

# APAC Developed Markets Rates Strategy

## Ad “pauseam” for the Antipodean central banks

- Local markets still offer value if the outlook is for yield enhancing strategies in a low volatility environment. We believe that remains the case.
- We see the bearish re-pricing of the AUD front-end as having limited duration and suggest looking for dip buying opportunities with some short expiry receiver spreads offering good risk-reward.
- Post-RBNZ we are currently neutral on NZD short-end forwards. On a tactical basis we favour paying December RBNZ meeting date OIS but at slightly better levels. A negative surprise in the NZ employment release could provide such an opportunity.
- In short tenors we find that spreads on SSA bonds are competitively priced versus bonds and commercial paper issued by the semis. For many semi/SSA switches the difference in credit rating is at most 1 notch and we highlight a few spread opportunities.
- It is too early to position for a possible rebound of JGB yields. Total return up to 20y is in line with implied volatility which is higher than realized. Yields are attractive compared to risk and macro data is likely to be weaker than the BoJ's scenario. The market should price in a possible capitulation by the BoJ on its bullish CPI view.
- The Yen curve is becoming more directional given that volatility in the short and middle sectors is completely suppressed. As volatility is likely to be compressed further towards the longer end of the curve, already rich butterflies can become even more so, extending into negative territory. Although we believe the 7yr sector is no longer cheap, it could richen further due to a further decline in volatility. In our view it is still too early to create a bear position.
- Just like cost of shorting is not as cheap as yields indicate due to a steep slope, the cost of gamma is not as cheap as the implied volatility indicates due to the steep term structure of implied volatility. We believe the "pain scenario" for the JPY vol market is a further decline in realized volatility inducing capitulation by long gamma players rather than a possible spike in volatility. We expect volatility to stay low and start cheapening again during the summer holidays in mid-August.

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**See Appendix A-1 for Analyst Certification, Important Disclosures and non-US research analyst disclosures.**

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Figure 1. Strategy Summary Table\*

APAC Developed Markets	View	Strategies
<b>Duration</b>	The domestic short base highlights the risk of a further squeeze lower in yields. Medium-term we still expect global yields to move higher within existing ranges.	Look for opportunities to reload on AUD short end longs, such as via 3m3y 20bp wide 1x2 receiver spreads. Look to pay Dec RBNZ OIS on dips.
<b>Yield Curve</b>	AUD/NZD curve outlooks still conditional on long-end yield moves, but directionality is waning. We do not expect front-end cheapening to extend much further and the AUD 3s10s curve already looks moderately too flat to our fair value framework.	For a resumption of the bear market trend AUD 2yr forward start 1y-10yr steepener via payers. Conditional bear steepener in 9m forward 2s3s via payers.
<b>Cross-Market Spreads</b>	Cross-market spreads suggest that AUD is now trading fair vs the US and modestly cheap vs Europe. Investors targetting yield may continue to be a source of tighter spreads.	Neutral on spreads
<b>Bond Spreads</b>	Divergent supply outlook supports core semi-ACGB box flatteners. Potential European and Japanese flows should help close the yield gap between top rated global supras and semis in AUD. A strong budget and debt buybacks should sustain spread convergence between QTC and top rated TCV.	Long NSWTC-ACGB 22s spread vs short WATC-ACGB 16s spread. Buy AUD ASIA 2022s and sell AUD NSWTC 2022s. Buy AUD QTC 2021s and sell AUD TCV 2020s.
<b>Derivative Spreads</b>	AUD swap spreads should squeeze tighter with higher bond yields. The 3s10s swap-ACGB box should be primarily driven by the back-end except in a prolonged risk-off move.	Receiving 3y EFP is a low-volatility alternative to shorts. 3s10s swap-ACGB box flatteners provide a reasonable hedge to a more significant risk off move.
<b>Inflation</b>	AUD BEIs likely to carried higher with USD inflation markets given upstream wage and price pressures. We expect semi-ACGB box flatteners in linkers to perform in line with nominals given the favourable supply outlook. The level, carry and the supply outlook are 3 compelling factors for entering into long belly positions in the ACGBi 20-22-25 linker real yield fly.	NSWTCi-ACGBi 20s-25s box flattener. Long ACGBi 25 on EFP. Long the belly of the ACGBi 20-22-25 linker real yield fly.
<b>Volatility</b>	An improving economic backdrop support higher levels of gamma, especially 1-3m expiries on short tails. However, our base case is that trading ranges in short tenors are maintained at least for the next couple of months.	Neutral on vol.
<b>Risk Allocation</b>	We advise caution on carry trades once RBA expectations begin to turn more bearish. But spreads likely to remain well anchored while volatility remains low.	

Source: Citi Research, \* Futures trading involves substantial risk of loss.

## APAC Developed Markets

### Australia and New Zealand Rates Strategy

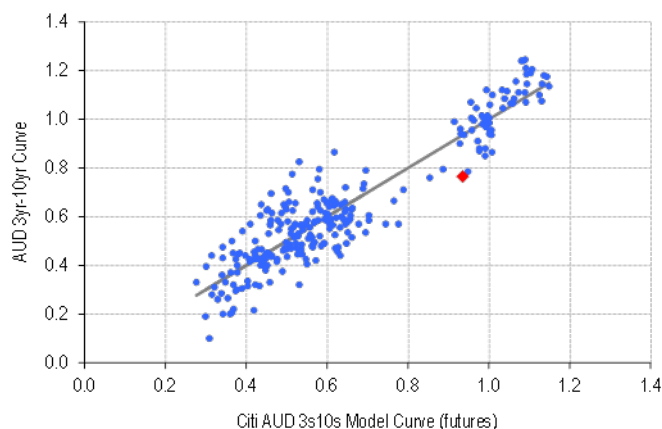
#### Still a market with some value

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This past week has been notable for the absence of any attempt on the part of the RBA Governor to talk the currency lower (an event we thought quite unlikely given the portfolio drivers of A\$ strength) and an acceleration of Q2 CPI (notably the 0.8% gain in underlying) which has cemented the case for a prolonged policy status quo well into next year in our view. This has considerably pared residual rate cut expectations priced in the OIS curve, with a sharp correction in 3s and an attendant flattening of the curve.

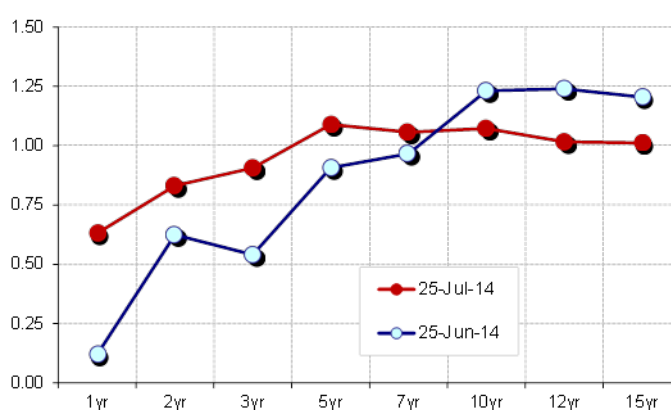
This is interesting as the curve already looks moderately too flat to our fair value framework (Figure 2 shows the model output versus actual curve with key variables being RBA expectations, FX and US curve slope), largely as a result of the re-pricing that has taken place at the front-end. While the scale of misalignment is not excessive at this stage it might suggest that relative pricing should attract renewed bids in the front-end if it proceeds further (either outright or via curve). Thinking around potential catalysts for a re-steepening of the curve we are not convinced that this is likely to come about as a by-product of bearish moves in other developed markets. True, the high beta point for the domestic curve is still away from the front-end but this directionality has waned significantly over the past month (Figure 3 shows this shifting to the belly of the swap curve) and moreover we still see offshore markets as being locked in ranges and susceptible to further dip buying/short covering. Relying on higher global yields to pull the AUD curve steeper is likely to require a longer time frame in our view. We are also cognizant of the risk of further portfolio inflow into local markets which might see term yields squeezed lower.

Figure 2. AUD 3s10s curve model vs actual (futures)



Source: Citi Research

Figure 3. Shifting yield beta pattern of AUD swap curve



Source: Citi Research

Focusing on the short-end, we highlight a number of potential receiver spread opportunities that have attractive payout ratios, such as a 3m expiry 20bp wide 1x2 on 3yr tails which has a 4:1 potential payout to premium ratio. These are highlighted in the table below.

