

APAC Developed Markets Rates Strategy

Under Pressure

- Fuelled by a risk-on move globally, AUD market yields have spiked higher, swap spreads have retraced and the curve has bear-steepened. We see risks that these moves are extended.
- We think that local markets offer an attractive hedge to a more upbeat economic assessment in the US, should fiscal cliff negotiations reach a timely resolution. In a rising yield environment, which should be associated with a decline in cross-market yield betas, we would expect AUD to outperform. Selling 6m10yr AUD payers into USD equivalents would suit such a scenario.
- We currently maintain outright short 10yr JGB positioning and 5x10yr JPY conditional bear steepeners, as we believe the 5y sector is anchored by BoJ policy rate guidance, whereas 10yr yields could be dragged higher along with super-long tenors.
- The JBZ2-JBH3 calendar spread is currently trading at 0.53, which we deem fair against our theoretical valuation of 0.52. We expect the currently rollover to proceed smoothly and for the JBZ2-JBH3 calendar spread to trade between 0.5 and 0.55.

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With thanks to
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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
Direction	AUD rates markets remaining highly correlated to offshore, notably USTs. Risk on has reflected in higher yields across markets, although JGBs have remained resilient thus far. Markets continue to range trade, but the risk is higher yields within these ranges	Keep duration exposure very light. Consider scaling into fresh longs should ACGBs revisit the 3.4-3.5% range. Stay short 10yr JGBs at current levels.
Yield Curve	AUD curve is currently directional, with higher yields likely to reflect in further steepening. JGB curve looks relatively anchored out to 5yrs	Hold AUD 6m1yr vs 2y1yr swap flattener. Bear conditional 2s10s AUD steepener as hedge against higher global yields. Bear 5s-10s JPY steepener.
Cross-market	Cross market spreads look fairly priced until yield betas change. However, a more positive fiscal/growth outlook in the US should reflect in AUD outperformance should this arise.	Neutral view on ACGBs vs USTs. AUD swaps at fair value also, but long AUD vs USD via payers would work if fiscal cliff is averted.
Spreads	Spreads are following risk. Swap spreads are capable of re-tightening into year end in our view, but visibility is obviously quite low currently.	Hold QTC 15s versus SAFA 15s and WATC 19s versus WATC 21s on ASW. Scale into 3s10s EFP box flattener in the 20-25bp range
Inflation	QE related inflation expectations look overdone to us.	Look for opportunities to receive fixed on the 5y ZCS at 2.70% or better.
Volatility	Global risks could still threaten a return to disorderly markets following the recent calm, but short expiries hold little value now, while vega looks unsupported globally.	Keep 2m10yr vs 6m10y ATM straddles
Risk Allocation	Poor risk reward to duration exposure still unless yields rise to more attractive levels in local markets. Spread and curve trades still offer some attractive opportunities.	

Source: Citi Research

Tradesheet

New Trades: Sell 1.11 units of 4% strike 6m10yr AUD payers (DV01 and FX adjusted), buy 1 unit of ATM 6m10yr USD payers, for approximate zero cost.

Figure 2. Record of Open Trades

Country	Trade	Levels	Rationale + Publication Date	
AUD	Buy 1y2y 1x2x1 75bp wide receiver fly	Open 22c Current 62c P&L 40c Target 115c Stop 0c	APAC DMRS 29 March 2012	
AUD	Buy ACGB 5.5% April 2023. Sell ACGB 4.5% April 2020	Open 29.5bp Current 22.75bp P&L 6.75bp Target 20bp Stop 35bp	APAC DMRS 8 May 2012	
AUD	Sell AUD 5y5y ATM Straddle	Open 580c Current 566.61c P&L 13.39c Target 520c Stop 620c	APAC DMRS 21 June 2012	
AUD	Buy ACGB 4.75% April 2027, Sell ACGB 4.25% July 2017	Open 79bp Current 77.25bp P&L 1.75bp Target 60bp Stop 90bp	APAC DMRS 19 July 2012	
AUD	Pay AUD 6m1y, Receive AUD 2y1y	Open 37bp Current 26.62bp P&L 10.38bp Target 15bp Stop 48bp	APAC DMRS 26 July 2012	
JPY	6m fwd 5y/10y JPY ATM conditional steepener via payers	Open 46c Current 21.11c P&L -24.89c Target 150c Stop 0c	APAC DMRS 13 September 2012	
AUD	Buy QTC 15, Sell SAFA 15	Open 10bp Current 4bp P&L 6bp Target 0bp Stop 15bp	APAC DMRS 13 September 2012	
AUD	Sell WATC 21 and buy WATC 19 in ASW terms	Open 1bp Current 5.89bp P&L 4.89bp Target 11bp Stop -4bp	APAC DMRS 20 September 2012	
JPY	Sell 10y JGB	Open 78bp Current 73.46bp P&L -4.54bp Target 95bp Stop 70bp	APAC DMRS 27 September 2012	
AUD	Sell 50bp wide AUD 3m3y strangle and buy 1y3y 50bp OTM receiver	Open 0bp Current 13.29c P&L 13.29c Target 180c Stop -85c	APAC DMRS 27 September 2012	
NZD	Receive NZD 2y1y	Open 300bp Current 300.64bp P&L -0.64bp Target 2.60% Stop 3.20%	APAC DMRS 4 October 2012	

Source: Citi Research

Figure 3. Record of Open Trades

AUD	Sell AUD 3m10y 75bp OTM payer and buy 55bp OTM receiver	Open 12c Current -7.07c P&L -19.07c Target 200c Stop -150c	APAC DMRS 4 October 2012	
Volatility	Sell AUD 3m10y payer (strike 4.3%) Buy AUD 3m10y 50bp OTM receiver (strike 3%)			
AUD	Sell AUD 2m10y ATM straddles vs 6m10y	Open 160c Current 182.36c P&L 22.36c Target 240c Stop 120c	APAC DMRS 1 November 2012	
Volatility	Sell AUD 2m10y ATM straddles Buy AUD 6m10y ATM straddles			
AUD	AUD 3s10s EFP box flattener	Open 22bp Current 21.25bp P&L 0.75bp Target 10bp Stop 30bp	APAC DMRS 1 November 2012	
Spreads	Pay AUD 3s EFP Receive AUD 10s EFP			
AUD	Pay Dec AUD OIS	Open 3.10% Current 3.11% P&L 1bp Target 3.25% Stop 3.00%	APAC DMRS 8 November 2012	
Swap Curve	Pay Dec AUD OIS			
AUD	1y fwd 2y/10y AUD ATM conditional steepener via payers	Open 0c Current 8.4c P&L 8.4c Target 30c Stop -15c	APAC DMRS 8 November 2012	
Volatility	Sell 4.26 x ATM 1y2y payer (3.026% strike) Buy 1 x ATM 1y10y payer (3.78% strike)			

Source: Citi Research

APAC Developed Markets

Australia and New Zealand Rates Strategy

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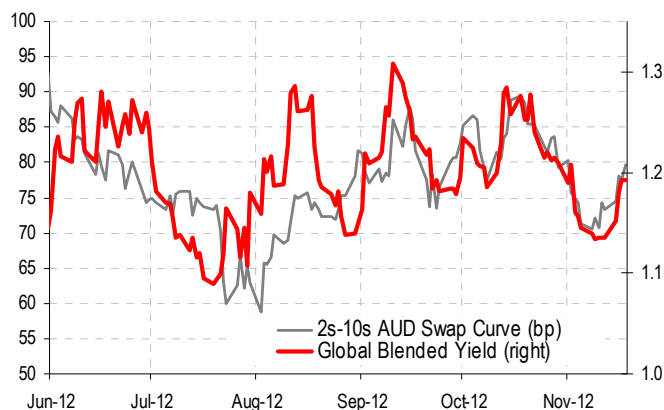
Correcting within the range

Last week we commented upon the increasing risks of a correction as measures of market momentum were signalling caution. Fuelled by a risk-on move globally, local market yields have since spiked higher, swap spreads have retraced and the curve has bear-steepened. At the time we recommended a 2s-10s conditional bear steepener as a way of positioning for some corrective move higher in yields (for further details see [How long will the bullish trend persist?](#), 16 November, and our current *Tradesheet* section).

Thus far, the curve has performed in line with recent form (bull flattening and bear steepening – as in Figure 4). We think that maintaining conditional curve exposure in this manner remains an effective way of protecting against a further potential increase in global yields, should the improvement in global risk appetite continue.

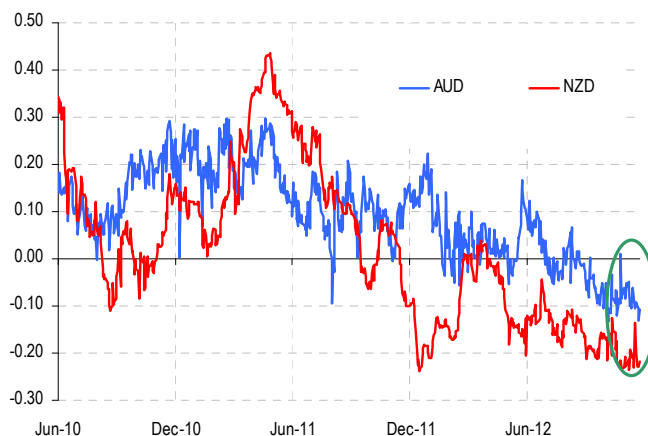
While the 2s-10s curve has continued to re-steepen, it is noteworthy that curvature has continued to push lower in the process: 2s5s10s flies in both AUD and NZD are now close to cyclical lows as steepening pressure has weighed more heavily beyond the belly of the curve in both markets (Figure 5). Unless levels of market volatility begin to rise from here it is not obvious that this loss of curvature will reverse. Moreover, there is no evidence that curvature in other developed markets is about to move higher either, with similar flies remaining pinned at lower levels than in local markets.

