BofA SECURITIES

Global Rates Viewpoint

Global Rates Vol in '24 – Broadly Lower…

21 November 2023

Rates Research
Global

Global Rates Research
MLI (UK)

Bruno Braizinha, CFA
Rates Strategist
BofAS
bruno.braizinha@bofa.com

Sphia Salim
Rates Strategist
MLI (UK)
sphia.salim@bofa.com

For a list of all recent recommendations please see our Global Rates Year-Ahead.

Vol in '24 – Broadly lower … but curb your enthusiasm

The bias for rates volatility is lower in '24 directionally with a view for lower yields and driven by a macro backdrop dominated by baseline soft landing expectations and on-hold central banks. However, we do not expect vol levels to revisit the lows of the last cycle.

US Volatility

Broadly we favor a long bias in '24, lower vol with left side underperformance, short gamma vs intermediates at <-10bp for 1y10y vs 1m10y, and long vega at mid-70bp levels. A wide range of outcomes justifies hedging the tails (10yT > 5.5% in bearish scenarios, or < 4% in bullish ones), and higher vol of vol. We discretize the range of outcomes for US yields over '24 between four scenarios with corresponding trades:

1. Hard landing (10yT c.3-3.25%) – 1y fwd 2s10s cap spreads,
2. Soft landing (10yT c.4-4.25%) – 3y1y receiver spreads & short 1y1y vs 1y10y vol,
3. Steady resilience (10yT c.5-5.25%) – costless 6m10y payer ladders,
4. Reacceleration (10yT > 5.5%) – long 6m2y payer spreads vs 6m2y OTM receivers.

EU Volatility

Like in the US, we expect EU rates vol to decline as rates rally. We look for 1y10y to drop to around 85bp and see 1y1y at 80bp. Relative to the US, however, we see greater flattening potential, and risks around belly yields biased towards a more significant receiver tail and a less significant payer tail.

Trades: 1y 2s10s floor vs US; short 6m5y OTM payers in EU vs payers in US.

JP Volatility

We expect to see the BoJ exit NIRP in Jan '24 and reduce JGB purchases which will allow for a higher degree of freedom on the curve. Broadly these support higher yields and upward pressure on volatility in '24. We expect 1y10y vol c.60-70bp over '24 & 1y1y vol around the midpoint of that range (with a bias towards the lower end in 1H24, and the upper end in 2H24). Broadly, these are c.10-15 normals higher from current levels.

Trades: costless 6m7y payer ladders & 1y fwd 5s30s bear flatteners.

AU Volatility

Expectations for lower yields and an RBA shift to on-hold with cuts expected early in '25 drive a baseline view for lower vol, with 1y10 expected in the c.85-105 range over '24.

Trades: costless 1y fwd 2s10s bull steepeners and long 1y5y receiver spreads outright or financed by selling 3m5y receivers (proxy for receiver calendars).

Glossary
ATM – At the Money
OTM – Out of the Money
ITM – In the Money
EZ – Eurozone
QE – Quantitative Easing
RTR – Right to receive (receivers)
RTP – Right to pay (payers)
MtM – Mark to Market
JGB – Japanese Government Bonds
ECB – European Central Bank
RBA – Reserve Bank of Australia
SOFR – Secured Overnight Financing Rate

Volatility – US

Bruno Braizinha, CFA
BofAS

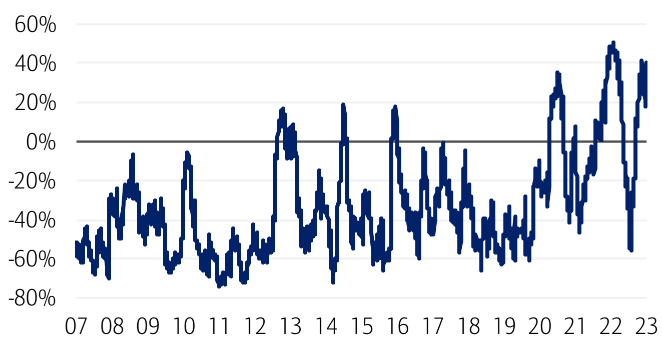
- Favor a long bias in '24, lower vol with left side underperformance, short gamma vs intermediates at <-10bp for 1y10y vs 1m10y, and long vega at mid-70bp levels.
- We favor: 1y fwd 2s10s cap spread; 3y1y receiver spreads, short 1y1y vs 1y10y vol; costless 6m10y payer ladders; long 6m2y payer spreads vs 6m2y OTM receivers.