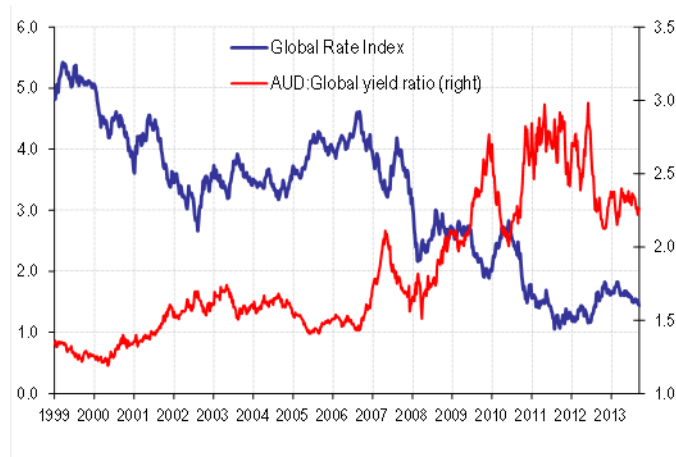
Figure 4. 3m expiry receiver spread payout ratios

3m Expiry										
1x2 Receiver Spread	Net premium (bps)					Maximum net payout to premium ratio				
Strike spread (bps)	1y	2y	3y	5y	10y	1y	2y	3y	5y	10y
15	3.6	2.4	1.5	1.1	-0.6	3.2	5.4	9.0	13.2	
20	4.7	4.6	4.0	3.7	2.4	3.2	3.4	4.0	4.5	7.4
30	5.6	7.2	7.3	7.2	6.8	4.3	3.2	3.1	3.1	3.4
40	5.8	8.4	9.0	9.2	9.6	5.9	3.8	3.4	3.3	3.2

Source: Citi Research. Maximum Payout calculated as: (spread-premium)/premium

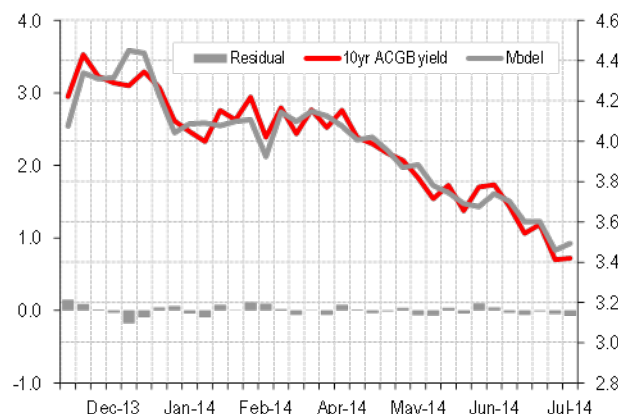
In general we see local markets as still offering relatively good value in a global context. One way of viewing this is in terms of a domestic versus global yield premium (the global index shown is a market weighted average yield and the premium compares an average AUD yield to this global metric). On this measure, AUD yields are still around 2.25x global averages. This is bound to entice yield targeting investors. Beyond the risk of near-term market consolidation it is hard to identify those factors that might pose a risk to this bond supportive environment. The Fed still remains the most significant risk but this still seems to lie somewhat in the distance. It is also worth noting that there is little divergence between our model fair value framework for bond yields and current valuations (Figure 6).

Figure 5. Average AUD yields compared to global market weighted avg



Source: Citi Research

Figure 6. Citi fair value model for 10yr ACGB yields and actual yield



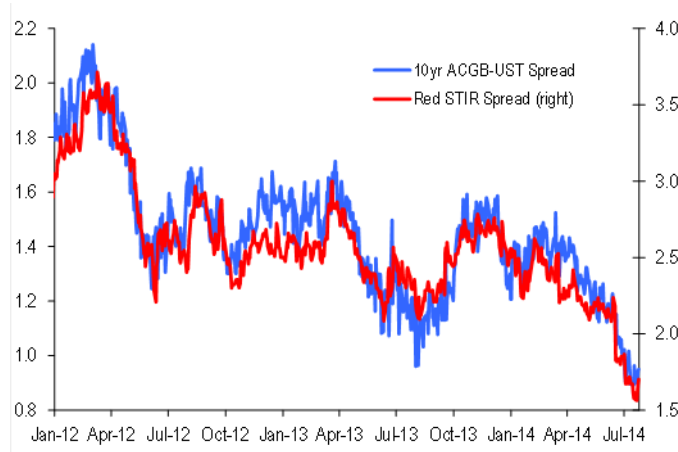
Source: Citi Research

In terms of more regular cross market comparisons, the tightening in ACGB-UST spreads has been very consistent with the (until very recently) more bullish RBA policy rate expectations relative to a progressively more hawkish medium-term Fed expectation. Figure 7 shows that 10yr cash spreads have continued to track relative policy rate expectations between the two markets. With this week's modest setback in the RBA outlook, ACGB-UST spreads have consolidated. We would be surprised to see this move gather real momentum though as the worst case outlook for the RBA still seems to be a distant tightening risk. Moreover, there is still some risk of the market re-pricing rate cuts given the strength of the A\$ and the uncertainty surrounding longer term employment and capex trends.

ACGBs continue to look relatively cheap versus Europe, but far less so than in recent history. We would not recommend cross market trades in this space as the ECB threatens to ply the market with ample liquidity going forward and inflows into both core and peripheral euro debt continue to remain resilient. However, with the expected grind lower in yields in these markets we would expect local bond markets

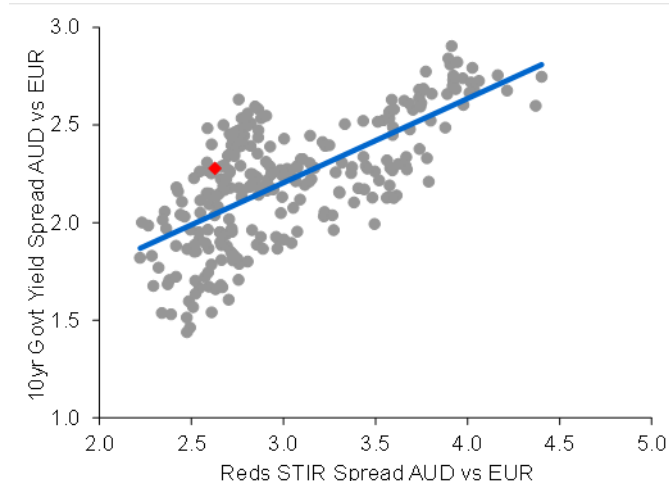
to keep pace. This is yet another signal to buy on dips rather than to accumulate shorts in our view.

Figure 7. 10yr ACGBs quite fairly priced versus USTs



Source: Citi Research

Figure 8. ACGBs: still high yielding compared to Bunds



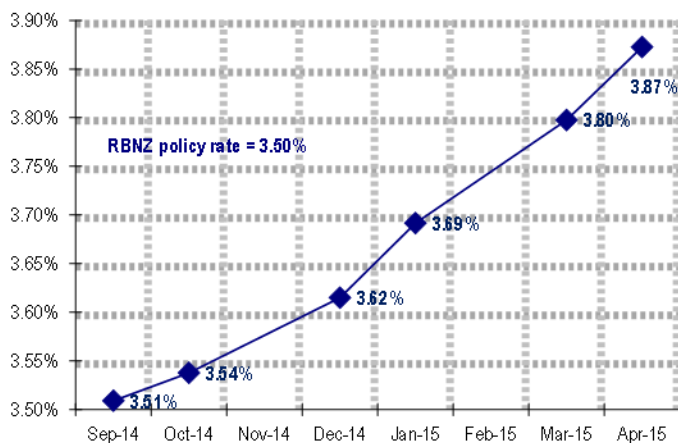
Source: Citi Research

## Neutral on NZD short-end forwards but looking to pay end-year RBNZ meeting date OIS

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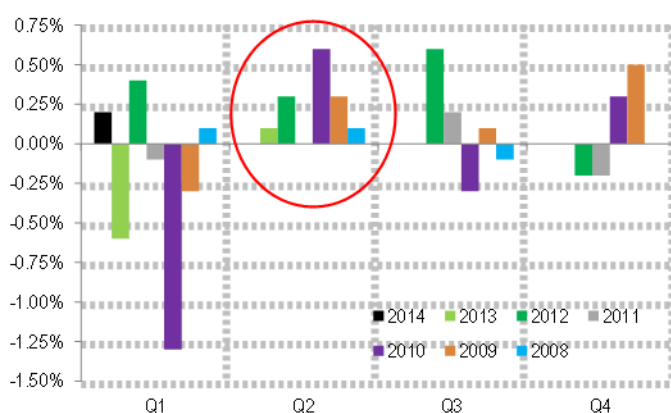
Yesterday's RBNZ statement delivered a 4<sup>th</sup> rate hike of +25bps whilst simultaneously hinting at a pause which was our base case as per last week's [APAC Developed Markets Rates Strategy](#). Whilst fundamental and momentum factors could see yields move lower again we see less value in chasing the rally in NZD short-end forwards at this juncture. As noted in [New Zealand Monetary Policy Update](#) our economists expect another rate hike in December but for the OIS market this scenario is being priced with a probability of less than 50% (see Figure 9). On a tactical basis we would look to pay December RBNZ meeting date OIS on a move closer to 3.59%. We may yet get this opportunity should data surprise seasonal patterns repeat themselves again this year for the NZ household labour force survey, due on August 6<sup>th</sup>. In Figure 10 we show the deviations between the actual NZ unemployment rate and the Bloomberg median expectation by quarter for the last 5 years. As highlighted in the chart for Q2 the actual rate has tended to be in line with consensus or surprise on the high side by as much as 0.6%. As such this significant data point presents some degree of downside risk to NZD front-end yields.

