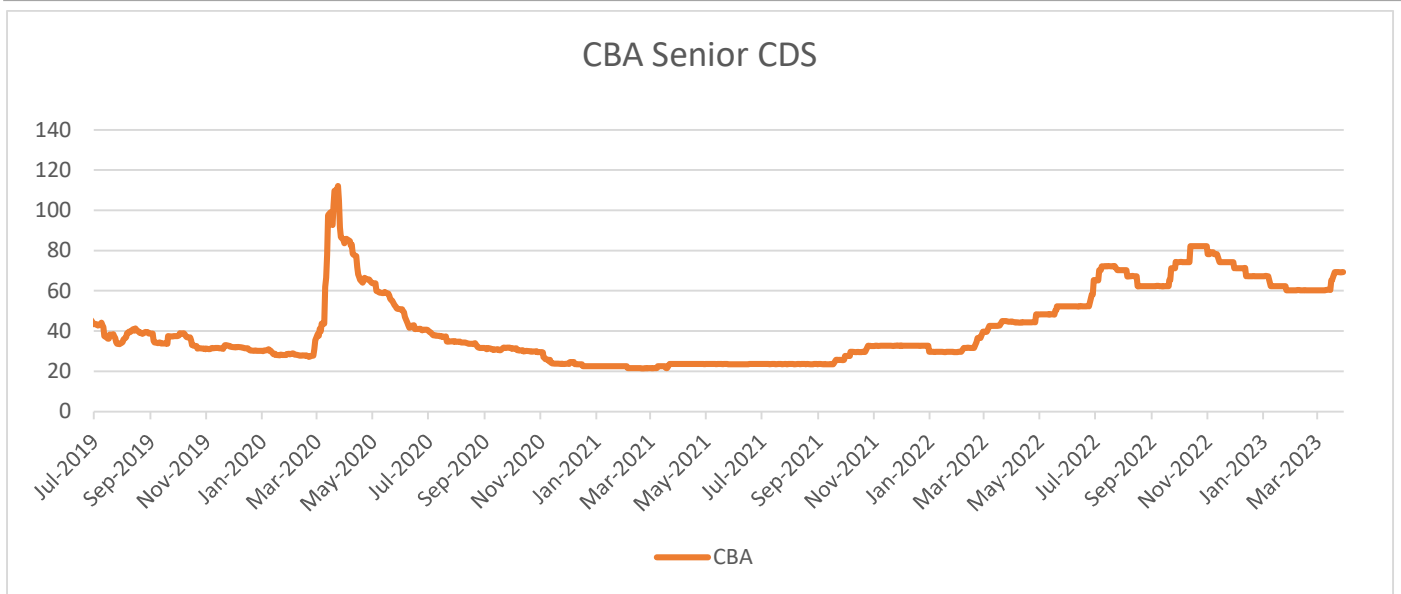
Source: S&P Global Ratings

In conclusion, while credit markets are tightening, which is consistent with the broader tightening in monetary policy and financial conditions, credit market participants are a long way from calling a recession. That is, the credit desk clearly isn't speaking to the rates desk!