Figure 4. 2s-10s AUD swap curve and average global yields



Source: Citi Research

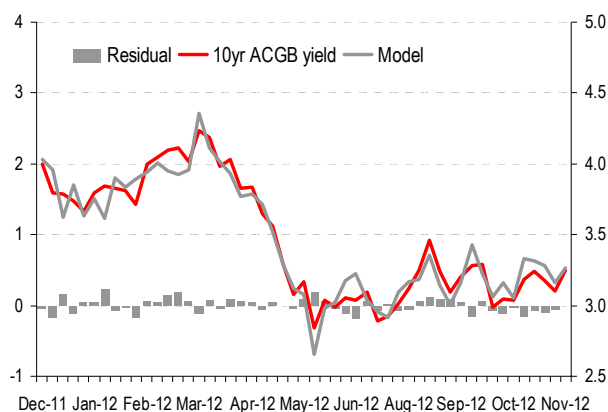
Figure 5. Curvature has continued to drop in local markets



Source: Citi Research

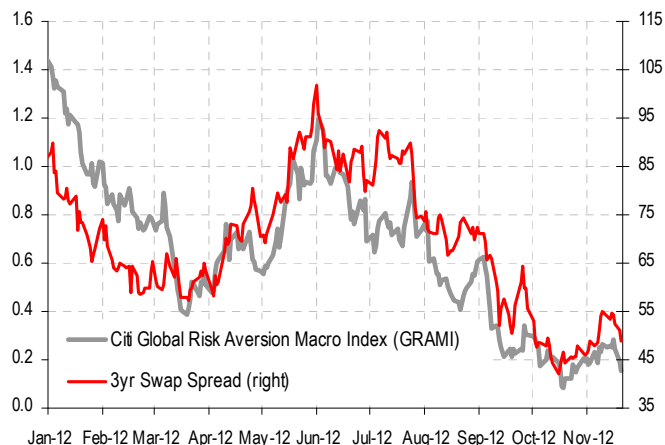
Our fair value framework suggests that local market bond yields are roughly where they should be given prevailing economic conditions and global risk factors. However, it is very easy to see yields pushing towards the upper band of established trading ranges with just a moderate extension of the risk-on phase. Hence, we would still advise standing aside as the risk-reward for duration exposure remains poor in our view. We might reconsider this view should benchmark 10yr ACGB yields re-test the 3.4-3.5% area, which has previously served as an appropriate re-entry point for longs.

Figure 6. Citi fair value model and actual: the range trade persists



Source: Citi Research

Figure 7. Swap spreads are moving in tandem with risk



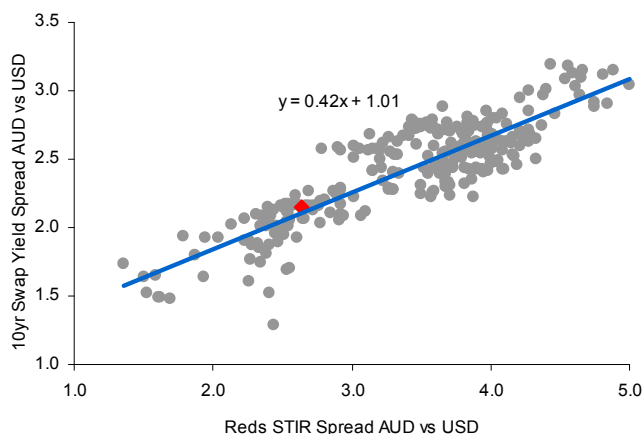
Source: Citi Research

We continue to believe that curve and spread trades offer better opportunities in the current period, reflecting divergent yield betas across the maturity spectrum (moderately higher for longer maturities in AUD currently, as highlighted above) and the likely differences between market sensitivities to current global risks.

Cross market exposure to benefit from a positive fiscal cliff outcome

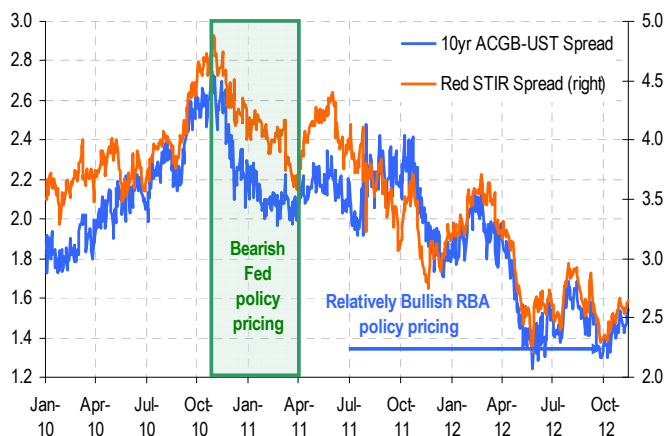
We think that local markets offer an attractive hedge to a more upbeat economic assessment in the US, should fiscal cliff negotiations reach a timely resolution. Our economists' base case scenario, which now appears to broadly match market consensus, is that the cliff will be averted with a bipartisan agreement probably involving a moderate fiscal tightening. Recent price action in local markets clearly reflects optimism in the direction of a timely resolution, with bond yields spiking in the process. As we highlighted last week, AUD rates markets currently look fairly priced on a cross-market basis, measured in terms of relative policy rate expectations between markets. But given the very high current yield betas between US and AUD markets (which have been close to parity recently), it is fair to question the merits of positioning cross market exposure in front of such an event.

Figure 8. 10yr AUD vs USD spread in swaps vs STIR spreads



Source: Citi Research

Figure 9. ACGB-UST spreads versus relative money market pricing



Source: Citi Research

Our answer to this question would be that cross-market yield betas are currently so high because markets assume that Fed policy is likely to remain parked in neutral for an extended period. On the RBA side, while recent commentary from the Governor suggests that further easing may be contemplated to assist with the rebalancing of the economy, there was nothing in this commentary nor in the November Board Minutes to suggest that significant policy surprises lie in store in Australia either (see [Australian Monetary Policy - November RBA Board Minutes](#)).

However, we would think that a more significant bout of risk-on that would likely ensue from a successful resolution of fiscal cliff negotiations, against the backdrop of the recent improvement in US economic data, should result in a period of US underperformance versus AUD. In terms of our cross market analytical framework, this would reflect in an underperformance of the euro dollar strip versus the AUD bill curve. As highlighted in Figure 9, bouts of relatively bearish Fed policy expectations have been associated with spread tightening in late 2010/early 2011 and to a lesser degree this also occurred during the breakout in treasury yields in March of this year (not highlighted in chart).

Options afford protection against the alternative scenario of a more protracted period of negotiations or a failure to avert the cliff, in which case US markets could outperform strongly in a declining yield scenario. But in a rising yield environment, which should be associated with a decline in cross-market yield betas, we would expect AUD to outperform. We would suggest the following trade to capture this scenario:

Trade: Sell 1.11 units of 4% strike 6m10yr AUD payers (DV01 and FX adjusted), buy 1 unit of ATM 6m10yr USD payers, for approximate zero cost

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JGB Rates Strategy

PM Noda dissolved the Lower House on 16 November. Before this, on the same day, the Upper House passed legislation to automatically allow the issuance of deficit-covering bonds through FY2015, as well as a bill to create no new single-seat electoral districts and to do away with five in order to help rectify the disparity between the value of each vote. This was all done with the support of the DPJ, the LDP and New Komeito. With the members of the people's assembly on reform of social welfare to be appointed this month, the three conditions PM Noda cited as necessary to dissolve the Lower House have been met. The election will be announced on 4 December, with the vote to take place on 16 December. This means that each party has around one month of campaigning to outline its election promises. We think the impact of the election on financial markets is best considered in four stages:

1. Period up to the vote on 16 December;
2. Period up to the drafting of the FY2012 supplementary/FY2013 main budgets after new economic ministers are appointed (essentially the period up to the convening of the next regular session of the Diet in January next year);
3. In the run-up to the appointment of the new BoJ governor in April next year;
4. Period up to the Upper House election in summer next year and the cabinet decision in October 2013 as to whether to go ahead with the consumption-tax hike scheduled for April 2014.