Figure 9. NZD OIS curve



Source: Citi Research

Figure 10. Seasonal surprises in the quarterly NZ unemployment rate

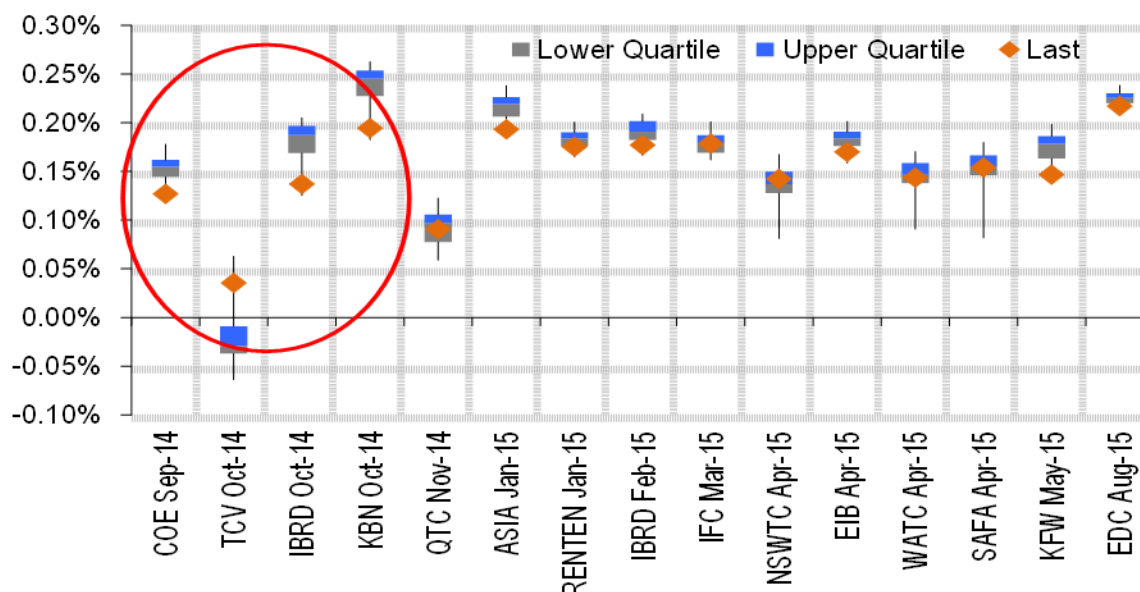


Source: Citi Research

## Yield enhancement opportunities in short-tenor SSAs

For short-end investors we suggest looking at SSAs as they provide opportunities to pick up additional spread for little additional risk versus semis. Global liquidity remains at high levels which should keep short-end semi spreads contained and QTC's planned buybacks of its short-dated debt is likely to provide another layer of domestic support. In Figure 11 and Figure 12 we present the spreads for selected short-tenor semis and SSAs versus OIS in box-whisker plot format, sorted by maturity. As we can see many of the spreads on short-end SSAs are nearing the bottom of their 3m trading ranges. However, we still see value as SSA spread levels are in the mid-teens or better and in a yield seeking environment this makes them quite competitive both against short-end bonds and commercial paper issued by the semis.

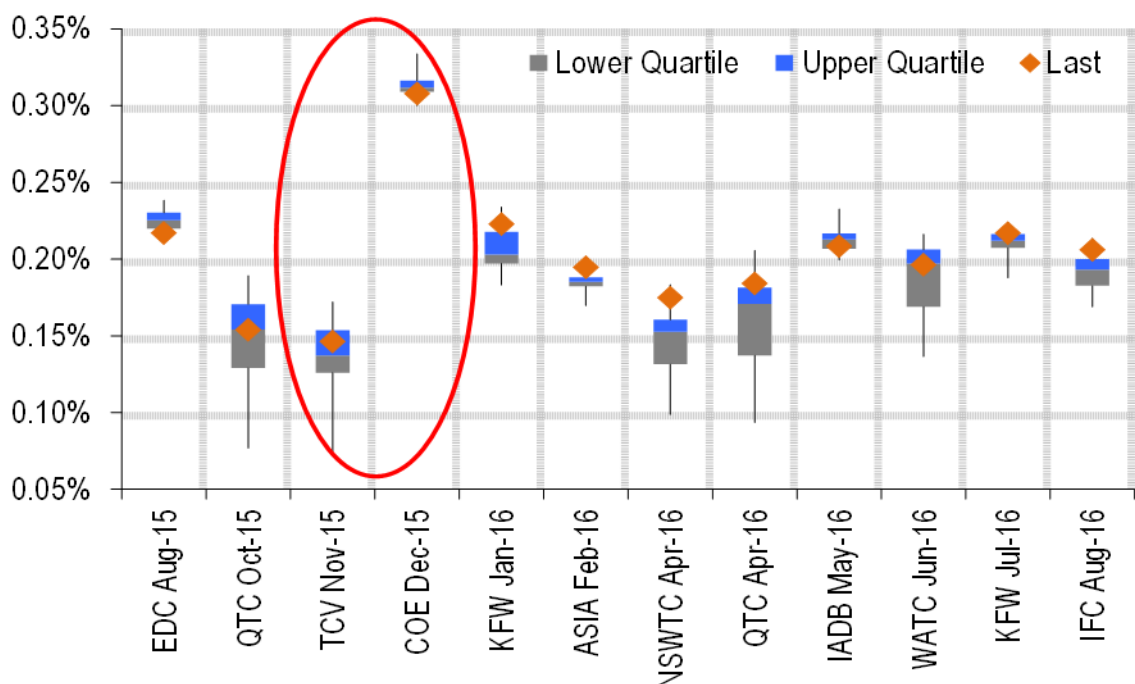
Figure 11. OIS spreads for selected short-tenor semi and SSA – 3m box-whisker plot for 0y-1y debt



Source: Citi Research

Selected switches amongst high-grade SSAs and semis can generate spread pickups for at most a 1 notch difference in the credit rating. For example, in the sub-1y sector holders of the TCV Oct-14s can pick up at least +10bps in spread from the IBRD Oct-14s and KBN Oct-14s for minimal duration extension (see Figure 11). All these issuers are rated triple-A stable. Those TCV Oct-14s holders looking to shorten duration should also consider the CoE Sep-14s as well as it is only 1 notch lower in rating. Likewise for 1y-2y maturities we think the +15bps spread gap between the TCV Nov-15s and CoE Dec-15s looks overly large for the relatively small gap in duration (see Figure 12).

Figure 12. OIS spreads for selected short-tenor semi and SSA – 3m box-whisker plot for 1y-2y debt



Source: Citi Research



## Japan Rates Strategy

### A Summer rally again?

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"Pain scenario" would be a rally rather than a sell-off

Yields are getting even more attractive

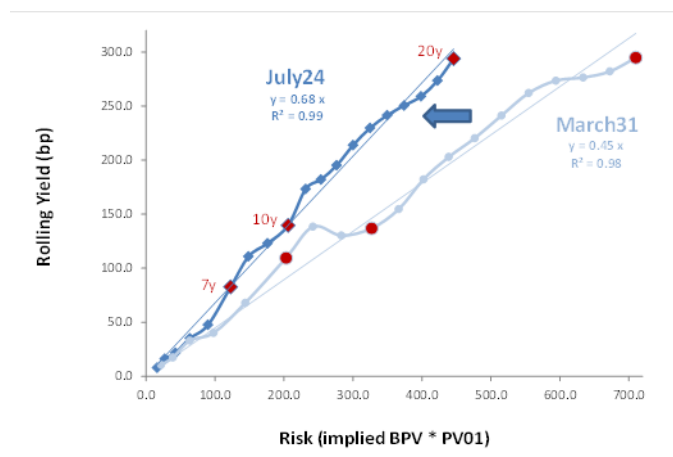
No exit is priced in

Despite a decline in yields, expected total returns in the 10y+ sector did not change much thanks to the steep slope. On the other hand, implied volatilities are now two-thirds of that in end-FY13 and half that at end-CY13, which makes risk-return quite attractive. We still believe it is too early to position for a possible rebound of yields.

Total return up to 20yr is in line with implied volatilities, which are still higher than realized and hence expected to decline further. Given that macro data are likely to be weaker than the BoJ's scenario, leading the market to price in a possible capitulation by the bank, we see more risk of overshoot on the rally side rather than a sell-off. Even if an investor wants to hedge against a sell-off, we still recommend using US rates options, as suggested in our July 4 report [Status quo to continue](#), because yen rates are very likely to keep declining as far as us rates keep recent range.