**Credit Default Swaps (CDS) and Bank Funding Costs**

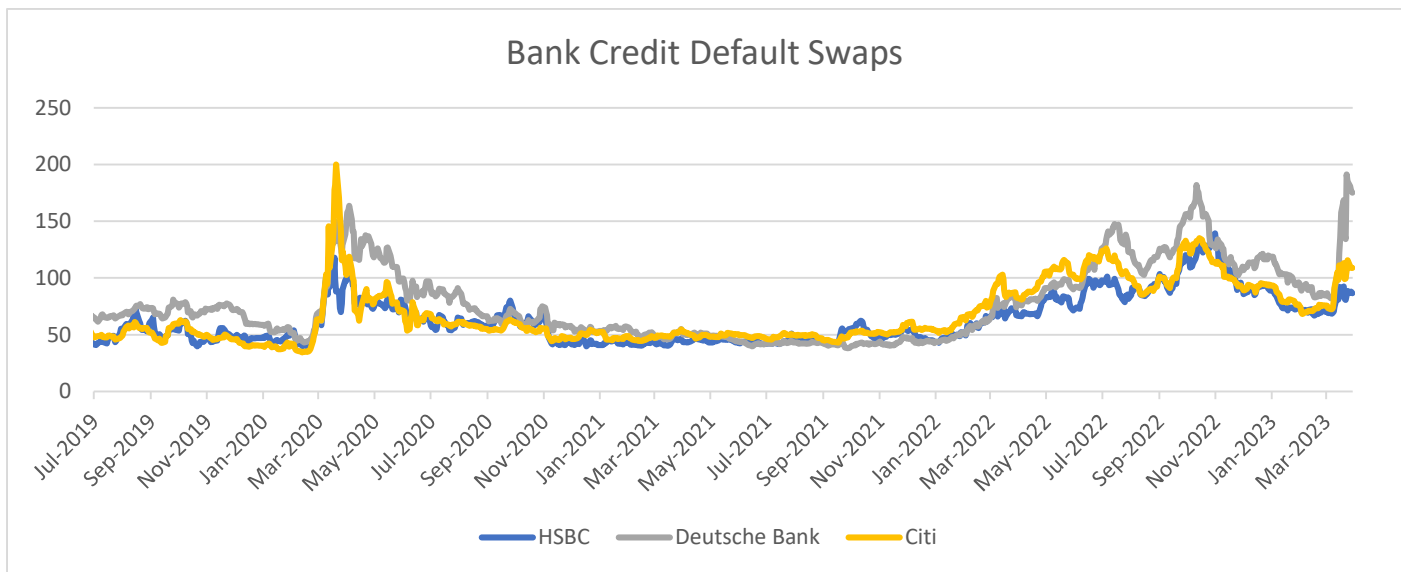
Another interesting part of the market to monitor is bank funding costs. Clearly if bank funding costs blow out, this will feed out to credit markets more generally. One way of tracking bank funding costs is to look at credit default swap (CDS) pricing for banks.

The first chart below shows CBA CDS pricing (the pricing for all four major banks track very closely). CDS pricing has increased substantially compared to 2021 (circa 70 basis points vs approximately 20 basis points). This is a material increase and will incentivise banks to increase loan pricing (which will reinforce the impact of RBA rate increases). However, it is worth noting that it is still materially below the crisis levels experienced during Covid or the GFC.



Sources: Refiniv Eikon

For overseas banks, the pressures are more acute (see below Deutsche Bank, Citibank and HSBC). Deutsche Bank in particular shares some of the same symptoms as Credit Suisse (large hangover derivative/loan positions from the GFC and a history of poor profitability). That said, our personal view is that it benefits from much stronger government/regulatory support than Credit Suisse and, hence, we would be very surprised to see the same outcome in its case.