US vol lower … but curb your enthusiasm

Key drivers for the dynamic of volatility in '24 include (see US Vol - Outlook for '24):

- A wide range of outcomes for the US economy and 10yT yields. We discretize 10yT scenarios between: c.3-3.25% in hard landing, c.4-4.25% in soft landing; 5-5.25% in scenarios of steady resilience; and > 5.5% in re-acceleration scenarios.
- Erosion of the utility of duration for portfolios given positive correlations between bonds and equity returns (Exhibit 1) and still relatively high rates vol, particularly in between soft landing and steady resilience scenarios which we find more likely in '24 (our economists baseline is closer to soft landing).
- Fed policy and the dynamic of neutral rate expectations over '24, with the potential for the market to fade the recent repricing of neutral rate expectations (by up to c.3.75-4% over the summer – see Nibble at c.5%) as data recouples to soft landing scenarios, and scope for Fed cuts in 2H24 (Exhibit 2).
- A wide spectrum of risks in '24: US elections, potential for geopolitical conflicts to escalate, risks for the energy complex around these two conflicts, bearish scenarios for the Chinese economy, and the wide range of outcomes noted above for the US economy and 10yT yields. Most of these risks are not calendar driven and constitute a more diffused level of risk that is likely to continue to support volatility into '24.

Exhibit 1: Bond / equity (3m) correlations
Correlations more persistently positive since the covid crisis



Source: BofA Global Research

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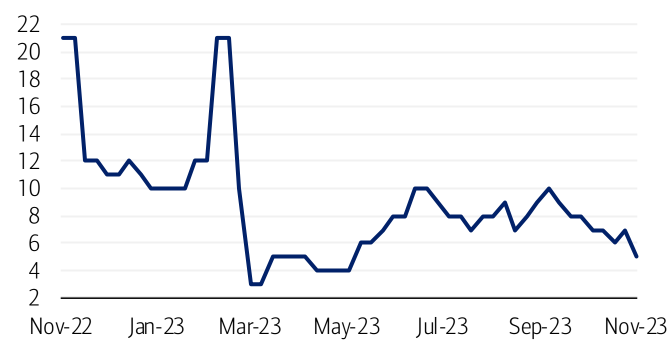
Exhibit 2: Horizon pricing (y-axis in months) for the first Fed cut
Pricing of the first Fed cut now at a 5m horizon



Source: BofA Global Research

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Vol view for '24 in broad scopes

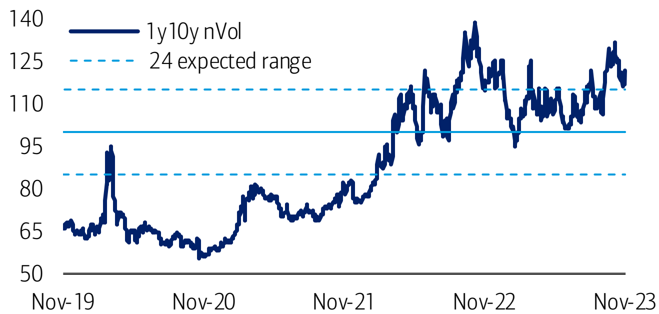
Our economist's outlook continues to be centred around soft-landing scenarios, with rate cuts expected by 2H24. This context supports broadly lower vol in '24, and the underperformance of the left side vs the right side of the grid. However, a wide spectrum of risks, a higher degree of freedom at the frontend of the curve, and limited utility for USTs in portfolios between soft landing and steady resilience scenarios (where rates generally act as a shock absorber for the broader dynamic of risk), likely cap the potential for vol to revisit the lows that are generally associated with a Fed on-hold.

From the view to target levels

We see 1y10y fair value in 1H24 c.100-115bp (Exhibit 3). In a Fed move to on-hold, the left side of the grid trades fair/cheap vs the right. Rate cuts in 2H24 add downward pressure on vol, with 1y10y vol likely c.85-100bp and further underperformance of the left side. However, we don't expect 1y1y vol to break 80bp levels easily in '24 (around the average for 1y1y vol at the end of the '04/06 cycle with the Fed on hold).