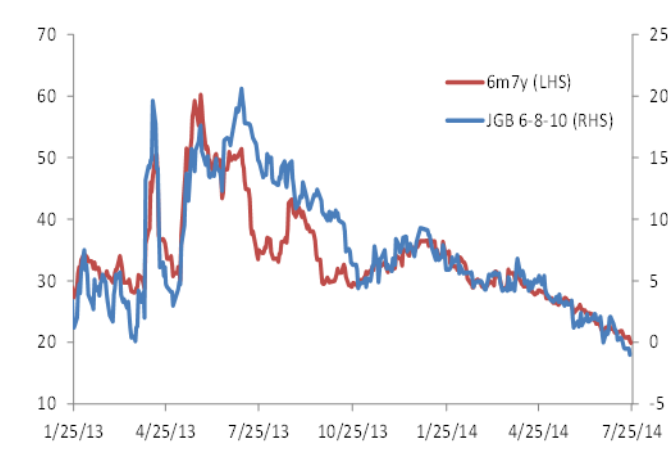
Figure 4 suggests that the curve is almost entirely explained by term premium and no rate hike is priced in. There is no big difference in return on risk at whatever part of the curve investors take a position, but the likelihood of realizing the total return shown in the graph is quite different from sector to sector, especially given that large part of the return comes from roll down. We believe the absolute level of the 20y yield is too low to attract duration buyers to hold to maturity, so it would be difficult to find an "exit". On the other hand, the 7y sector tends underperform in a sell-off, as shown in Figure 14 but there is no additional premium embedded in the sector now despite the such huge risk in a sell-off. All in all, we still prefer the 10yr which is also expected to benefit most in the possible additional easing by the BoJ.

Figure 13. Expected total return versus risk



Source: Citi Research.

Figure 14. Sell-off premium completely disappear



Source: Bloomberg, Citi Research.

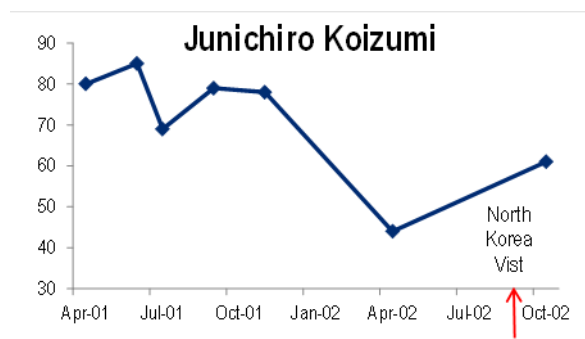
#### What is the risk?

As pointed out in our June 27 report [Decreasing volatility, increasing tail risk](#), we see possible major event risks in autumn, including 1) GPIF portfolio changes, 2) additional easing, 3) the G20 meeting, and 4) a possible Lower House election. Each of these is not so big compared to the risk that CPI and wage growth come out in line with the BoJ's forecast and surprise the market, but the latter is quite unlikely in our view. As for (1) GPIF, the announcement of changes is likely to be delayed from August to probably around October, and the new target portfolio may not be as aggressive as the market expects. However, we believe the options market does not currently price in a possible surprise by GPIF due to strong political



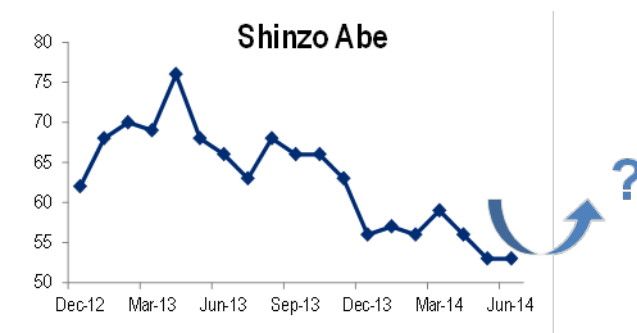
pressure, especially in case PM Abe calls a snap election. As for (2), it seems more and more investor are skeptical about additional easing, not because they are now more optimistic on inflation but because of the BoJ's strong rhetoric despite disappointing macro data, which indicates a possible longer-than-expected "carry market". As for (3) the G20 meeting, a possible regulatory change on bond holdings by banks could induce volatility especially if positions pile up by then. Lastly, as for (4) a possible Lower House election, demand for a supplemental budget is likely to increase when the market is discussing the issuance plan for FY2015 (by when the Japanese government has made an international commitment to halve the primary deficit relative to FY10).

Figure 15. Approval rate and abduction issue



Source: Nihon Keizai Shinbun, Citi Research.

Figure 16. Will PM Abe improve his approval rate like PM Koizumi?

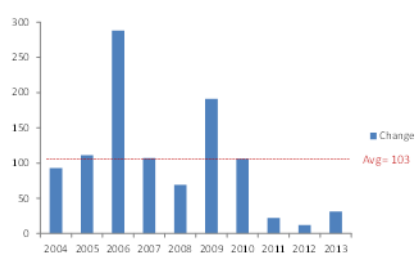


Source: Nihon Keizai Shinbun, Citi Research.

#### Abduction issue is the key to judging the possibility of snap election in autumn

We still believe that the 20s30s is too steep and the recent modification of BoJ buybacks should not have large negative impact on 30y sector, in our view. However, the risk of a possible increase in fiscal premium may mount in the case of a Lower House election, if the government reneges on its international pledge to halve the primary deficit by FY2015 and submits a large supplemental budget. In our view it could be even worse if PM Abe decides to postpone the second consumption tax hike scheduled for October 2015. We believe 20s30s could well steepen by 10bp in the worst case from here. To judge the possibility of the election, the progress on the North Korea abduction issue is very important, in our view, as PM Abe could bring his approval ratio back above 70% if he succeeds in bringing back victims. In other words, a snap election is unlikely without improvement of PM Abe's approval ratio.

Figure 17 10y Fut Chg in Aug10-Aug31



Source: Citi Research.

After digesting macroeconomic number releases at the end of the month and start of the next, we will likely enter into a holiday rally season. Although the scale of rallies in recent years has not been that large, downside risk also seems to be limited. Despite a relatively eventful autumn, we still prefer to position for carry. As shown in Figure 13, the total cost of shorting is still expensive due to a steep curve, and it is getting even more expensive due to a decline in volatility. Given that the market will have to wait longer than expected to judge the impact of the consumption tax hike and what happens with the CPI, investors are likely to stay positioned for carry unless there is no surprise in other markets. As volatility remains in the current historical low range, total return is likely to decline and risk-return is likely to converge on the same level as before. We believe the fair level of 10yr yield based on the current implied volatility is around 45bp. Please see our July 11 report [How much lower can yields go?](#)

## Curve / Volatility: getting directional

**Duration-neutral is no longer direction-neutral**

The curve is getting more directional given that volatility in the short and middle sectors is completely suppressed so that directional risk is no longer proportional to duration. As volatility is likely to be compressed further towards the longer end of the curve, a rich butterfly can be even richer to the negative territory. Although we now believe the 7yr sector is no longer cheap, it could richen further due to a further decline in volatility. It is still too early to create a bear position, in our view.

**Historical graph will not work as curve / fly is no longer direction-neutral**

As factor loading or beta-to-bond futures as a proxy for direction risk itself has been changing, historical charts will not work because the same curve or butterfly position is likely to have more directional risk than before. Given that curves and flies are directional, we recommend taking directional positions in small sizes rather than complicated butterfly positions in a poor liquidity environment. Again, the same total return and halved volatility indicates that yields have more room to decline, and volatility may have room to rebound if yields do not chase volatilities. In that sense, it could be safer to have a long position in volatility against a long position in delta. As shown later, forward volatility provides a cheap way to long volatility. Which maturity and which tail we should use for hedge against a sell-off?

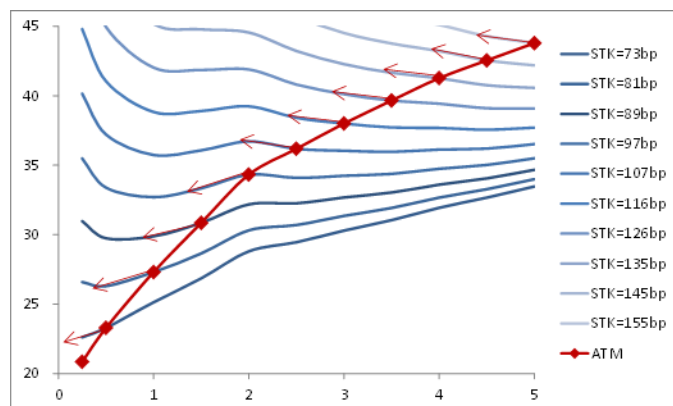
**Distortion in term structure provides a good opportunity**

Just like the cost of paying swaps is not as cheap as its rate indicates due to a steep slope, the cost of gamma is not as cheap as the implied volatility indicates due to the steep term structure of implied volatility. We believe the "pain scenario" for the market is a further decline in realized volatility inducing capitulation by long gamma players rather than a possible spike in volatility. Volatilities are likely to stay low and start cheapening again during the summer holidays in mid-August, in our view.