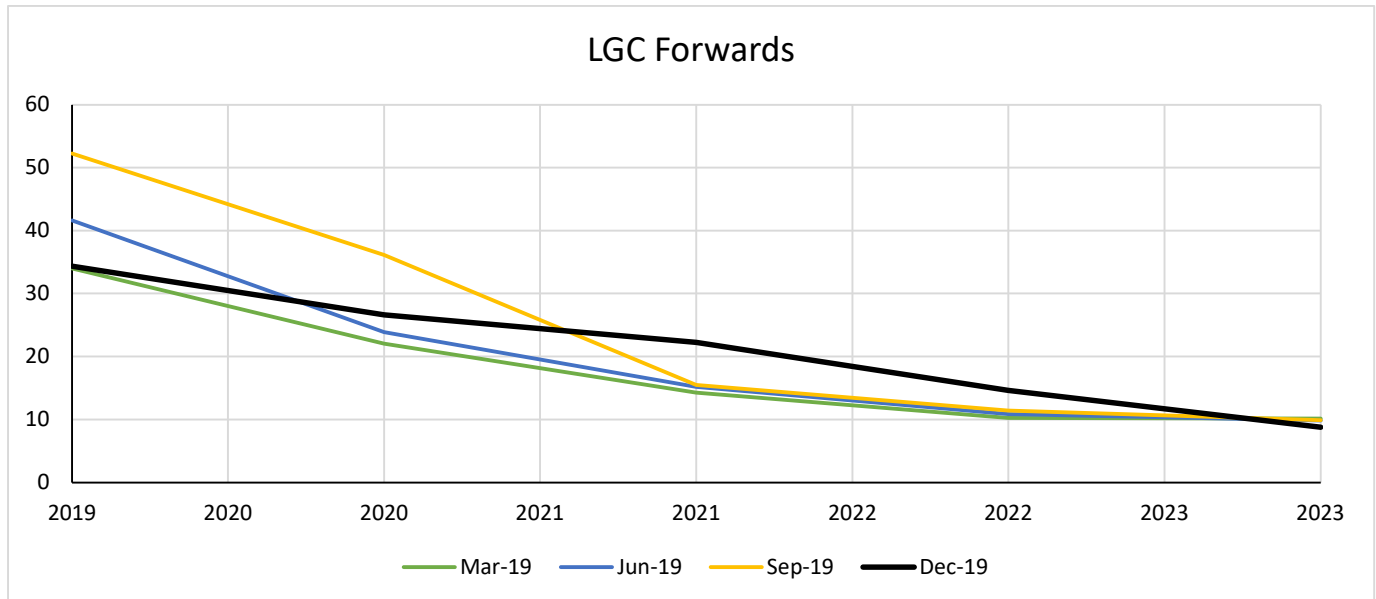
Sources: Refiniv Eikon

The overarching conclusion of this review is that government bond investors' have rapidly shifted their views over the last month and are repositioning themselves for a rapid deterioration in the economic outlook and rate cuts later this year. This a contrasting position to credit investors (and we would argue that equity markets largely fall into the same camp), where tightening liquidity is moderately increasing margins, but markets are not pricing in a material recession or substantial increase in defaults. Only one of these views will prove correct.

## LGC Demand vs Supply

The Renewable Energy Target – under which eligible generators are granted 1 large generation certificate (LGC) per MWh of renewable generation – was built around a target of achieving 33 TWh of renewable generation by 2020 (and

this target remains fixed until 2030). Five years ago, the consensus among energy market participants was that this target would be achieved easily in the early 2020s and that LGC prices would fall to near zero as this target was achieved. For example, in one of our 2019 Infradebt Ethical Fund reports we presented the market outlook for LGCs at the time. The prediction then was that LGCs would be worth \$10 by 2023.



Sources: Refinitiv Eikon

Fast forward to today and the spot LGC price is \$50 (and was \$70 over a significant period of 2022). The legislated renewable energy target of 33,000 GWh of renewable energy has been met and exceeded with gusto. There was more than 42,000 GWh of generation eligible for LGCs in 2022. Given the 27% oversupply above the renewable energy target, one would have expected depressed LGC prices.

However, despite this, LGC prices continue to trade at elevated prices due to the increasing demand for voluntary surrender of LGCs by the private and public sector. An example of voluntary surrender is when an electricity retail customer ticks the GreenPower option, the retailer is then obliged under the GreenPower accreditation scheme to purchase an additional amount of LGCs above the legislated minimum and voluntarily surrender them such that the customers renewable power percentage is 100%. Other examples would be when a corporate energy user purchases electricity (and LGCs) from a wind and solar project and then voluntarily surrenders the resulting LGCs (rather than selling the excess of the LGCs above their RET obligations). This latter approach is increasingly common as an increasing number of corporates adopt net zero targets (for example, Woolworths has committed to 100% green electricity supply from 2025).

The Clean Energy Regulator recently released its demand and supply analysis of LGCs for the 2022 calendar year. The following are the key takeaway points on LGC supply and surrender.