First we look at stage (1). Media reports suggest the consensus view is that the LDP will win the largest number of seats at the general election but will not win a majority on its own (there are 480 seats in the Lower House). The LDP is likely to maintain its coalition with New Komeito, and it may need to look for a second and third coalition partner. Candidates for each electorate are to be finalised by 4 December. Half of public subsidies for political parties are allocated according to the number of Diet members in each party as of 1 January, so there are likely to be a series of defections from existing parties and a rush to establish new parties before year-end. The emergence of a so-called "third force" could also attract defectors from existing parties. We therefore expect significant change in the number of Diet members claimed by existing parties before the election. We think there are a significant number of undecided voters in the electorate, and political commentators foresee a swing of 30-40 seats, or in some cases as many as 50 seats. Nevertheless, the consensus in FX, equity and bond markets appears to be that the LDP, led by former PM Shinzo Abe, will win power. In a 15 November speech, Mr. Abe said that the biggest problems facing Japan were the extended period of deflation and the yen's strength, and he pledged to take all possible policy actions. We expect the markets' initial reaction to be to push the yen lower, equities higher, and medium- to long-rates lower. But if the yen continues to depreciate for some time, JGB yields are likely to then move higher. In addition, whichever party wins government will likely not have a majority in the Upper House (not even a coalition between the LDP and the Komeito would). So, it is probable that there will be a continuation of minority government, although this will depend upon the extent of reorganisation among political parties.

During stage (2), the focus will be on who is appointed as the economic ministers, something that should be known two or three days after the election. If an Abe-led LDP government wins power, the FY2012 supplementary/FY2013 main budgets are likely to contain significant economic stimulus measures, so a finance minister

suited to such a policy shift is likely to be appointed. An LDP government would also likely demand policy action different from that maintained over the past 10 years by the BoJ. The economic and finance ministers are likely to be people that support an inflation target. The appointment of chief cabinet secretary, effectively the head of the economic and finance ministers, will also be critical. The key factor in gauging future JGB issuance plans will be that the medium-term fiscal framework put in place by the Noda cabinet in August may not be upheld. There is no guarantee that any administration other than a DPJ government would respect this framework, which requires “best efforts” to ensure that FY2013 issuance of new financing government bonds (excluding special pension bonds and other bonds with redemption funding guaranteed by legislation) not exceed the level of FY2012 (around ¥44trn). LDP leader Shinzo Abe has emphasised that he would increase public-works spending to end deflation, and that the FY2013 budget would contain a significant economic stimulus. An increase in JGB issuance via the FY2012 supplementary budget could be offset by reducing front-loaded issuance, so issuance this fiscal year would not increase on a calendar basis. However, there is a risk that JGB issuance next year, when there will be a significant increase in refinancing bonds, could expand by more than expected.

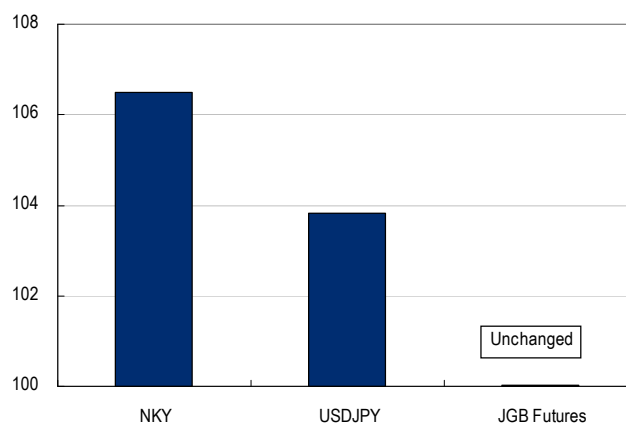
During the stage (3), if an LDP government led by Mr. Abe wins power, the new governor of the BoJ is likely to have a more reflationary bent. At the very least, he would likely be required to support an “inflation target.” This would make amendments to the BoJ Law during the Ordinary Diet that starts in January more likely. To avoid this, the BoJ may implement more aggressive policy action, and thereby move closer to the government’s position. Envisaged policy options by politicians include an increase in the proxy for medium- to long-term price stability from 1% to 2%, an expansion in the asset purchase programme to include larger amounts and a wider range of risky assets, and an extension in the maturities of long JGBs eligible for purchase. We believe the most effective option would be an increase in rinban operations based on the abolition of the “banknote rule”. Recent comments by LDP leader Shinzo Abe, as summarised in Figure 10, imply the LDP would be proactive in fighting deflation and pressure is likely to mount on the BoJ for aggressive easing measures, although there are some issues to be cleared in the process. Initial reactions in equity and FX markets have been in favour of the LDP’s intension whilst the yen bond market remains sober (Figure).

Figure 10. Remarks On Monetary Policy By LDP

Remarks	Status quo and requirement for materialization
Set an inflation target of 2%-3%	BoJ currently aim a 1% goal and very cautious to cooperate with the government for 2%
Unlimited printing of money	Yen's value will decline rapidly and the credibility for the currency will erode
The BoJ can buy all reconstruction bonds (Not underwrote by the BoJ)	Breaching Financial Law in Article 5?
Choose someone in favor of inflation target for the next BoJ Governor	An agreement by the ruling and the opposition parties required (We do not rule out the chance of approval)
Oblige the BoJ to be responsible for employment	Revision of the BoJ Act required
Unprecedented drastic measures to tackle deflation	An agreement by the ruling and the opposition parties required if under a split parliament

Source: Asahi Shimbun (Nov 20), Citi Research

Figure 11. Market Changes Since Announcement of Diet Dissolution [Nov 13=100, as of Nov 21]

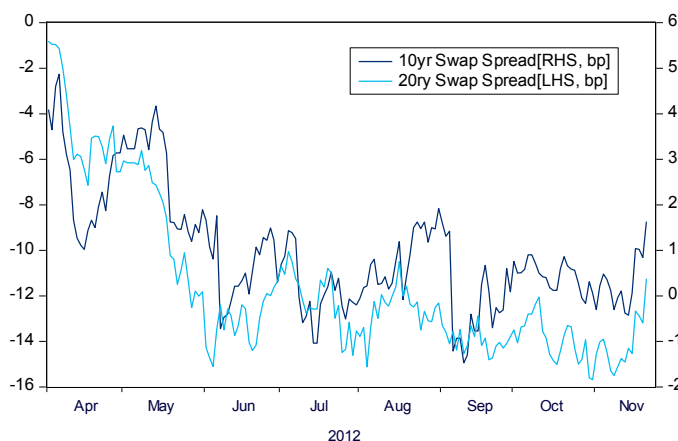


Source: Citi Research

Stage (4) will test efforts to end deflation and the sustainability of the yen's depreciation. There will be an Upper House election next summer. The legislation for integrated reform of social welfare and taxation, which centered on the consumption tax hike, included provisions for flexible implementation depending upon economic conditions that included a target for average annual economic growth over the 10 years from FY2011 of 3% nominal and 2% real. Whether or not the consumption tax hike scheduled for April 2014 will go ahead will be decided by cabinet six months prior. Economic and price trends in H1 FY2013, including real GDP in April-June, will therefore be critical, in our view.

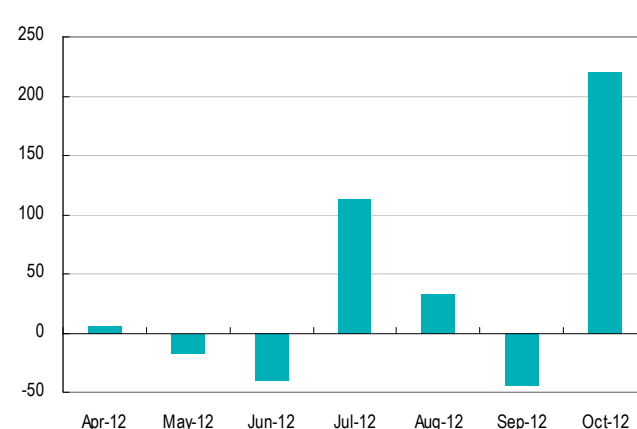
We continue to see steepening pressure on the super-long end of yen rates, with swap spreads widening in both the long and super-long sectors (Figure 12). In a contrary picture, the JSDA data for October released this week shows that the major players such as lifers and trust banks steadily bought super-long JGBs, and regional banks were much more active in the past month (Figure 13). Then why did the swap spread stayed sideways? The prevailing view among domestic investors seems to be that the market would remain range-bound with 10yr JGB yields under 0.8% and few reasons to be further bullish on JGBs. As such, regional banks may have bought cash bonds for carry advantages and paid swaps in order to neutralise the duration risks. Looking at the spread since the start of November, it has widened significantly and swaps underperformed cash bonds.

Figure 12. Swap Spread in 10yr and 20yr [Swaps – JGB]



Source: Citi Research

Figure 13. Regional Banks' Net Purchase of SL JGBs [¥bln]



Source: Citi Research

Strategy Update

We closed our 7x30 JPY swaps flattener on Nov 16 as it touched the stop out limit. Yield curve steepened sharply last week while JGB market remains in a narrow range, after LDP Abe's comment that the BoJ's policy rate should be lowered to zero or negative in order to bolster bank loans. The comment collided with the timing of 20yr JGB auction and accelerated the steepening movement.

We currently hold outright short 10yr JGB and 5x10yr conditional bear steepener via payer swaptions, as we believe the 5y sector is anchored by BoJ policy rate guidance, whereas the 10yr sector is likely to be dragged higher along with the super-long tenors.