**2yr expiry looks expensive in 10y tails**

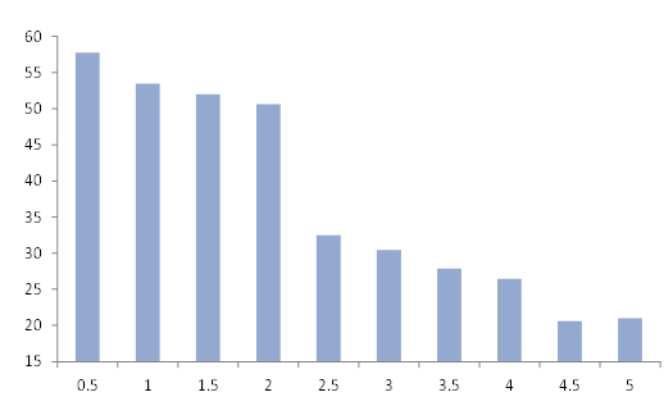
That said, the current level of volatilities might be a good opportunity to hedge against a sell-off if the BoJ were to succeed in achieving its 2% inflation target, especially in the forward space. Figure 18 shows the term structure of implied basis point volatility of 10y tails. As the market seems skeptical about the achievement of the BoJ's inflation target, short maturity is compressed while 2y expiry remains relatively rich, making the cost of holding 2y expiry rich compared to that of longer expiry (Figure 19). This is because while implied bpv of 2.5yr maturity rolls up, that for 2y maturity actually rolls down. Therefore, there is a huge gap in the cost of holding. The cost of holding 2.5yr10y atm straddle for 6m can be covered by selling 60% in size of 2y10y atm straddle.

Figure 18. Implied BPV and skew of 10y tails (bp)



Source: Citi Research.

Figure 19. 6m holding cost of ATM Straddle (bp): 10y tails



Source: Citi Research.

# Tradesheet

Figure 20. Record of Open Trades

Country	Trade	Levels	Publication Date	
<b>AUD</b>	<b>NZD 3m10y ATM+25bps 1x2 payer spread</b>	Open 23c Current 12c <b>P&amp;L -11c</b> Target 195c Stop 0c	APAC DMRS 27 June 2014	
<b>AUD</b>	<b>Long belly of ACGBI 2020-2022-2025 real yield fly</b>	Open -1bp Current -7bp <b>P&amp;L 6bp</b> Target -11bp Stop 4bp	APAC DMRS 13 June 2014	
<b>AUD</b>	<b>AUD 9m fwd 2y-3y conditional bear steepener</b>	Open 0c Current -1c <b>P&amp;L -1c</b> Target 55c Stop -30c	APAC DMRS 6 June 2014	
<b>AUD</b>	<b>Buy AUD QTC 2021s and sell AUD TCV 2020s</b>	Open 28bp Current 27bp <b>P&amp;L 1bp</b> Target 16bp Stop 34bp	APAC DMRS 4 June 2014	
<b>AUD</b>	<b>AUD 3m10y ATM+25bps 1x2 payer spread</b>	Open 25c Current 0c <b>P&amp;L -25c</b> Target 205c Stop -35c	APAC DMRS 28 April 2014	
<b>AUD</b>	<b>Buy AUD ASIA 2022s and sell AUD NSWTC 2022s</b>	Open 24bp Current 22bp <b>P&amp;L 2bp</b> Target 10bp Stop 31bp	APAC DMRS 28 February 2014	
<b>AUD</b>	<b>Long ACGBI 2025 on EFP</b>	Open -249bp Current -237bp <b>P&amp;L -12bp</b> Target -279bp Stop -234bp	APAC DMRS 14 February 2014	
<b>AUD</b>	<b>AUD 2y fwd 1y-10y conditional bear steepener</b>	Open 0c Current 20c <b>P&amp;L 20c</b> Target 200c Stop -100c	APAC DMRS 08 November 2013	
<b>AUD</b>	<b>Long NSWTC-ACGB 22s spread and short WATC-ACGB 16s spread</b>	Open 21bp Current 14bp <b>P&amp;L 7bp</b> Target -6bp Stop 15bp	APAC DMRS 08 November 2013	
<b>AUD</b>	<b>NSWTC-ACGBI 20s-25s Box Flattener</b>	Open 18bp Current 11.5bp <b>P&amp;L 6.5bp</b> Target 9bp Stop 24bp	APAC DMRS 02 August 2013	

Source: Citi Research

### Open Trade Recommendations

- P&L on trade ideas includes carry and roll costs but not trading costs.
- Results should not, and cannot, be viewed as an indicator of future performance.
- Closed trade recommendation details available on request.
- Table shows opening levels, current mark and P&L.
- Futures trading involves substantial risk of loss.

## Appendix

Figure 21. Australia relative value by sector

	Versus Fitted Yield Curve					Versus Swap Curve (CAS)						
	Rank		ZScore	Issued	Size (bn)	Rank		ZScore	Issued	Size (bn)		
ACGB	<b>Richest</b>	1	AUT 3.25 Oct18	-1.93	Dec13	8.1	<b>Richest</b>	1	AUT 4.5 Apr33	-1.22	Oct13	7.9
		2	AUT 5.75 May21	-1.72	May07	21.0		2	AUT 4.25 Jul17	-1.02	Jul11	17.9
		3	AUT 5.5 Jan18	-1.50	Jul10	19.9		3	AUT 4.25 Apr26	-0.96	Mar14	9.6
		4	AUT 4.75 Oct15	-1.46	Apr11	13.9		4	AUT 5.5 Jan18	-0.78	Jul10	19.9
		5	AUT 4.25 Apr26	-1.31	Mar14	9.6		5	AUT 5.75 Jul22	-0.42	Jan10	17.5
		5	AUT 3.25 Apr25	1.06	Apr13	11.9		5	AUT 3.25 Apr29	0.20	Oct12	7.2
		4	AUT 2.75 Oct19	1.13	Jul14	1.5		4	AUT 3.25 Apr25	0.24	Apr13	11.9
		3	AUT 5.5 Apr23	1.31	Apr11	20.6		3	AUT 4.75 Oct15	0.70	Apr11	13.9
		2	AUT 3.25 Apr29	1.40	Oct12	7.2		2	AUT 4.75 Jun16	1.21	Jun10	21.9
	<b>Cheapest</b>	1	AUT 4.75 Jun16	2.49	Jun10	21.9	<b>Cheapest</b>	1	AUT 2.75 Oct19	1.44	Jul14	1.5
NSW	<b>Richest</b>	1	NSW 6 Apr16	-1.19	Oct09	4.2	<b>Richest</b>	1	NSW 6 May30	-1.34	May10	0.4
		2	NSW 6 May30	-1.05	May10	0.4		2	NSW 6 Feb18	-0.81	Feb11	6.0
		3	NSW 6 May20	-0.52	Nov09	6.3		3	NSW 6 May20	-0.60	Nov09	6.3
		4	NSWTC 4 Apr21	-0.46	Nov13	2.2		4	NSWTC 4 Apr21	-0.53	Nov13	2.2
		5	NSW 3.5 Mar19	-0.26	Sep12	4.0		5	NSW 4 Feb17	-0.52	Feb12	4.7
		5	NSW 6 Jun20	-0.09	Jun09	0.1		5	NSW 5.5 Mar17	-0.26	Mar06	1.4
		4	NSW 4 Feb17	-0.08	Feb12	4.7		4	NSW 3.5 Mar19	-0.26	Sep12	4.0
		3	NSW 6 Apr19	-0.06	Apr08	1.2		3	NSW 6 Apr19	-0.10	Apr08	1.2
		2	NSW 5.5 Mar17	0.07	Mar06	1.4		2	NSW 6 May23	0.01	May07	1.5
	<b>Cheapest</b>	1	NSW 6 May23	0.32	May07	1.5	<b>Cheapest</b>	1	NSW 6 Jun20	0.04	Jun09	0.1
QTC	<b>Richest</b>	1	QTC 6 Oct15	-1.50	Apr98	1.0	<b>Richest</b>	1	QTC 6.5 Mar33	-1.11	Mar08	0.8
		2	QTC 6 Oct15	-1.16	Oct10	4.8		2	QTC 3.5 Sep17	-1.00	Sep12	5.8
		3	QTC 6 Apr16	-1.07	Apr10	5.3		3	QTC 6 Sep17	-0.93	Sep06	2.2
		4	QTC 6.5 Mar33	-0.63	Mar08	0.8		4	QTC 6 Oct15	-0.86	Apr98	1.0
		5	QTC 6.25 Feb20	-0.44	Feb10	9.8		5	QTC 6 Feb18	-0.84	Feb11	6.5
		5	QTC 6 Sep17	-0.07	Sep06	2.2		5	QTC 6 Jun21	-0.28	Dec97	2.0
		4	QTC 6 Jul22	-0.04	Jan11	7.5		4	QTC 6.25 Jun19	-0.22	Jun09	3.6
		3	QTC 5.75 Jul24	0.03	Jan11	4.9		3	QTC 5.75 Jul24	-0.18	Jan11	4.9
		2	QTC 4.25 Jul23	0.11	Jul12	4.5		2	QTC 4.25 Jul23	-0.02	Jul12	4.5
	<b>Cheapest</b>						<b>Cheapest</b>					
TCV	<b>Richest</b>	1	TCV 4.25 Dec32	-1.39	Dec12	0.3	<b>Richest</b>	1	TCV 4.25 Dec32	-1.87	Dec12	0.3
		2	TCV 8 Aug15	-1.34	Sep12	0.7		2	TCV 5 Nov40	-1.60	Nov13	0.1
		3	TCV 5 Nov40	-1.32	Nov13	0.1		3	TCV 4.75 Nov30	-1.54	Sep13	0.2
		4	TCV 4.75 Nov30	-1.28	Sep13	0.2		4	TCV 3.5 Nov17	-1.17	Oct13	3.0
		4	TCV 5.5 Nov26	-0.40	May11	3.1		4	TCV 6 Jun20	-0.53	Jun09	6.0
		3	TCV 3.5 Nov17	-0.29	Oct13	3.0		3	TCV 5.5 Dec24	-0.42	Jun10	4.6
		2	TCV 5.5 Dec24	-0.16	Jun10	4.6		2	TCV 6 Oct22	-0.32	Oct03	5.9
	<b>Cheapest</b>	1	TCV 6 Oct22	0.03	Oct03	5.9	<b>Cheapest</b>	1	TCV 2.75 Nov15	-0.23	May13	1.5