- 42.1 million LGCs were created.
- 28.5 million LGCs were surrendered by retailers (out of the 33 million required to meet the RET). Retailers elected to pay the penalty rate on the 4.5 million shortfall with the option of buying LGCs in the future getting a refund on the penalty paid in the next three years (the rationale being that LGCs will be cheaper in future years compared to the current year).
- 5.2 million LGCs were surrendered covered shortfalls in previous years where retailers paid the penalty and are now receiving a refund.
- The balance of shortfall LGCs that could be refunded and contribute to future demand in the next 3 years is 15 million.
- 7.4 million LGCs were voluntarily surrendered by state governments and corporates.



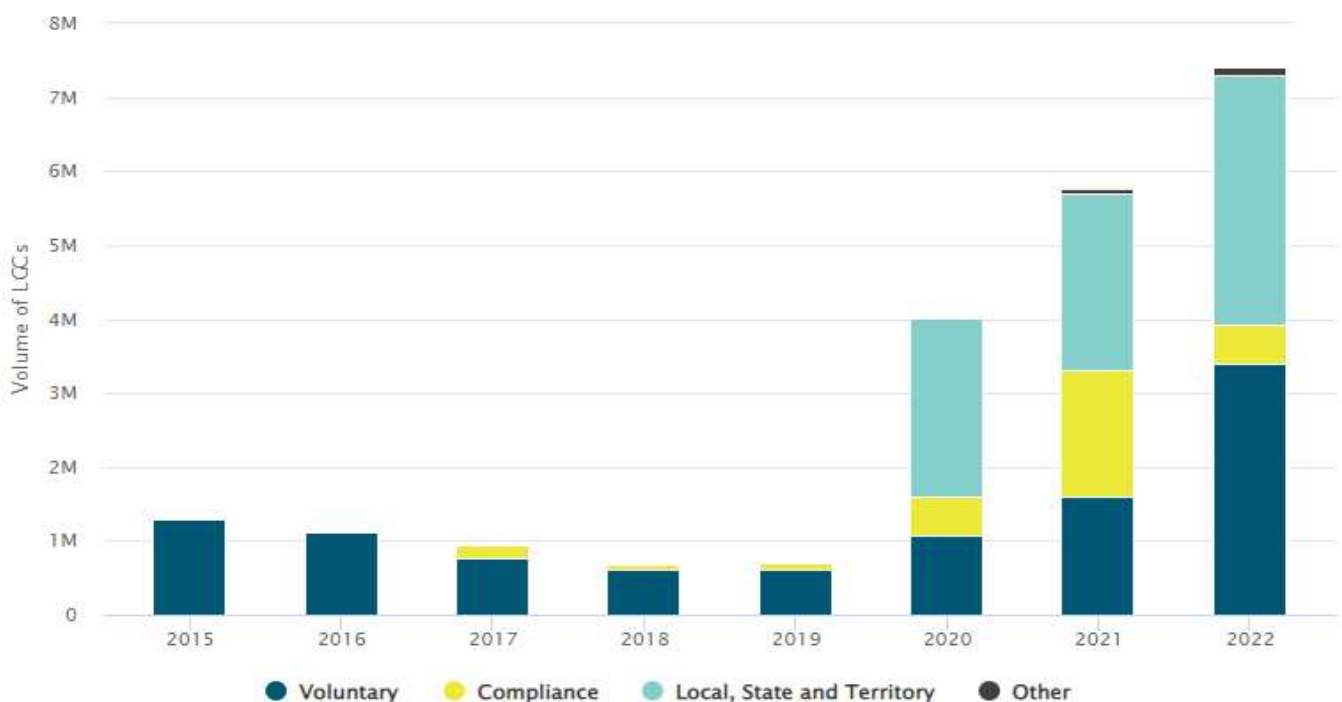
- The stock of LGCs in existence and not surrendered at the end of the year was 8.8 million (the opening balance was 7.8 million). This is the stock of LGCs held by market participants to ensure liquidity.