Exhibit 3: 1y10y vol and the expected range for '24

100-115bp more likely in 1H24, and 85-100bp more likely in 2H24



Source: BofA Global Research; Bloomberg

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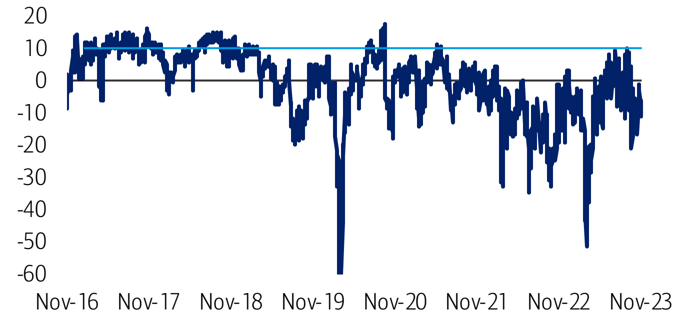
Exhibit 4: Spread of 1y10y vs 1m10y vol

Vol term structure still trading slightly inverted... fade inversions < -10bp



Source: BofA Global Research

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The expected dynamic of bond yields and risk in the context of our macro baseline (in between soft landing and steady resilience) along with a relatively wide spectrum of risks is likely to prevent a significant steepening of the term structure of volatility (i.e., there will be periods of inversion and spread levels for 1y10y to 1m10y beyond -10bp are likely to provide scope to short gamma opportunistically over '24 – Exhibit 4.

Long vega exposures performed well as a positive vol carry macro hedge over '23. Rollup on the grid is still attractive, and we don't see material headwinds from issuance. However, the empirical dvega/dr profile seems less positively convex currently which exposes these positions to a range of outcomes relatively asymmetric to the downside. We continue to like the exposure but recommend clients should be more tactical in the way they add to the position and target levels mid-70bp or below.

Trade recommendations

We favour a long bias in '24 (see Long 5y outright or through proxies), lower vol with left side underperformance, short gamma vs intermediates at < -10bp for 1y10y vs 1m10y, and long vega positions at mid-70bp levels. A wide range of outcomes justifies hedging the tails (10yT > 5.5% in bearish scenarios, or < 4% in bullish ones), and higher vol of vol. More specific trade recommendations around the scenarios above include:

- **Hard landing**: 1y fwd 2s10s curve caps spreads ATM/+50bp, indicative cost of 20bp. Downside capped to the upfront premium.
- **Soft landing**: 3y1y receiver spreads ATM/-50bp, with a cost of 23bp of delta (indicative) and 27bp max upside. The downside is capped to the upfront premium.
- **Soft landing**: sell 1y1y vs 1y10y vol, vega weighted, receive 26bp indicative. Risk is outperformance of left side vol vs right side with potentially unlimited downside.
- **Steady resilience**: 6m10y payer ladders ATM/+32bp/+64bp (costless indicative) with max upside c.4.35-4.67% for 10y SOFR (4.69-5.01% for 10yT at constant spreads) & downside breakeven c.4.99% (5.33% for 10yT at constant spreads). Risk is a selloff beyond the downside breakeven with potentially unlimited downside.
- **Re-acceleration**: buy 6m2y payer spreads ATM/+55bp financed with 6m2y receivers ATM-40bp (costless indicative). Risk is a frontloaded hard landing scenario where the Fed cuts rates in 1H24, with potentially unlimited downside.

Volatility – EU

Sphia Salim
MLI (UK)

Bruno Braizinha, CFA
BofAS

- As in the US, we expect EU rates vol to decline as rates rally. We look for 1y10y to drop to around 85bp (below what the 1y forwards imply) and see 1y1y at 80bp.
- We favor: 1y 2s10s floor vs US; short 6m5y OTM payers in EU vs payers in US.

EU vol: many similarities to US vol outlook …

The outlook we would portray for volatility in EU rates has significant parallels with the one for the US discussed above. In both regions, we expect rates to decline below the forwards, with cuts starting in 2H24. Our economists project ECB cuts in Jun, Sep and Dec 2024, followed by more rapid and extended cuts than currently implied in the forwards for 2025, as risks of EZ inflation de-anchoring to the downside increase. This should lead to a repricing of terminal rates lower, thereby driving implied vol lower.