Z-scores are calculated using 6-month history.

Black shades highlight Z-scores outside the 95% confidence interval ( $z > 1.96$  or  $z < -1.96$ ).

Black shades highlight Z-scores outside the 90% confidence interval ( $z > 1.65$  or  $z < -1.65$ ).

Source: Citi Research

Figure 22. Australia relative value by sector

		Versus Fitted Yield Curve					Versus Swap Curve (CAS)				
		Rank		ZScore	Issued	Size (bn)	Rank		ZScore	Issued	Size (bn)
WATC	Richest	1	WATC 3 Jun16	-1.37	Jun12	3.5	1	WATC 3 Jun16	-0.94	Jun12	3.5
		2	WATC 7 Jul21	-0.34	Jul02	3.2	2	WATC 8 Jul17	-0.90	Jan01	5.0
		3	WATC 3.75 Oct18	-0.12	Feb14	3.1	3	WATC 7 Jul21	-0.62	Jul02	3.2
	Cheapest	3	WATC 7 Oct19	-0.05	Apr01	3.5	3	WATC 5 Jul25	-0.19	Oct13	0.7
		2	WATC 8 Jul17	0.12	Jan01	5.0	2	WATC 7 Oct19	-0.06	Apr01	3.5
		1	WATC 6 Oct23	0.25	Mar05	1.7	1	WATC 6 Oct23	0.04	Mar05	1.7
SAFA	Richest	1	SAFA 5 May21	-0.47	May11	2.0	1	SAFA 5 May21	-0.65	May11	2.0
		2	SAFA 4.75 Aug19	-0.27	Apr12	2.0	2	SAFA 4.75 Aug19	-0.31	Apr12	2.0
	Cheapest	2	SAFA 5.75 Sep17	0.45	Mar10	2.4	2	SAFA 5.75 Sep17	-0.21	Mar10	2.4
		1	SAFA 4.25 Nov23	1.42	Nov13	0.5	1	SAFA 4.25 Nov23	0.80	Nov13	0.5
	Richest	1	NTER 6.25 Oct15	-1.16	Apr10	0.5	1	NTER 6 Mar28	-0.76	Mar01	0.0
		2	NTER 6 Mar28	-0.76	Mar01	0.0	2	NTER 4.75 Nov17	-0.46	Nov11	0.5
NTER	Cheapest	2	NTER 5.75 Nov16	0.46	May11	0.5	2	NTER 5.75 Nov16	0.65	May11	0.5
		1	NTER 4.75 Sep18	1.42	Mar12	0.5	1	NTER 4.75 Sep18	1.00	Mar12	0.5
	Richest	1	TASM 4.25 Mar22	-0.51	Mar13	0.5	1	TASM 4.25 Mar22	-0.72	Mar13	0.5
		2	TASM 6 Jun20	-0.26	Jun09	0.6	2	TASM 5 Sep17	-0.47	Sep11	1.0
	Cheapest	2	TASM 6 Jun20	-0.26	Jun09	0.6	2	TASM 5 Sep17	-0.47	Sep11	1.0
		1	TASM 5 Sep17	0.02	Sep11	1.0	1	TASM 6 Jun20	-0.27	Jun09	0.6
TASM	Cheapest	2	TASM 6 Jun20	-0.26	Jun09	0.6	2	TASM 5 Sep17	-0.47	Sep11	1.0
		1	TASM 5 Sep17	0.02	Sep11	1.0	1	TASM 6 Jun20	-0.27	Jun09	0.6

Z-scores are calculated using 6-month history.

Black shades highlight Z-scores outside the 95% confidence interval ( $z > 1.96$  or  $z < -1.96$ ).

Black shades highlight Z-scores outside the 90% confidence interval ( $z > 1.65$  or  $z < -1.65$ ).

Source: Citi Research

Figure 23. Australia relative value by maturity

	Versus Fitted Yield Curve					Versus Swap Curve (CAS)				
	Rank		ZScore	Issued	Size (bn)	Rank		ZScore	Issued	Size (bn)
AUS 1-3		<b>Richest</b>					<b>Richest</b>			
	1	AUT 5.5 Jan18	-1.50	Jul10	19.9	1	ACT 5.5 Jun18	-1.26	Jun11	0.6
	2	QTC 6 Oct15	-1.50	Apr98	1.0	2	TCV 3.5 Nov17	-1.17	Oct13	3.0
	3	AUT 4.75 Oct15	-1.46	Apr11	13.9	3	AUT 4.25 Jul17	-1.02	Jul11	17.9
	4	WATC 3 Jun16	-1.37	Jun12	3.5	4	QTC 3.5 Sep17	-1.00	Sep12	5.8
	5	TCV 8 Aug15	-1.34	Sep12	0.7	5	WATC 3 Jun16	-0.94	Jun12	3.5
	5	NTER 4.75 Nov17	0.33	Nov11	0.5	5	TCV 2.75 Nov15	-0.23	May13	1.5
	4	SAFA 5.75 Sep17	0.45	Mar10	2.4	4	SAFA 5.75 Sep17	-0.21	Mar10	2.4
	3	NTER 5.75 Nov16	0.46	May11	0.5	3	NTER 5.75 Nov16	0.65	May11	0.5
	2	AUT 6 Feb17	0.90	Feb04	21.1	2	AUT 4.75 Oct15	0.70	Apr11	13.9
	1	AUT 4.75 Jun16	2.49	Jun10	21.9	1	AUT 4.75 Jun16	1.21	Jun10	21.9
AUS 4-7		<b>Richest</b>					<b>Richest</b>			
	1	AUT 3.25 Oct18	-1.93	Dec13	8.1	1	TCV 5.5 Nov18	-1.14	Nov08	4.5
	2	AUT 5.75 May21	-1.72	May07	21.0	2	TASM 4.25 Mar22	-0.72	Mar13	0.5
	3	AUT 4.5 Apr20	-1.11	Apr09	19.9	3	SAFA 5 May21	-0.65	May11	2.0
	4	TCV 5.5 Nov18	-0.64	Nov08	4.5	4	WATC 7 Jul21	-0.62	Jul02	3.2
	5	AUT 5.75 Jul22	-0.63	Jan10	17.5	5	NSW 6 May20	-0.60	Nov09	6.3
	5	WATC 7 Oct19	-0.05	Apr01	3.5	5	NSW 6 Jun20	0.04	Jun09	0.1
	4	QTC 6 Jul22	-0.04	Jan11	7.5	4	AUT 5.25 Mar19	0.08	Sep05	20.3
	3	AUT 5.25 Mar19	0.24	Sep05	20.3	3	AUT 4.5 Apr20	0.13	Apr09	19.9
	2	AUT 2.75 Oct19	1.13	Jul14	1.5	2	NTER 4.75 Sep18	1.00	Mar12	0.5
AUS 8-10		<b>Richest</b>					<b>Richest</b>			
	1	NSW 4 Apr23	-0.23	Apr13	3.2	1	NSW 4 Apr23	-0.51	Apr13	3.2
	2	NTER 6 Mar24	-0.14	Mar01	0.7	2	NTER 6 Mar24	-0.39	Mar01	0.7
	3	TCV 6 Oct22	0.03	Oct03	5.9	3	TCV 6 Oct22	-0.32	Oct03	5.9
	4	QTC 5.75 Jul24	0.03	Jan11	4.9	4	AUT 5.5 Apr23	-0.26	Apr11	20.6
	5	QTC 4.25 Jul23	0.11	Jul12	4.5	5	QTC 5.75 Jul24	-0.18	Jan11	4.9
	5	WATC 6 Oct23	0.25	Mar05	1.7	5	QTC 4.25 Jul23	-0.02	Jul12	4.5
	4	NSW 6 May23	0.32	May07	1.5	4	NSW 6 May23	0.01	May07	1.5
	3	AUT 2.75 Apr24	0.84	Apr12	16.0	3	WATC 6 Oct23	0.04	Mar05	1.7
	2	AUT 5.5 Apr23	1.31	Apr11	20.6	2	AUT 2.75 Apr24	0.15	Apr12	16.0
AUS >10		<b>Richest</b>					<b>Richest</b>			
	1	SAFA 4.25 Nov23	1.42	Nov13	0.5	1	SAFA 4.25 Nov23	0.80	Nov13	0.5
	Rank		ZScore	Issued	Size (bn)	Rank		ZScore	Issued	Size (bn)
	1	TCV 4.25 Dec32	-1.39	Dec12	0.3	1	TCV 4.25 Dec32	-1.87	Dec12	0.3
	2	TCV 5 Nov40	-1.32	Nov13	0.1	2	TCV 5 Nov40	-1.60	Nov13	0.1
	3	AUT 4.25 Apr26	-1.31	Mar14	9.6	3	TCV 4.75 Nov30	-1.54	Sep13	0.2
	4	TCV 4.75 Nov30	-1.28	Sep13	0.2	4	NSW 6 May30	-1.34	May10	0.4
	5	NSW 6 May30	-1.05	May10	0.4	5	AUT 4.5 Apr33	-1.22	Oct13	7.9
	5	NTER 6 Mar27	0.40	Mar01	0.0	5	AUT 4.75 Apr27	0.09	Oct11	12.4
	4	AUT 4.75 Apr27	0.83	Oct11	12.4	4	AUT 3.25 Apr29	0.20	Oct12	7.2
	3	AUT 3.25 Apr25	1.06	Apr13	11.9	3	AUT 3.25 Apr25	0.24	Apr13	11.9
	2	AUT 3.25 Apr29	1.40	Oct12	7.2	2	NTER 6 Mar27	0.43	Mar01	0.0
		<b>Cheapest</b>					<b>Cheapest</b>			