Looking ahead to future surrender years, there are 7.34 GW of committed solar and wind projects in the pipeline. These are projects that are currently under construction and are expected to probably be operating in the next one or two years. This will add to the existing 17.24 GW of renewable capacity and will increase the annual creation of LGCs by 18 million to approximately 60 million per annum by 2024. Of the additional 18 million of LGCs there are 11 million that will be required to surrender against shortfall penalties from 2020 and 2021 (where 2023 and 2024 will be the final years to surrender). This leaves a surplus of approximately 7 million LGCs to 2024 (if all committed projects at the end of 2022 are built and fully operational by the end of 2023) and assumes the previous 8 million LGC liquidity requirement remains the same.

In summary, the key source of incremental LGC demand has come from voluntary surrender. Over the last three years voluntary surrender has added 7 million to the demand for LGCs. This is likely to continue rising as more corporates pledge to make their businesses net zero or 100% renewable. Demand will also be elevated with the Safeguard mechanism – as decarbonisation of electricity supply is often one of the cheaper abatement strategies open to industrial users. See below for the historic growth of voluntary LGC surrender.

### Non-RET LGC cancellations by demand source

2015 to 2022

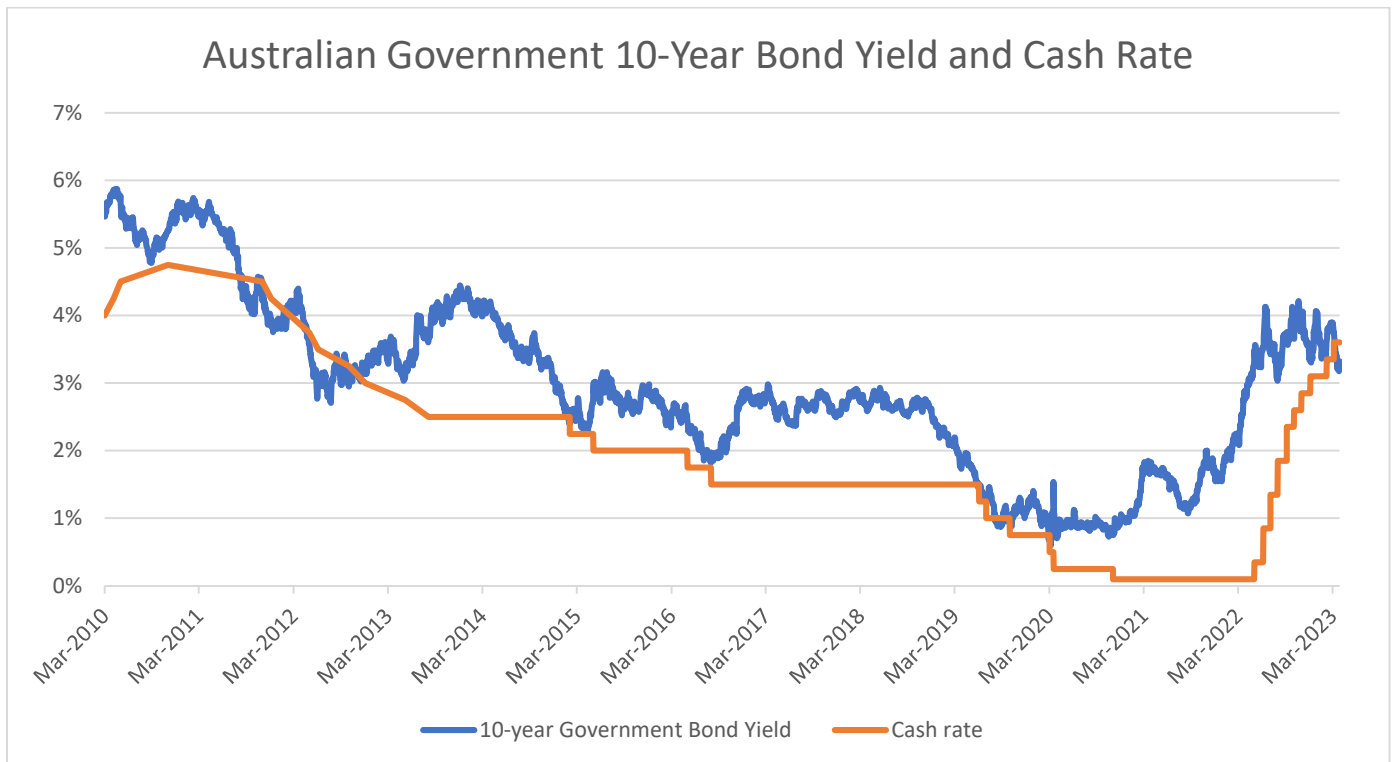


Source: Clean Energy Regulator

Over the next few years voluntary surrender demand will continue to grow. The key question will be whether the voluntary surrender demand rises as fast as excess supply (i.e. the supply above the 33 TWh target). If supply rises faster than demand then LGCs prices will likely fall. The corporate PPA market is growing rapidly and is backing many of the new solar and wind projects coming to market. The corporates that purchase this power will voluntarily surrender all the LGCs they receive above the mandatory target in satisfaction of their commitments to net zero emissions. This would suggest that supply and demand of LGCs are largely matching each other one-for-one over the medium term. In the long term, we would expect there to be a convergence between LGC prices and their equivalent value in carbon credits (ACCUs). LGCs are currently trading at a material premium to ACCU prices on a carbon equivalent basis. How this gap converges (do LGCs fall or ACCUs rise?) and what the long-run regulatory exchange rate between LGCs (and any post 2030 successor scheme) are key questions.

## Regulated Assets WACC

Infrastructure assets are often stereotyped as long-lived monopoly assets generating long-term stable cash flows, in most instances they are a duration play or a long tenor bond with operating risk. As such, these assets have benefited enormously from the last 10 years of falling base rates and we would expect the rise in risk free rates will be a headwind to infrastructure equity returns in 2023.