JGB Futures Calendar Spread Update

Figure 14. JBZ2-JBH3 Calendar Spread

JBZ2-JBH3 Roll	JBZ2	JBH3
CTD	JB305	JB306
Maturity	2019/12/20	2020/03/20
Coupon	1.3%	1.4%
Amount Outstanding	7.141 trn	4.765 trn
Conversion Factor	0.734542	0.74019
Future Delivery Date	2012/12/20	2013/03/21
Last Price	106.260	107.040
Simple Yield	0.389%	0.408%

Source: Citi Research

As the front-month 10-year JGB futures contract approaches the last trading days, we take a look at the theoretical fair value of the JBZ2-JBH3 futures calendar spread.

The roll first traded at the beginning of October, and the volume started to pick up last week. The coupon of the cheapest-to-deliver (CTD) bond for the back contract is 0.1% higher than that for the front contract, which means the conversion factor of the back contract is also higher and the calendar spread trades at a higher range compared to the previous roll where the coupon of the CTD dropped by 0.1%.

The JBZ2-JBH3 calendar spread is currently trading at 0.53, which we deem fair against our theoretical valuation of 0.52 (Figure 15). We assume a 0.09% term-repo rate for the front CTD and a 0.06% term-repo rate for the back CTD, and the expiry dates match the first delivery date of the respective futures contract. At the time of writing, neither of the CTD bonds are trading special in the overnight repo market. With an outstanding amount of 7.141 trillion yen for JB305 and 4.765 trillion yen for JB306, both bonds enjoy ample liquidity in the secondary market and no apparent repo squeeze is expected during the course of the rollover.

Figure 15. Theoretical Value of JBZ2-JBH3 Calendar Spread under Different Repo Scenarios

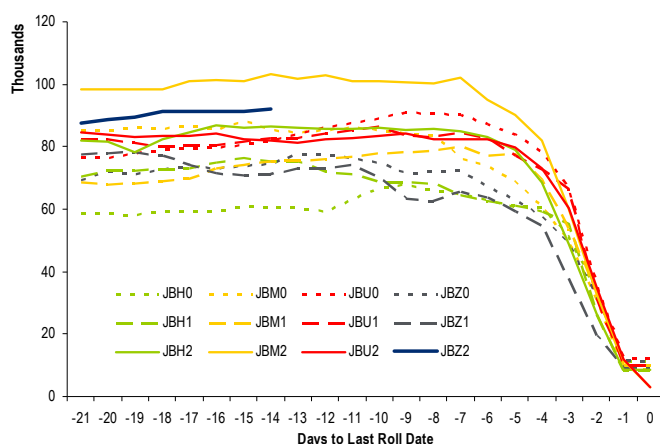
	-25	-20	-15	-10	-5	0	5	6	10	15	JB306
-30	62.5	60.3	58.0	55.7	53.5	51.2	48.9	48.5	46.7	44.4	
-25	63.0	60.7	58.4	56.2	53.9	51.7	49.4	48.9	47.1	44.9	
-20	63.4	61.2	58.9	56.6	54.4	52.1	49.9	49.4	47.6	45.3	
-15	63.9	61.6	59.4	57.1	54.8	52.6	50.3	49.9	48.0	45.8	
-10	64.4	62.1	59.8	57.6	55.3	53.0	50.8	50.3	48.5	46.2	
-5	64.8	62.5	60.3	58.0	55.8	53.5	51.2	50.8	49.0	46.7	
0	65.3	63.0	60.7	58.5	56.2	53.9	51.7	51.2	49.4	47.2	
5	65.7	63.5	61.2	58.9	56.7	54.4	52.1	51.7	49.9	47.6	
9	66.1	63.8	61.6	59.3	57.0	54.8	52.5	52.1	50.2	48.0	
15	66.6	64.4	62.1	59.8	57.6	55.3	53.1	52.6	50.8	48.5	

JB305

Source: Citi Research

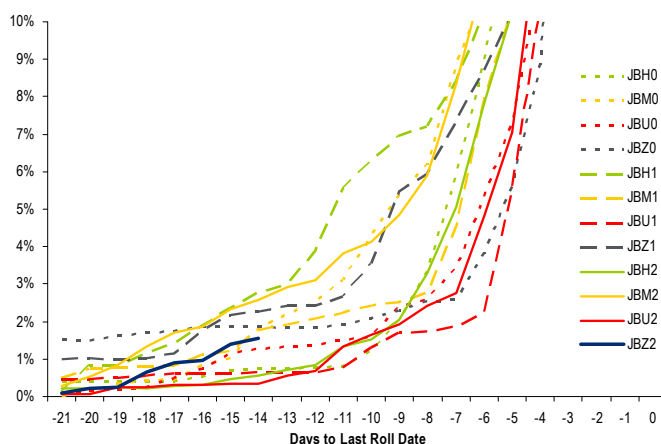
Open interest in the front contract is at the second highest level since 2010 (Figure 16), and the pace of rolling is around the average of the past 3 years (Figure 17).

Figure 16. Front Contract Open Interest during Last 21 Trading Days



Source: Citi Research

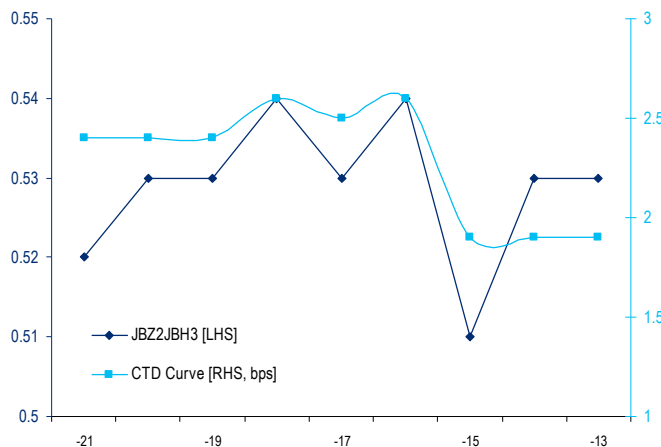
Figure 17. Percentage Rolled during Last 21 Trading Days



Source: Citi Research

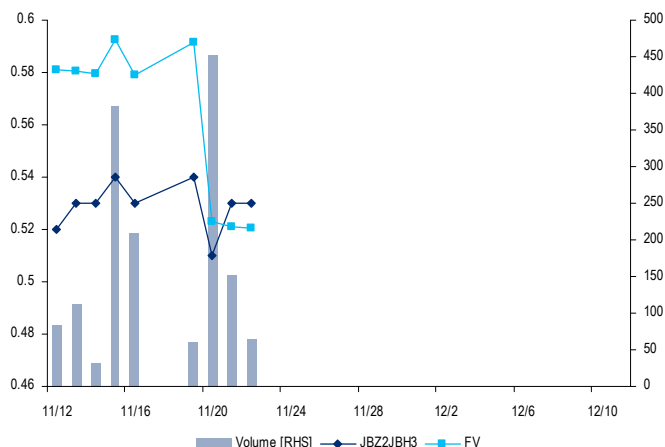
The calendar spread has tracked the CTD curve (defined as the yield difference between the CTD bonds) fairly closely (Figure 18), and we think the directionality of the CTD curve will continue to drive the calendar spread.

Figure 18. JBZ2-JBH3 vs CTD Curve



Source: Citi Research

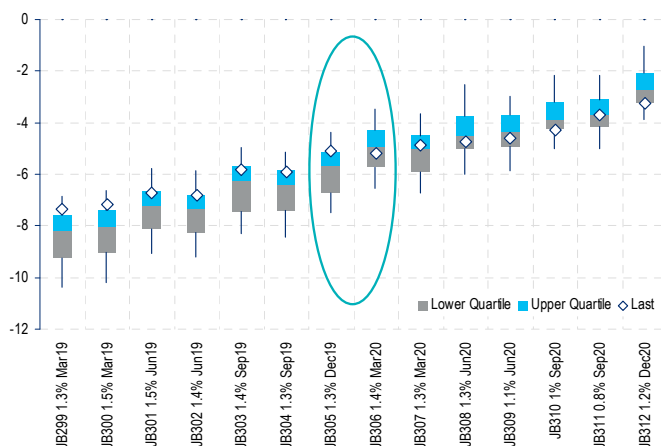
Figure 19. JBZ2-JBH3 Price vs Fair Value and Volume Traded



Source: Citi Research

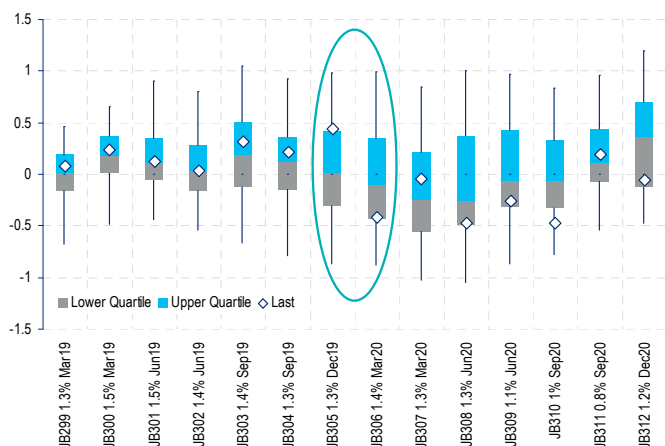
The theoretical fair value of the roll dropped to low 50s on Tuesday (Figure 19), as the yield of front CTD rose more than the back CTD in this week's JGB selloff, and a flatter CTD curve corresponds to a narrower calendar spread. The front CTD is trading relatively cheap to the back CTD on asset swap terms (Figure 20) as well as against the fitted JGB curve (Figure 21), and the CTD curve is unlikely to flatten much further. We expect the current rollover to proceed smoothly and the JBZ2-JBH3 calendar spread to trade between 0.5 and 0.55.