Z-scores are calculated using 6-month history.  
Black shades highlight Z-scores outside the 95% confidence interval ( $z > 1.96$  or  $z < -1.96$ ).  
Black shades highlight Z-scores outside the 90% confidence interval ( $z > 1.65$  or  $z < -1.65$ ).

Source: Citi Research

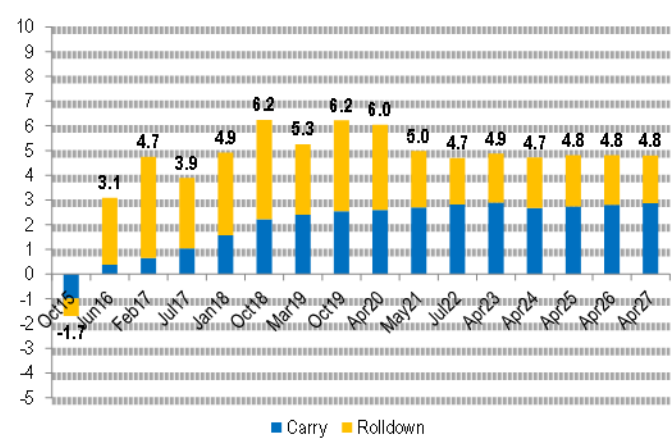


Figure 24. 3M carry and rolldown for AUD swaps<sup>1</sup>

Fwd / Tenor	1Y	2Y	3Y	4Y	5Y	6Y	7Y	8Y	9Y	10Y	12Y	15Y	20Y	25Y	30Y
SPOT	- 0.5	4.4	6.4	6.8	7.0	6.9	6.6	6.2	5.8	5.6	5.0	4.2	3.3	2.8	2.4
3M	1.3	5.2	6.3	7.0	7.1	6.8	6.6	6.1	5.8	5.6	4.9	4.2	3.3	2.8	2.4
6M	4.4	7.4	7.1	7.5	7.5	7.2	6.8	6.2	6.0	5.7	5.0	4.2	3.3	2.8	2.5
9M	6.9	8.7	7.6	7.8	7.7	7.3	6.8	6.2	5.9	5.7	5.0	4.2	3.3	2.8	2.4
1Y	8.1	9.0	8.0	8.2	7.9	7.4	6.8	6.3	6.0	5.7	5.0	4.2	3.3	2.8	2.4
2Y	9.8	7.9	7.7	7.7	7.1	6.5	5.9	5.6	5.3	5.0	4.2	3.6	2.8	2.4	2.0
3Y	5.9	6.6	6.8	6.3	5.8	5.1	5.0	4.7	4.4	3.9	3.4	2.9	2.1	1.8	1.5
4Y	7.3	7.3	6.4	5.6	4.9	4.7	4.4	4.1	3.6	3.3	2.9	2.4	1.7	1.5	1.1
5Y	7.2	5.9	5.0	4.2	4.1	3.8	3.6	3.1	2.7	2.5	2.2	1.8	1.2	1.0	0.7
6Y	4.7	3.8	3.2	3.4	3.2	3.0	2.5	2.2	2.0	1.8	1.6	1.1	0.8	0.5	0.2
7Y	2.9	2.4	2.7	2.8	2.6	2.0	1.7	1.6	1.4	1.3	1.1	0.6	0.4	0.1	- 0.0
8Y	1.7	2.6	2.8	2.4	1.8	1.4	1.3	1.1	1.1	1.0	0.7	0.3	0.2	- 0.1	- 0.2
9Y	3.6	3.4	2.8	1.8	1.4	1.2	1.0	1.0	0.9	0.7	0.3	0.1	- 0.0	- 0.3	- 0.3
10Y	3.3	2.4	1.6	0.7	0.6	0.5	0.5	0.4	0.3	0.1	- 0.2	- 0.3	- 0.4	- 0.6	- 0.6

Source: Citi Research

Figure 25. 3M carry and rolldown profile for ACGBs



Source: Citi Research

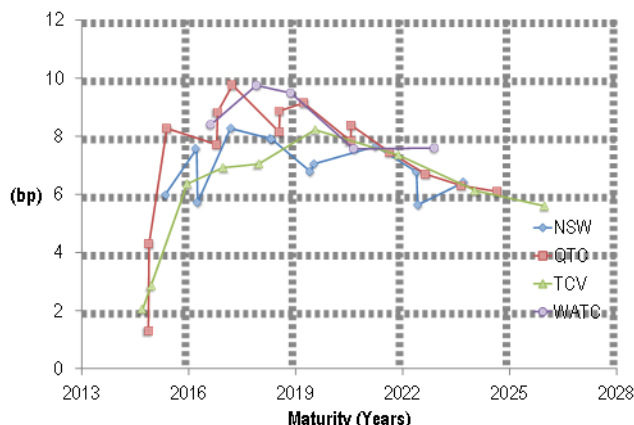
Figure 26. 3M carry and rolldown table for ACGBs

Label	Carry	Rolldown	Total
AUT 4.75% Oct15	-1.0	-0.7	-1.7
AUT 4.75% Jun16	0.4	2.7	3.1
AUT 6% Feb17	0.6	4.1	4.7
AUT 4.25% Jul17	1.0	2.9	3.9
AUT 5.5% Jan18	1.6	3.3	4.9
<b>AUT 3.25% Oct18</b>	<b>2.2</b>	<b>4.0</b>	<b>6.2</b>
AUT 5.25% Mar19	2.4	2.9	5.3
<b>AUT 2.75% Oct19</b>	<b>2.5</b>	<b>3.7</b>	<b>6.2</b>
<b>AUT 4.5% Apr20</b>	<b>2.6</b>	<b>3.4</b>	<b>6.0</b>
AUT 5.75% May21	2.7	2.3	5.0
AUT 5.75% Jul22	2.8	1.9	4.7
AUT 5.5% Apr23	2.9	2.0	4.9
AUT 2.75% Apr24	2.7	2.1	4.7
AUT 3.25% Apr25	2.7	2.1	4.8
AUT 4.25% Apr26	2.8	2.0	4.8
AUT 4.75% Apr27	2.9	1.9	4.8
AUT 3.25% Apr29	2.8	1.7	4.4
AUT 4.5% Apr33	2.7	1.0	3.7

Source: Citi Research

<sup>1</sup> Sectors with carry more than 5bp is highlighted in green while the carry less than 5bp is highlighted in red.