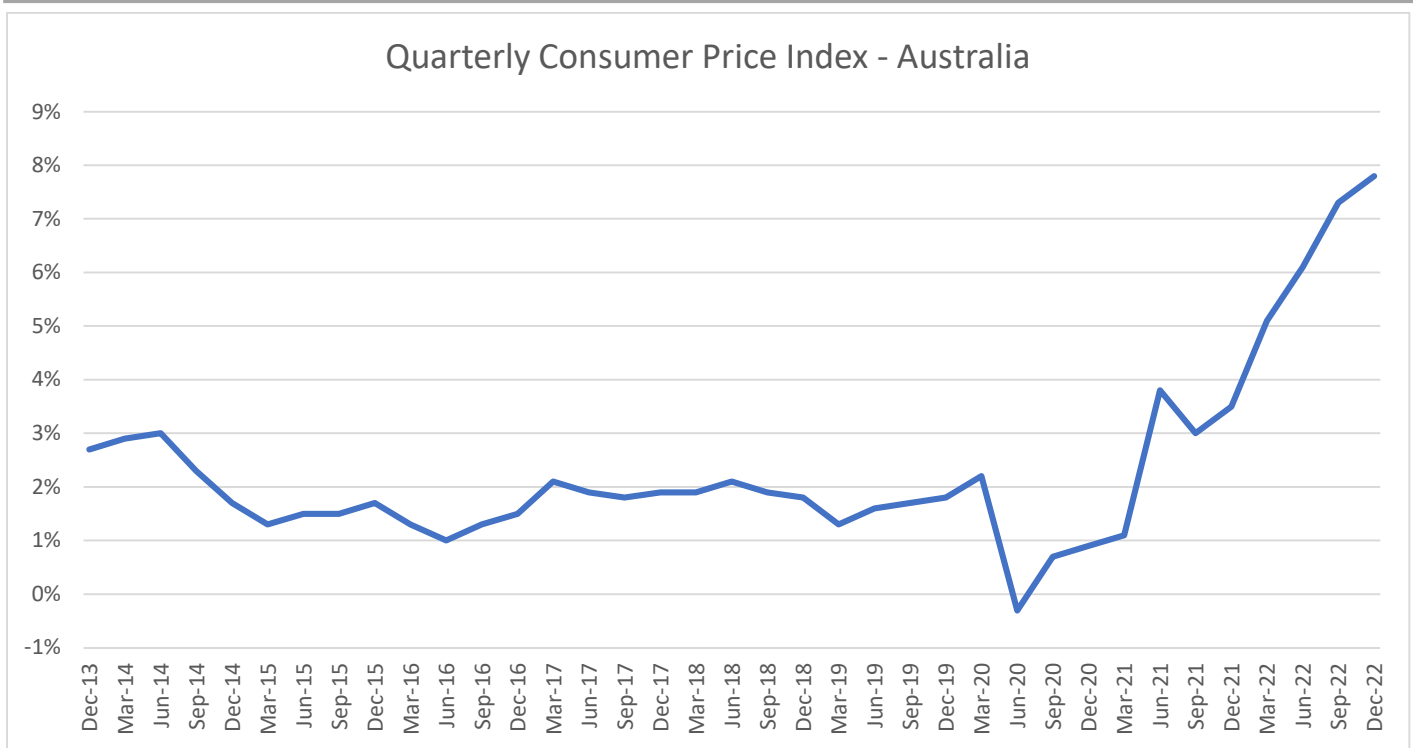
Sources: Refinitiv Eikon

However, the risk free rate dynamic is not the same for all infrastructure assets. In particular, quite different dynamics are in play for regulated utilities. Rather than being thought of as a bond proxy, it is probably better to think of regulated utilities as a leveraged exposure to credit spreads combined with a lagging floating rate note. For these assets, rising risk-free interest rates will lead to higher regulated rates of returns (a positive) but higher credit spreads will be a negative (as most utilities have much higher gearing than regulators assume – as this is one way to game the regulated rate of return system)

For regulated assets, allowable revenues are set by their regulator. For example, with respect to electricity transmission and distribution, the Australian Electricity Regulator (AER) determines the allowable rate of the return – the regulatory Weighted Average Cost of Capital (WACC). Higher interest rates feed through into higher WACCs via both the cost of debt and the cost of equity. The cost of equity is estimated using the CAPM, a component of which is an estimation of the risk-free rate. The risk-free rate is estimated via the 10-year government bond rate and averaged over 20 to 60 consecutive business days on the date prior to the determination of the regulated return.

As you can see, regulated utility assets are perfectly positioned to benefit from the recent and rapid increase in interest rates.

Furthermore, the Regulated Asset Base (RAB), to which the regulatory WACC is applied, is indexed to inflation. I'm sure I don't need to tell anyone reading this newsletter that inflation has been an issue of late!



Sources: Refinitiv Eikon