Figure 20. JGB Asset Swap 3-month Whisker Plot (bps)



Source: Citi Research

Figure 21. JGB Spread to Fitted Curve 3-month Whisker Plot (bps)



Source: Citi Research

Appendix

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)
ACGB	Richest	1	AUT 4.75 Jun16	-1.87	Jun10	11.0	Richest	1	AUT 3.25 Apr29	-0.79	Oct12	3.3	
		2	AUT 6.25 Jun14	-1.83	Jun08	11.9		2	AUT 6.50 May13	0.33	May00	16.7	
		3	AUT 4.75 Oct15	-1.70	Apr11	2.2		3	AUT 2.75 Apr24	0.58	Apr12	0.0	
		4	AUT 5.75 May21	-1.63	May07	12.8		4	AUT 5.50 Dec13	0.76	Dec09	9.3	
		5	AUT 4.75 Apr27	-1.11	Oct11	3.3		5	AUT 6.25 Jun14	0.78	Jun08	11.9	
	Cheapest	5	AUT 5.50 Dec13	0.64	Dec09	9.3	Cheapest	5	AUT 5.50 Jan18	1.10	Jul10	8.3	
		4	AUT 5.50 Jan18	0.68	Jul10	8.3		4	AUT 5.25 Mar19	1.12	Sep05	13.9	
		3	AUT 2.75 Apr24	1.25	Apr12	0.0		3	AUT 4.25 Jul17	1.12	Jul11	0.0	
		2	AUT 5.25 Mar19	1.29	Sep05	13.9		2	AUT 6.00 Feb17	1.15	Feb04	14.5	
		1	AUT 6.25 Apr15	2.04	Apr02	14.1		1	AUT 6.25 Apr15	1.21	Apr02	14.1	
NSW	Richest	1	NSW 5.50 Aug13	-1.16	Feb10	5.0	Richest	1	NSW 5.50 Aug13	-1.40	Feb10	5.0	
		2	NSW 6.00 Apr16	-1.09	Oct09	1.0		2	NSW 2.75 Jul14	-0.75	Jul12	0.5	
		3	NSW 6.00 Jun20	-1.05	Jun09	1.1		3	NSW 5.25 May13	-0.68	May09	0.6	
		4	NSW 2.75 Jul14	-1.05	Jul12	0.5		4	NSW 6.00 May23	0.22	May07	2.6	
		5	NSW 6.00 Apr15	-1.03	Apr11	2.0		5	NSW 6.00 Apr16	0.48	Oct09	1.0	
	Cheapest	5	NSW 6.00 May20	-0.75	Nov09	4.5	Cheapest	5	NSW 6.00 May20	0.91	Nov09	4.5	
		4	NSW 6.00 May30	-0.70	May10	0.2		4	NSW 6.00 Jun20	0.94	Jun09	1.1	
		3	NSW 6.00 Mar22	-0.56	Sep11	0.6		3	NSW 6.00 May30	1.12	May10	0.2	
		2	NSW 5.25 May13	-0.54	May09	0.6		2	NSW 6.00 Apr19	1.27	Apr08	3.5	
		1	NSW 5.00 Aug24	-0.26	Feb12	0.9		1	NSW 5.50 Mar17	1.39	Mar06	3.3	
QTC	Richest	1	QTC 6.00 Apr16	-1.35	Apr10	5.1	Richest	1	QTC 6.00 Aug13	-1.91	Feb02	3.3	
		2	QTC 5.75 Nov14	-1.35	Nov09	7.8		2	QTC 6.00 Aug13	-1.69	Aug10	3.5	
		3	QTC 6.00 Aug13	-1.34	Feb02	3.3		3	QTC 6.00 Oct15	-1.67	Oct10	6.9	
		4	QTC 6.00 Oct15	-1.32	Oct10	6.9		4	QTC 6.00 Apr16	-1.59	Apr10	5.1	
		5	QTC 6.50 Mar33	-1.25	Mar08	0.7		5	QTC 5.75 Nov14	-1.54	Nov09	7.8	
	Cheapest	5	QTC 6.00 Aug13	-1.17	Aug10	3.5	Cheapest	5	QTC 5.75 Jul24	-0.88	Jan11	1.1	
		4	QTC 6.25 Feb20	-1.08	Feb10	5.9		4	QTC 5.50 Jun21	-0.78	Jun11	1.5	
		3	QTC 5.50 Jun21	-1.03	Jun11	1.5		3	QTC 6.25 Feb20	-0.75	Feb10	5.9	
		2	QTC 5.75 Jul24	-0.84	Jan11	1.1		2	QTC 6.00 Jul22	-0.52	Jan11	3.8	
		1	QTC 6.00 Jul22	-0.82	Jan11	3.8		1	QTC 6.50 Mar33	-0.49	Mar08	0.7	
TCV	Richest	1	TCV 4.75 Oct14	-1.37	Apr03	4.0	Richest	1	TCV 4.75 Oct14	-1.14	Apr03	4.0	
		2	TCV 5.75 Nov16	-1.09	Nov04	3.5		2	TCV 5.50 Nov18	0.18	Nov08	3.0	
		3	TCV 5.50 Nov18	-0.98	Nov08	3.0		3	TCV 5.50 Nov26	0.28	May11	0.6	
		4	TCV 6.00 Jun20	-0.89	Jun09	3.4		4	TCV 5.50 Dec24	0.34	Jun10	2.3	
	Cheapest	4	TCV 6.50 Mar33	-0.78	Sep10	0.1	Cheapest	4	TCV 6.00 Jun20	0.36	Jun09	3.4	
		3	TCV 5.50 Nov26	-0.54	May11	0.6		3	TCV 5.75 Nov16	0.59	Nov04	3.5	
		2	TCV 6.00 Oct22	-0.51	Oct03	3.1		2	TCV 6.00 Oct22	0.68	Oct03	3.1	
		1	TCV 5.50 Dec24	-0.42	Jun10	2.3		1	TCV 6.50 Mar33	0.90	Sep10	0.1	
WATC	Richest	1	WATC 5.50 Apr14	-1.14	Apr10	1.9	Richest	1	WATC 5.50 Apr14	-0.41	Apr10	1.9	
		2	WATC 7.00 Apr15	-1.14	Oct06	2.6		2	WATC 7.00 Apr15	0.64	Oct06	2.6	
		3	WATC 8.00 Jul17	-0.87	Jan01	2.5		3	WATC 6.00 Oct23	1.00	Mar05	0.2	
	Cheapest	3	WATC 7.00 Oct19	-0.82	Apr01	1.8	Cheapest	3	WATC 8.00 Jul17	1.24	Jan01	2.5	
		2	WATC 7.00 Jul21	-0.55	Jul02	0.8		2	WATC 7.00 Oct19	1.31	Apr01	1.8	
		1	WATC 6.00 Oct23	-0.26	Mar05	0.2		1	WATC 7.00 Jul21	1.64	Jul02	0.8	

ZScore calculated using 6M history
2y,5y,7y,10y,20y,30y denote the OTR bonds
Analytics as of 21-Nov-12

Source: Citi Research

Figure 23. Australia relative value by sector

		Versus Fitted Yield Curve					Versus Swap Curve (CAS)				
		Rank		ZScore	Issued	Size (bn)	Rank		ZScore	Issued	Size (bn)
SAFA	Richest	1	SAFA 5.75 Sep17	-1.26	Mar10	2.0	1	SAFA 6.00 May13	-1.39	Nov06	2.2
		2	SAFA 5.25 Jun14	-1.21	Dec10	2.0	2	SAFA 5.25 Jun14	-1.33	Dec10	2.0
	Cheapest	2	SAFA 5.00 May21	-1.08	May11	1.0	2	SAFA 5.75 Apr15	-0.87	Apr09	2.0
		1	SAFA 6.00 May13	-0.83	Nov06	2.2	1	SAFA 5.00 May21	-0.72	May11	1.0
NTER	Richest	1	NTER 6.75 Oct13	-1.85	Apr08	0.4	1	NTER 6.75 Oct13	-2.95	Apr08	0.4
	Cheapest			-6.00					-10.00		
		1	NTER 6.25 Oct15	-1.35	Apr10	0.5	1	NTER 5.75 Jul14	-1.63	Jul09	0.5
TASM	Richest	1	TASM 5.50 Jun14	-1.33	Jun10	0.8	1	TASM 5.50 Jun14	-1.34	Jun10	0.8
		2	TASM 6.00 Jun20	-1.21	Jun09	0.1	2	TASM 6.50 May13	-1.25	Nov06	0.8
	Cheapest	2	TASM 5.00 Sep17	-1.18	Sep11	0.5	2	TASM 5.00 Sep17	-0.50	Sep11	0.5
		1	TASM 6.50 May13	-0.79	Nov06	0.8	1	TASM 6.00 Jun20	-0.45	Jun09	0.1