Figure 27. 3M carry and rolldown profile for AUD Semis



Source: Citi Research

Figure 29. 3M carry and rolldown profile for NSWTC SG

Label	Carry	Rolldown	Total
NSW 6% Apr16	2.3	3.7	6.0
NSW 4% Feb17	2.8	4.7	7.6
NSW 5.5% Mar17	2.2	3.5	5.7
<b>NSW 6% Feb18</b>	<b>3.2</b>	<b>5.1</b>	<b>8.3</b>
<b>NSW 3.5% Mar19</b>	<b>3.8</b>	<b>4.1</b>	<b>7.9</b>
<b>NSW 6% Apr19</b>	<b>3.4</b>	<b>4.5</b>	<b>7.9</b>
NSW 6% May20	3.9	2.9	6.8
NSW 6% Jun20	3.4	3.6	7.0
NSW 6% Mar22	4.3	3.4	7.7
NSW 4% Apr23	4.1	2.7	6.8
NSW 6% May23	3.8	1.9	5.6
NSW 5% Aug24	4.0	2.4	6.4
NSW 6% May30	3.8	0.7	4.5

Source: Citi Research

Figure 28. 3M carry and rolldown table for QTC SG

Label	Carry	Rolldown	Total
QTC 6% Oct15	-1.0	2.3	1.3
QTC 6% Oct15	2.0	2.3	4.3
QTC 6% Apr16	2.5	5.8	8.3
QTC 6% Sep17	2.6	5.1	7.7
QTC 3.5% Sep17	3.7	5.1	8.8
<b>QTC 6% Feb18</b>	<b>4.0</b>	<b>5.8</b>	<b>9.8</b>
QTC 6.25% Jun19	3.6	4.5	8.1
<b>QTC 4% Jun19</b>	<b>4.4</b>	<b>4.5</b>	<b>8.9</b>
<b>QTC 6.25% Feb20</b>	<b>4.5</b>	<b>4.7</b>	<b>9.1</b>
QTC 6% Jun21	3.9	3.9	7.8
QTC 5.5% Jun21	4.6	3.7	8.4
QTC 6% Jul22	4.6	2.9	7.4
QTC 4.25% Jul23	4.5	2.2	6.7
QTC 5.75% Jul24	4.5	1.8	6.3

Source: Citi Research

Figure 30. 3M carry and rolldown table for TCV

Label	Carry	Rolldown	Total
TCV 8% Aug15	1.9	0.1	2.0
TCV 2.75% Nov15	1.2	1.6	2.9
TCV 5.75% Nov16	2.2	4.2	6.4
TCV 3.5% Nov17	3.1	3.8	6.9
<b>TCV 5.5% Nov18</b>	<b>3.4</b>	<b>3.6</b>	<b>7.0</b>
<b>TCV 6% Jun20</b>	<b>4.0</b>	<b>4.2</b>	<b>8.2</b>
<b>TCV 6% Oct22</b>	<b>4.2</b>	<b>3.1</b>	<b>7.4</b>
TCV 5.5% Dec24	4.0	2.1	6.1
TCV 5.5% Nov26	3.9	1.7	5.6
TCV 4.75% Nov30	3.5	0.4	3.9
TCV 4.25% Dec32	3.4	0.3	3.7
TCV 6.5% Mar33	3.7	0.4	4.2

Source: Citi Research

Figure 31. 3M carry and rolldown for NZD swaps<sup>2</sup>

Fwd / Tenor	1Y	2Y	3Y	4Y	5Y	6Y	7Y	8Y	9Y	10Y	12Y	15Y	20Y
SPOT	13.7	9.4	9.2	7.6	6.5	5.8	5.2	4.8	4.5	4.1	4.2	3.5	3.1
3M	12.9	10.1	8.8	7.3	6.3	5.7	5.1	4.8	4.3	4.2	4.2	3.5	3.1
6M	12.8	10.5	8.3	6.9	6.0	5.3	4.8	4.6	4.0	4.0	4.0	3.3	3.0
9M	9.5	8.8	6.9	5.8	5.1	4.5	4.1	3.9	3.4	3.6	3.5	2.9	2.6
1Y	6.0	7.4	5.9	5.0	4.4	4.0	3.7	3.4	3.1	3.3	3.1	2.7	2.4
2Y	8.9	5.8	4.6	4.0	3.5	3.2	3.0	2.7	2.9	3.0	2.6	2.3	2.0
3Y	2.7	2.4	2.2	2.0	1.9	1.8	1.6	2.0	2.2	2.0	1.7	1.6	1.4
4Y	2.0	1.9	1.8	1.7	1.7	1.4	1.9	2.1	1.9	1.7	1.5	1.5	1.3
5Y	1.8	1.6	1.5	1.5	1.3	1.9	2.1	1.9	1.7	1.5	1.5	1.5	1.2
6Y	1.4	1.4	1.4	1.1	1.9	2.2	1.9	1.6	1.5	1.4	1.5	1.3	1.1
7Y	1.4	1.4	1.0	2.0	2.4	2.1	1.7	1.5	1.4	1.4	1.5	1.3	1.1
8Y	1.5	0.9	2.3	2.7	2.2	1.7	1.5	1.4	1.5	1.5	1.4	1.2	1.0
9Y	0.2	2.7	3.1	2.4	1.8	1.5	1.4	1.5	1.5	1.5	1.3	1.1	0.9
10Y	5.4	4.7	3.3	2.3	1.8	1.7	1.7	1.7	1.7	1.6	1.4	1.2	1.0

Source: Citi Research

<sup>2</sup> Sectors with carry more than 5bp is highlighted in green while the carry less than 5bp is highlighted in red.

Figure 32. 6M carry and rolldown for JPY swaps<sup>3</sup>

Fwd / Tenor	1Y	2Y	3Y	4Y	5Y	6Y	7Y	8Y	9Y	10Y	12Y	15Y	20Y	25Y	30Y	40Y
SPOT	- 1.2	- 0.5	0.6	1.8	3.2	4.6	5.7	6.3	6.7	7.0	7.4	7.4	5.8	4.5	3.8	3.1
6M	- 0.9	0.0	1.2	2.6	4.0	5.3	6.1	6.7	7.0	7.2	7.6	7.3	5.7	4.4	3.8	3.1
9M	- 0.5	0.5	1.6	3.1	4.6	5.8	6.4	6.9	7.2	7.4	7.7	7.4	5.8	4.4	3.8	3.1
1Y	- 0.1	1.1	2.3	3.8	5.2	6.2	6.8	7.1	7.4	7.6	7.9	7.4	5.6	4.4	3.8	3.1
2Y	2.3	3.5	5.1	6.5	7.5	8.0	8.2	8.4	8.5	8.7	8.6	7.7	5.7	4.5	3.9	3.2
3Y	4.7	6.5	7.8	8.8	9.0	9.2	9.3	9.3	9.3	9.3	8.8	7.6	5.5	4.5	3.9	3.1
4Y	8.3	9.5	10.2	10.2	10.3	10.2	10.1	10.1	9.9	9.7	8.9	7.4	5.4	4.4	3.9	3.1
5Y	10.7	11.2	10.9	10.8	10.5	10.4	10.4	10.2	10.0	9.5	8.5	6.9	5.0	4.2	3.7	2.9
6Y	11.8	11.1	10.8	10.5	10.4	10.3	10.1	9.9	9.5	8.9	7.8	6.1	4.5	3.8	3.3	2.6
7Y	10.3	10.3	10.1	10.0	10.0	9.9	9.6	9.2	8.6	8.0	6.8	5.3	3.9	3.3	2.9	2.2
8Y	10.3	10.0	10.0	10.0	9.8	9.5	9.0	8.4	7.8	7.1	5.9	4.5	3.4	2.9	2.5	1.9
9Y	9.5	9.7	9.7	9.6	9.2	8.7	8.1	7.4	6.7	6.0	4.9	3.7	2.8	2.4	2.1	1.6
10Y	10.1	10.0	9.8	9.3	8.7	8.0	7.2	6.5	5.7	5.1	4.0	3.1	2.4	2.1	1.8	1.3
12Y	9.3	8.6	7.8	6.9	6.1	5.2	4.5	3.8	3.2	2.7	2.1	1.6	1.3	1.1	0.9	0.6
15Y	4.3	3.4	2.5	1.8	1.2	0.7	0.3	0.1	- 0.1	- 0.2	- 0.2	- 0.2	- 0.1	- 0.1	- 0.2	- 0.2
20Y	- 1.9	- 2.0	- 1.9	- 1.8	- 1.7	- 1.5	- 1.3	- 1.2	- 1.1	- 1.0	- 0.8	- 0.6	- 0.5	- 0.6	- 0.5	- 0.4
25Y	- 0.6	- 0.4	- 0.3	- 0.2	- 0.2	- 0.1	- 0.0	0.0	0.1	0.1	0.1	0.0	- 0.2	- 0.2	- 0.2	- 0.2
30Y	0.2	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.2	0.1	- 0.0	- 0.2	- 0.3	- 0.2	- 0.2	- 0.2

Source: Citi Research

<sup>3</sup> Sectors with carry more than 5bp is highlighted in green while the carry less than 5bp is highlighted in red.

## Appendix A-1

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