So it all looks good for regulated utility owners right? Yes, I guess it does, but one thing investors should always be keeping in the back of their mind is ‘regulatory’ or ‘sovereign’ risk. That is, the risk that regulators (or elected officials) elect not to follow the prescribed regulatory reset mechanism.

For those of us with a little more grey hair, you may recall the various regulated water utility sales that took place in the United Kingdom prior to the GFC – think Thames Water, Southern Water etc. Post the GFC, unemployment was high, and there were a range of pressures on household budgets. These assets were due to receive the benefit of their regulatory reset (increase in allowable rate of return) but during the 2009-15 regulatory period, the Water Services Regulatory Authority (OFWAT) set a price limit that allowed for an average annual increase of 0.5% in water bills in real terms.

This was lower than the price increases requested by water companies, which had asked for an average annual increase of 5.8% in real terms (which had been calculated on the basis of historic practice and included increases in the WACC to reflect the wider credit margins in a post GFC period).

OFWAT's decision to set a lower price limit was based on a number of factors, including the need to balance the interests of customers and shareholders, the need to encourage greater efficiency and innovation, and the need to ensure that water companies continue to invest in maintaining and improving the water supply and sewerage infrastructure. While these are real and important factors, in our view the dominant real politic was regulated utilities had been privatised/purchased at substantial premiums to RAB (i.e. private sector investors effectively signalling they expected to beat the regulator on a long-term basis) combined with a macroeconomic backdrop that would have otherwise seen substantial price rises at a time of significant challenge for household budgets.