ZScore calculated using 6M history
2y,5y,7y,10y,20y,30y denote the OTR bonds
Analytics as of 21-Nov-12

Source: Citi Research

Figure 24. Australia relative value by maturity

Versus Fitted Yield Curve							Versus Swap Curve (CAS)						
AUS 1-3	Richest ↑ ↓ Cheapest	Rank		ZScore	Issued	Size (bn)	Richest ↑ ↓ Cheapest	Rank		ZScore	Issued	Size (bn)	
		1	AUT 6.25 Jun14	-1.83	Jun08	11.9		1	NTER 6.25 Oct15	-1.98	Apr10	0.5	
		2	AUT 4.75 Oct15	-1.70	Apr11	2.2		2	QTC 6.00 Oct15	-1.67	Oct10	6.9	
		3	NSWN 5.50 Aug14	-1.51	Aug03	2.8		3	NTER 5.75 Jul14	-1.63	Jul09	0.5	
		4	NSWX 5.50 Aug14	-1.45	Aug03	1.0		4	QTC 5.75 Nov14	-1.54	Nov09	7.8	
		5	NTER 5.75 Jul14	-1.37	Jul09	0.5		5	TASM 5.50 Jun14	-1.34	Jun10	0.8	
		5	NSW 6.00 Apr15	-1.03	Apr11	2.0		5	NSW 6.00 Apr15	0.83	Apr11	2.0	
AUS 4-7	Richest ↑ ↓ Cheapest	4	QTCX 6.00 Oct15	-0.99	Apr03	0.6	Richest ↑ ↓ Cheapest	4	AUT 4.75 Oct15	0.97	Apr11	2.2	
		3	AUT 4.50 Oct14 (2y)	-0.93	Apr10	9.2		3	QTCX 6.00 Oct15	0.99	Apr03	0.6	
		2	AUT 5.50 Dec13	0.64	Dec09	9.3		2	AUT 4.50 Oct14 (2y)	1.01	Apr10	9.2	
		1	AUT 6.25 Apr15	2.04	Apr12	14.1		1	AUT 6.25 Apr15	1.21	Apr12	14.1	
		Rank		ZScore	Issued	Size (bn)		Rank		ZScore	Issued	Size (bn)	
		1	ACT 5.50 Jun18	-1.30	Jun11	0.3		1	QTC 6.00 Feb18	-1.26	Feb11	4.4	
		2	SAFA 5.75 Sep17	-1.26	Mar10	2.0		2	ACT 5.50 Jun18	-1.19	Jun11	0.3	
AUS 8-10	Richest ↑ ↓ Cheapest	3	QTCX 6.25 Jun19	-1.20	Jun09	4.6	Richest ↑ ↓ Cheapest	3	SAFA 5.75 Sep17	-0.91	Mar10	2.0	
		4	QTC 6.00 Feb18	-1.20	Feb11	4.4		4	TASM 5.00 Sep17	-0.50	Sep11	0.5	
		5	TASM 5.00 Sep17	-1.18	Sep11	0.5		5	QTCX 6.25 Jun19	0.10	Jun09	4.6	
		5	NSWX 5.50 Mar17	-0.69	Mar06	1.6		5	WATC 8.00 Jul17	1.24	Jan01	2.5	
		4	AUT 4.25 Jul17 (5y)	0.47	Jul11	0.0		4	NSW 6.00 Apr19	1.27	Apr08	3.5	
		3	AUT 6.00 Feb17	0.54	Feb04	14.5		3	WATC 7.00 Oct19	1.31	Apr01	1.8	
		2	AUT 5.50 Jan18	0.68	Jul10	8.3		2	NSW 5.50 Mar17	1.39	Mar06	3.3	
AUS >10	Richest ↑ ↓ Cheapest	1	AUT 5.25 Mar19	1.29	Sep05	13.9	Richest ↑ ↓ Cheapest	1	NSWX 5.50 Mar17	1.46	Mar06	1.6	
		Rank		ZScore	Issued	Size (bn)		Rank		ZScore	Issued	Size (bn)	
		1	AUT 5.75 May21	-1.63	May07	12.8		1	QTC 5.50 Jun21	-0.78	Jun11	1.5	
		2	SAFA 5.00 May21	-1.08	May11	1.0		2	SAFA 5.00 May21	-0.72	May11	1.0	
		3	QTC 5.50 Jun21	-1.03	Jun11	1.5		3	QTC 6.00 Jul22	-0.52	Jan11	3.8	
		4	QTC 6.00 Jul22	-0.82	Jan11	3.8		4	TCV 6.00 Oct22	0.68	Oct03	3.1	
		4	NSW 6.00 Mar22	-0.56	Sep11	0.6		4	NSW 6.00 Mar22	0.87	Sep11	0.6	
AUS 1-3	Richest ↑ ↓ Cheapest	3	WATC 7.00 Jul21	-0.55	Jul02	0.8	Richest ↑ ↓ Cheapest	3	AUT 5.75 Jul22	0.97	Jan10	7.4	
		2	TCV 6.00 Oct22	-0.51	Oct03	3.1		2	AUT 5.75 May21	0.99	May07	12.8	
		1	AUT 5.75 Jul22	0.54	Jan10	7.4		1	WATC 7.00 Jul21	1.64	Jul02	0.8	
		Rank		ZScore	Issued	Size (bn)		Rank		ZScore	Issued	Size (bn)	
		1	QTC 6.50 Mar33	-1.25	Mar08	0.7		1	QTC 5.75 Jul24	-0.88	Jan11	1.1	
		2	AUT 4.75 Apr27	-1.11	Oct11	3.3		2	AUT 3.25 Apr29	-0.79	Oct12	3.3	
		3	QTC 5.75 Jul24	-0.84	Jan11	1.1		3	QTC 6.50 Mar33	-0.49	Mar08	0.7	
AUS 4-7	Richest ↑ ↓ Cheapest	4	NSW 6.00 May23	-0.78	May07	2.6	Richest ↑ ↓ Cheapest	4	NSW 6.00 May23	0.22	May07	2.6	
		5	TCV 6.50 Mar33	-0.78	Sep10	0.1		5	TCV 5.50 Nov26	0.28	May11	0.6	
		5	TCV 5.50 Dec24	-0.42	Jun10	2.3		5	AUT 5.50 Apr23 (10y)	0.83	Apr11	3.2	
		4	WATC 6.00 Oct23	-0.26	Mar05	0.2		4	TCV 6.50 Mar33	0.90	Sep10	0.1	
		3	NSW 5.00 Aug24	-0.26	Feb12	0.9		3	NSW 5.00 Aug24	0.90	Feb12	0.9	
		2	AUT 5.50 Apr23 (10y)	-0.12	Apr11	3.2		2	WATC 6.00 Oct23	1.00	Mar05	0.2	
		1	AUT 2.75 Apr24	1.25	Apr12	0.0		1	NSW 6.00 May30	1.12	May10	0.2	

ZScore calculated using 6M history
2y,5y,7y,10y,20y,30y denote the OTR bonds
Analytics as of 21-Nov-12