The 2009 OFWAT decision triggered a significant round of write downs amongst affected companies.

Can't happen here? Maybe, but intervention is not uncommon in Australia – look no further than the December 2022 decision to intervene in energy markets (setting price limits for coal and gas). This was a direct response to pressure on household budgets (keep in mind that transmission and distribution account for circa 50% of the average household's electricity bill). Alternatively, you've no doubt seen the various complaints in respect of Transurban and the increase in tolls due to fixed indexation (set many years ago).

We're not suggesting this is an immediate danger for utilities owners, but if we have a protracted period of sticky inflation and concurrent high interest rates (in the country with the fifth highest household debt in the OECD), elected officials will be looking for ways to ease pressure on household budgets.

## Let's get technical - BBSW vs BBSY

### Floating rates

The ASX began administering the bank bill swap rate (BBSW) from 1 January 2017 after a tender process run by the Australian Financial Markets Authority. Prior to this the rate was not observable to the general public. The increased transparency around the setting of the bank bill swap rate was a direct response to the rate rigging scandal where banks around the world were fined \$9 billion over rigging opaque interbank swap rates. In Australia ANZ, CBA and NAB were fined \$125 million for manipulation of BBSW.

There seems to be confusion amongst debt lawyers (for some peculiar reason lawyers that represent borrowers) what the definition of the BBSW and BBSY floating rate is and where to obtain the rate. Note to lawyers, the rate is administered by the ASX and is free to access from the ASX website!

### BBSW

The bank bill swap rate (often referred to by the acronym BBSW) represents the average interest rate on short term eligible securities issued by Australian prime (aka highly regarded) banks. It has several uses and is the benchmark for calculating floating rates on loans, bonds and interest rate swaps. It is calculated every business day by the ASX and is published by 10:30 am for that day.

Prime banks are authorised deposit-taking institutions (ADI's), that is banks, with a minimum credit rating of A1+ for short term debt according to S&P and AA for long term senior unsecured debt, and whose securities are eligible in the RBA's open market operations and standing liquidity facility. The big four Australian banks are currently the only banks who meet this definition.

BBSW is designed to measure the mid-rate at which prime bank eligible securities trade in the open market between 8:30am and 10:30am on a Sydney business day. Below is an example table of the 10-day history of the BBSW from the ASX website.

DATE	1 month	2 month	3 month	4 month	5 month	6 month
09/03/2023	3.5336	3.5871	3.6361	3.7568	3.8460	3.9400
08/03/2023	3.5252	3.5840	3.6332	3.7631	3.8450	3.9300
07/03/2023	3.5124	3.5828	3.6324	3.7689	3.8617	3.9550
06/03/2023	3.4650	3.5686	3.6325	3.7500	3.8600	3.9629
03/03/2023	3.4395	3.5311	3.6286	3.7496	3.8417	3.9600
02/03/2023	3.4100	3.5100	3.6237	3.7500	3.8400	3.9500
01/03/2023	3.4017	3.5020	3.5949	3.7206	3.8267	3.9517
28/02/2023	3.3835	3.4897	3.5628	3.6817	3.8017	3.9325
27/02/2023	3.3592	3.4550	3.5500	3.6650	3.7850	3.9050
24/02/2023	3.3335	3.4451	3.5134	3.6400	3.7600	3.8700

Source: ASX

### Bid ask and mid-rates

A Reference to BBSW is a reference to the BBSW mid rate. Confusingly there is also a bid and ask rate. The bid and ask rate are set using a fixed difference of five basis points above and below the mid rate. When a reference is made to the BBSY rate it is a reference to the bid or ask rate with the bid rate being higher and the ask rate being lower.

Lenders (and Infradebt, on behalf of our clients, is no different) always references the BBSY bid rate in loan agreements out of the sheer self-interest of earning five basis points extra!