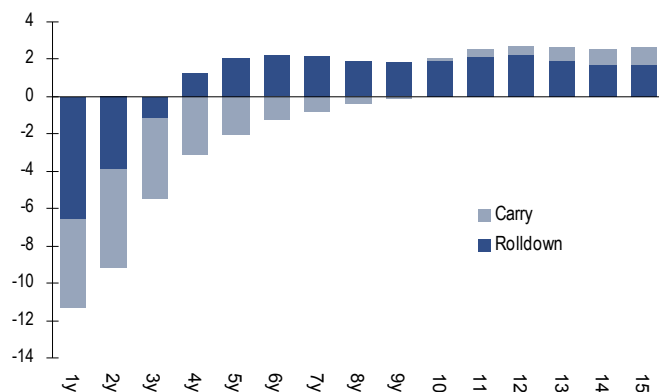
Source: Citi Research

Figure 25. 3M carry in AUD swaps¹

fwd/tenor	1Y	2Y	3Y	4Y	5Y	6Y	7Y	8Y	9Y	10Y	12Y	15Y	20Y	25Y	30Y
SPOT	-11.6	- 1.3	1.1	2.0	3.0	3.7	3.7	3.6	3.2	3.2	3.1	2.3	1.5	0.9	0.6
3M	- 8.2	- 0.3	1.3	2.4	3.3	3.7	3.8	3.4	3.2	3.3	3.0	2.3	1.5	0.9	0.6
6M	- 2.1	2.6	3.0	3.7	4.5	4.5	4.4	3.9	3.7	3.9	3.3	2.6	1.7	1.1	0.8
9M	2.4	4.9	4.5	5.0	5.5	5.4	5.2	4.5	4.3	4.5	3.7	3.0	1.9	1.3	1.0
1Y	6.5	6.1	5.7	6.0	6.1	5.8	5.4	4.8	4.7	4.9	3.9	3.2	2.0	1.4	1.1
2Y	5.9	5.4	6.0	6.3	5.9	5.3	4.7	4.6	4.8	4.2	3.3	2.8	1.6	1.0	0.7
3Y	4.7	5.9	6.2	5.7	5.1	4.4	4.2	4.5	3.9	3.3	2.7	2.2	1.0	0.6	0.4
4Y	7.3	7.2	6.4	5.3	4.4	4.2	4.6	3.9	3.2	2.8	2.5	1.8	0.7	0.3	0.1
5Y	7.2	5.9	4.9	3.6	3.5	4.1	3.3	2.7	2.3	2.0	1.8	0.9	0.2	- 0.2	- 0.4
6Y	4.6	3.7	2.6	2.6	3.5	2.6	1.9	1.6	1.4	1.3	1.0	0.1	- 0.4	- 0.7	- 0.8
7Y	2.7	1.5	2.1	3.3	2.3	1.5	1.1	0.9	0.9	0.8	0.3	- 0.6	- 0.9	- 1.1	- 1.1
8Y	0.2	1.7	3.6	2.1	1.2	0.8	0.6	0.7	0.5	0.3	- 0.4	- 1.0	- 1.2	- 1.3	- 1.3
9Y	3.3	5.4	3.1	1.5	1.0	0.7	0.7	0.6	0.3	- 0.0	- 0.7	- 1.1	- 1.3	- 1.4	- 1.4
10Y	7.8	3.0	1.1	0.3	0.2	0.3	0.2	- 0.1	- 0.5	- 0.9	- 1.4	- 1.6	- 1.7	- 1.8	- 1.6

Source: Citi Research

Figure 26. 3M carry profile of ACGB²



Source: Citi Research

Figure 27. 3M carry table of ACGB

ACGB	Carry	Rolldown	Total
1y	-5.0	-6.1	-11.1
2y	-3.1	-1.1	-4.2
3y	-2.4	-0.6	-3.0
4y	-1.8	1.1	-0.7
5y	-0.9	2.3	1.4
6y	-0.3	2.7	2.4
7y	0.1	2.4	2.5
8y	0.4	2.1	2.5
9y	0.6	1.8	2.4
10y	0.8	2.0	2.8
11y	1.0	2.3	3.3
12y	1.1	2.3	3.4
13y	1.3	1.9	3.2
14y	1.4	1.7	3.1
15y	1.4	1.7	3.1

Source: Citi Research

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

² ACGB carry profile and table is calculated from the relative value curve and it may vary from individual bonds given the repo rate.

Figure 28. 3M carry in NZD swaps³

fwd/tenor	1Y	2Y	3Y	4Y	5Y	6Y	7Y	8Y	9Y	10Y	12Y	15Y	20Y
SPOT	- 4.5	4.0	4.7	5.8	6.7	7.2	7.0	6.5	6.0	5.3	3.8	3.3	2.8
3M	- 1.6	3.9	5.1	6.0	6.9	7.2	6.8	6.4	5.9	5.1	3.7	3.3	2.8
6M	3.3	5.8	6.4	6.7	7.5	7.5	7.1	6.5	5.9	4.9	3.7	3.3	2.8
9M	8.4	7.6	8.0	8.2	8.7	8.5	7.7	7.1	6.4	5.3	4.1	3.7	3.1
1Y	10.4	8.3	8.5	8.9	9.1	8.6	7.9	7.2	6.3	5.3	4.2	3.8	3.2
2Y	6.0	7.3	7.9	8.4	8.0	7.2	6.4	5.5	4.4	3.7	3.2	2.9	2.5
3Y	8.6	9.0	9.3	8.5	7.5	6.6	5.5	4.3	3.4	3.1	2.9	2.6	2.1
4Y	9.5	9.9	8.8	7.3	6.2	5.0	3.6	2.7	2.4	2.3	2.2	2.0	1.6
5Y	10.3	8.3	6.5	5.3	4.0	2.5	1.6	1.3	1.3	1.4	1.3	1.2	1.0
6Y	6.3	4.6	3.6	2.3	0.7	- 0.1	- 0.2	- 0.0	0.1	0.2	0.3	0.3	0.2
7Y	3.0	2.2	0.9	- 0.8	- 1.5	- 1.4	- 1.1	- 0.8	- 0.6	- 0.5	- 0.4	- 0.3	- 0.2
8Y	1.3	- 0.2	- 2.1	- 2.7	- 2.4	- 1.9	- 1.4	- 1.1	- 0.9	- 0.8	- 0.7	- 0.6	- 0.5
9Y	- 1.7	- 4.0	- 4.3	- 3.4	- 2.6	- 1.9	- 1.5	- 1.3	- 1.1	- 1.0	- 0.8	- 0.7	- 0.6
10Y	- 6.3	- 5.6	- 4.1	- 2.8	- 2.0	- 1.5	- 1.2	- 1.0	- 0.9	- 0.8	- 0.7	- 0.6	- 0.5

Source: Citi Research

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

Figure 29. Japan relative value by maturity

Versus Fitted Yield Curve						Versus Swap Curve (YYS)						
JGB 2-7	Richest ↑	Rank	Issue	ZScore	Size (¥1n)	Richest ↑	Rank	Issue	ZScore	Size (¥1n)		
		1	#276 1.60 Dec15	-1.81	Feb06		3.13	1	#322 0.10 Nov14	-2.65	Nov12	2.70
		2	#274 1.50 Dec15	-1.80	Dec05		3.38	2	#106 0.20 Sep17 (5y)	0.50	Sep12	2.64
		3	#93 0.50 Dec15	-1.77	Dec10		5.15	3	#87 0.50 Dec14	0.80	Dec09	7.73
		4	#91 0.40 Sep15	-1.68	Sep10		2.40	4	#265 1.50 Dec14	0.81	Dec04	3.28
	Cheapest ↓	5	#275 1.40 Dec15	-1.68	Jan06	3.32	Cheapest ↓	5	#266 1.40 Dec14	0.81	Jan05	3.29
		5	#290 1.40 Mar18	1.47	Mar08	2.33		5	#290 1.40 Mar18	1.57	Mar08	2.33
		4	#292 1.70 Mar18	1.49	May08	2.46		4	#295 1.50 Jun18	1.59	Aug08	2.22
		3	#296 1.50 Sep18	1.53	Sep08	5.80		3	#294 1.70 Jun18	1.61	Jul08	2.10
		2	#297 1.40 Dec18	1.56	Dec08	2.11		2	#292 1.70 Mar18	1.61	May08	2.46
1	#298 1.30 Dec18 (7y)	1.78	Jan09	4.00	1	#296 1.50 Sep18	1.63	Sep08	5.80			
JGB 7-10	Richest ↑	Rank	Issue	ZScore	Size (¥1n)	Richest ↑	Rank	Issue	ZScore	Size (¥1n)		
		1	#313 1.30 Mar21	-1.62	Mar11		4.87	1	#51 2.00 Jun21	-0.36	Aug01	0.70
		2	#310 1.00 Sep20	-1.50	Sep10		4.74	2	#322 0.90 Mar22	0.26	May12	2.53
		3	#51 2.00 Jun21	-1.41	Aug01		0.70	3	#321 1.00 Mar22	0.41	Mar12	2.43
		4	#314 1.10 Mar21	-0.93	May11		2.40	4	#317 1.10 Sep21	0.45	Sep11	2.31
	Cheapest ↓	5	#308 1.30 Jun20	-0.93	Jun10	2.25	Cheapest ↓	5	#313 1.30 Mar21	0.51	Mar11	4.87
		5	#56 2.00 Jun22	1.47	Jun02	0.91		5	#311 0.80 Sep20	1.40	Oct10	2.61
		4	#48 2.50 Dec20	1.61	Oct00	0.66		4	#48 2.50 Dec20	1.41	Oct00	0.66
		3	#311 0.80 Sep20	2.09	Oct10	2.61		3	#45 2.40 Mar20	1.44	Jan00	0.87
		2	#45 2.40 Mar20	2.20	Jan00	0.87		2	#49 2.10 Mar21	1.50	Jan01	0.69
1	#49 2.10 Mar21	2.25	Jan01	0.69	1	#325 0.80 Sep22 (10y)	1.50	Sep12	2.35			
JGB 10-15	Richest ↑	Rank	Issue	ZScore	Size (¥1n)	Richest ↑	Rank	Issue	ZScore	Size (¥1n)		
		1	#96 2.10 Jun27	-3.02	Aug07		0.94	1	#95 2.30 Jun27	-0.08	Jun07	1.77
		2	#95 2.30 Jun27	-2.95	Jun07		1.77	2	#75 2.10 Mar25	-0.06	Mar05	0.73
		3	#77 2.00 Mar25	-2.72	May05		0.81	3	#93 2.00 Mar27	-0.01	Mar07	1.15
		4	#94 2.10 Mar27	-2.38	Apr07		1.83	4	#96 2.10 Jun27	0.01	Aug07	0.94
	Cheapest ↓	5	#75 2.10 Mar25	-2.30	Mar05	0.73	Cheapest ↓	5	#77 2.00 Mar25	0.02	May05	0.81
		5	#89 2.20 Jun26	1.22	Aug06	1.00		5	#66 1.80 Dec23	0.88	Feb04	0.71
		4	#64 1.90 Sep23	1.33	Oct03	1.24		4	#65 1.90 Dec23	0.90	Dec03	1.11
		3	#69 2.10 Mar24	1.34	May04	1.51		3	#84 2.00 Dec25	0.93	Jan06	1.69
		2	#70 2.40 Jun24	1.52	Jun04	1.44		2	#64 1.90 Sep23	0.98	Oct03	1.24
1	#84 2.00 Dec25	1.89	Jan06	1.69	1	#63 1.80 Jun23	0.99	Aug03	1.00			
JGB 15-20	Richest ↑	Rank	Issue	ZScore	Size (¥1n)	Richest ↑	Rank	Issue	ZScore	Size (¥1n)		
		1	#2 2.40 Feb30	-3.50	Feb00		0.30	1	#2 2.40 Feb30	-0.31	Feb00	0.30
		2	#3 2.30 May30	-2.79	May00		0.35	2	#3 2.30 May30	-0.09	May00	0.35
		3	#112 2.10 Jun29	-1.67	Jul09		2.28	3	#112 2.10 Jun29	0.30	Jul09	2.28
		4	#118 2.00 Jun30	-1.33	Jun10		1.35	4	#100 2.20 Mar28	0.41	Mar08	1.84
	Cheapest ↓	5	#119 1.80 Jun30	-1.14	Jul10	1.26	Cheapest ↓	5	#4 2.90 Nov30	0.49	Nov00	0.50
		5	#138 1.50 Jun32	1.24	Jul12	1.37		5	#7 2.30 May32	1.17	May02	0.56
		4	#103 2.30 Jun28	1.26	Jul08	0.91		4	#6 2.40 Nov31	1.19	Nov01	0.55
		3	#137 1.70 Jun32	1.53	Jun12	1.27		3	#137 1.70 Jun32	1.29	Jun12	1.27
		2	#140 1.70 Sep32 (20y)	2.02	Sep12	1.25		2	#139 1.60 Jun32	1.55	Aug12	1.20
1	#139 1.60 Jun32	2.11	Aug12	1.20	1	#140 1.70 Sep32 (20y)	1.74	Sep12	1.25			
JGB >20	Richest ↑	Rank	Issue	ZScore	Size (¥1n)	Richest ↑	Rank	Issue	ZScore	Size (¥1n)		
		1	#12 2.10 Sep33	-1.95	Nov03		0.52	1	#37 1.90 Sep42 (30y)	-0.96	Sep12	0.75
		2	#13 2.00 Dec33	-1.84	Feb04		0.72	2	#35 2.00 Sep41	-0.16	Sep11	3.01
		3	#19 2.30 Jun35	-1.53	Jul05		0.72	3	#36 2.00 Mar42	-0.16	Mar12	0.79
		4	#11 1.70 Jun33	-1.32	Jul03		0.58	4	#32 2.30 Mar40	-0.12	Mar10	2.52
	Cheapest ↓	5	#16 2.50 Sep34	-1.02	Oct04	0.64	Cheapest ↓	5	#33 2.00 Sep40	-0.11	Sep10	2.74
		5	#9 1.40 Dec32	0.28	Jan03	0.32		5	#11 1.70 Jun33	0.50	Jul03	0.58
		4	#20 2.50 Sep35	0.35	Oct05	0.66		4	#15 2.50 Jun34	0.62	Aug04	0.93
		3	#24 2.50 Sep36	0.46	Oct06	0.61		3	#10 1.10 Mar33	0.71	May03	0.53
		2	#28 2.50 Mar38	0.72	Apr08	1.77		2	#8 1.80 Nov32	0.78	Nov02	0.52
1	#27 2.50 Sep37	0.78	Oct07	1.43	1	#9 1.40 Dec32	0.95	Jan03	0.32			

ZScore calculated using 6M history
2y,5y,7y,10y,20y,30y denote the OTR bonds
Analysis as of 21-Nov-12

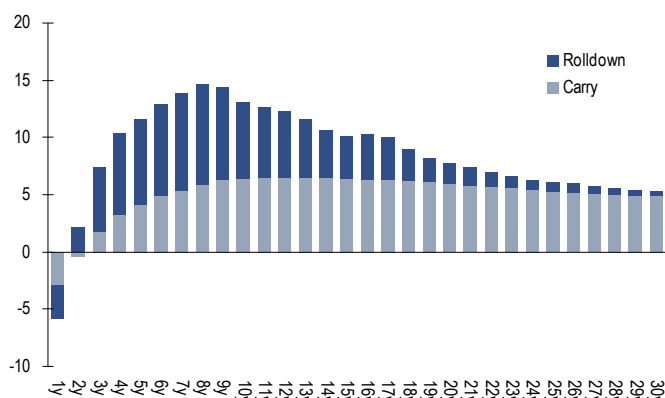
Source: Citi Research

Figure 30. 6M carry in JPY swaps⁴

fwd/tenor	1Y	2Y	3Y	4Y	5Y	6Y	7Y	8Y	9Y	10Y	12Y	15Y	20Y	25Y	30Y	40Y
SPOT	- 7.9	- 2.9	- 1.2	0.5	2.1	3.9	5.5	6.8	7.5	7.8	8.2	7.9	5.8	4.3	3.7	3.1
6M	- 4.1	- 2.2	- 0.3	1.3	3.0	4.7	6.1	7.0	7.6	7.9	8.2	7.7	5.5	4.2	3.7	3.1
9M	- 5.5	- 2.8	- 0.4	1.4	3.3	5.0	6.4	7.2	7.7	7.9	8.2	7.6	5.4	4.1	3.6	3.0
1Y	- 0.4	0.5	1.9	3.3	5.1	6.6	7.7	8.3	8.6	8.8	8.9	8.0	5.7	4.4	3.9	3.2
2Y	1.3	3.0	4.6	6.5	8.0	9.1	9.6	9.9	9.8	9.9	9.6	8.2	5.7	4.6	4.1	3.4
3Y	4.8	6.3	8.2	9.7	10.7	11.1	11.2	11.1	11.0	10.8	10.1	8.2	5.7	4.7	4.2	3.5
4Y	7.9	10.1	11.5	12.5	12.6	12.4	12.2	12.0	11.7	11.4	10.1	8.0	5.6	4.7	4.2	3.5
5Y	12.3	13.3	13.9	13.8	13.3	13.0	12.6	12.3	11.8	11.2	9.5	7.4	5.3	4.5	3.9	3.3
6Y	14.2	14.4	14.0	13.3	12.9	12.5	12.1	11.5	10.8	10.0	8.4	6.3	4.6	3.9	3.5	2.9
7Y	14.7	13.9	13.1	12.6	12.3	11.9	11.2	10.5	9.6	8.8	7.2	5.3	3.9	3.3	2.9	2.5
8Y	13.2	12.5	12.2	11.8	11.4	10.8	10.0	9.1	8.2	7.3	5.8	4.2	3.1	2.7	2.4	2.0
9Y	11.8	11.6	11.3	10.9	10.3	9.5	8.5	7.5	6.6	5.8	4.4	3.1	2.4	2.1	1.8	1.5
10Y	11.5	11.3	10.8	10.1	9.1	8.0	7.0	6.0	5.1	4.3	3.1	2.2	1.8	1.5	1.4	1.1
12Y	9.7	8.6	7.4	6.2	5.1	4.0	3.1	2.3	1.7	1.2	0.7	0.4	0.4	0.4	0.3	0.3
15Y	2.4	1.3	0.4	- 0.4	- 1.0	- 1.5	- 1.8	- 1.9	- 1.9	- 1.9	- 1.7	- 1.4	- 1.0	- 0.8	- 0.7	- 0.6
20Y	- 4.2	- 3.9	- 3.6	- 3.2	- 2.8	- 2.5	- 2.2	- 1.9	- 1.7	- 1.5	- 1.3	- 1.0	- 0.8	- 0.6	- 0.6	- 0.5
25Y	- 0.6	- 0.5	- 0.3	- 0.2	- 0.1	- 0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
30Y	0.4	0.4	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1

Source: Citi Research

Figure 31. 6M carry profile of JGB⁵



Source: Citi Research

Figure 32. 6M carry table of JGB

JGB	Carry	Rolldown	Total
1y	-2.9	-3.0	-5.9
2y	-0.4	2.1	1.7
3y	1.7	5.6	7.4
4y	3.2	7.1	10.3
5y	4.1	7.5	11.6
6y	4.9	8.1	12.9
7y	5.4	8.5	13.9
8y	5.9	8.8	14.7
9y	6.3	8.1	14.3
10y	6.4	6.7	13.1
20y	5.9	1.8	7.8
30y	4.9	0.4	5.3

Source: Citi Research

⁴ Sectors with carry more than 5bp is highlighted in green while the carry less than 5bp is highlighted in red.

⁵ JGB carry profile and table is calculated from the relative value curve and it may vary from individual bonds given the repo rate.

Appendix A-1

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