Lower implied normal volatility as the rates rally unfolds

Our bullish rates view, including relative to the forwards, argues for EU rates vol to be lower in a year's time, and by more so than current forwards imply. We would argue that the lognormal vol regime for 1y10y EU vol in '24 is likely in the c.30-35% context, in line with current levels and where we had settled pre negative rates and QE. With our forecasts in the mid-2% area by 2H24, this would imply 1y10y normal vol levels between 75-95bp (centred around 85bp –Exhibit 5), down from c.100bp/annum currently. By comparison, 1y forward 1y10y vol is now implied at c.95bp, with 2y fwd 1y10y at c.85bp.

Exhibit 5: 1y10y EU vol vs. expected range for '24
Expected range for 1y10y vol c.75-95bp over '24

Source: BofA Global Research

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Exhibit 6: Spread of 1y10y to 1y1y vol
Left side now trading cheap to the right side

Source: BofA Global Research

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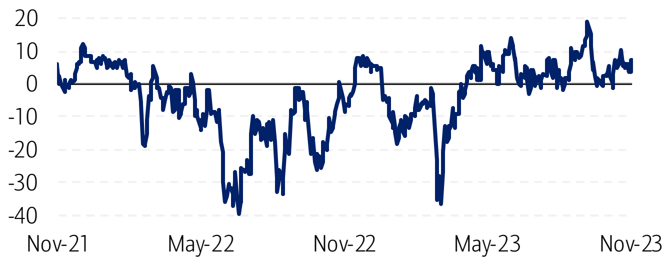
Start of cutting cycle implies underperformance of left-hand side in 1-2y expiries

The start of the cutting cycle in mid 2024 also points to the potential for the left side of the grid to underperform the right side, in 1-2y expiries. Our baseline is for 1y1y to trade around 5bp below 1y10y by end of 2024, i.e., at around 80bp considering the 85bp mid-point for 1y10y vol. This is based on the historical relationship between 1y1y vol and: the 1y fwd 2s10s curve, 1y10y rate and 1y10y vol. That would represent a cheapening of c.10bp for the left vs right hand side (Exhibit 6), probably a lot more modest than the cheapening potential in the US grid where the left still retains a large c. 30bp premium.

Transition from on hold to cuts may not be smooth implies gamma supported

As in the dynamic of gamma vs intermediates on the US grid, the spectrum of macro risks is likely to cap the potential for the term structure of volatility to steepen significantly in '24. There will likely be periods of inversion of the term structure of volatility over '24, and we see levels c.10bp for the spread of 1m10y to 1y10y vol likely provide scope to short gamma opportunistically. Systematic short gamma positions may suffer however, as it tends to happen in periods of transition in monetary policy stance.

Exhibit 7: Spread of 1y10y to 1m10y vol
Term structure of volatility broadly steep since mid-2Q '23



Source: BofA Global Research

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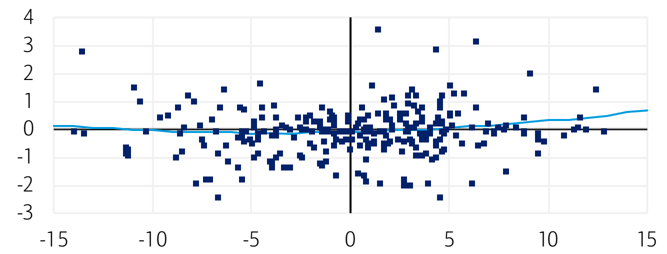
Exhibit 8: Daily changes of 5y30y vol vs 5y30y forwards
Long dated vega relatively insensitive to rates with limited positive convexity



Source: BofA Global Research

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… but 3 US vs EU differences could be traded in vol

1. Risks around neutral rate pricing skewed higher in the US, lower in EU

Relative to the US, we see the risks around the belly of the Euro Area rates curve as skewed towards: (a) a more significant receiver tail, as a return to the pre-Covid assessment of neutral rates (1% max in EU, 2.5% in US) would result in a larger rally in belly forwards in EU (the trough in overnight rate is priced at 3.7% for US vs 2.45% for EU); and (b) a less significant payer tail (less scope for a hawkish repricing of neutral). According to our economists' analysis, if there is any region where the neutral rate may have moved higher post Covid, it would be the US – Global Macro Year Ahead. Any upside surprises in data over the coming months presents a greater risk of a retest of the recent highs in US rates, as the effects are compounded by increased supply.

We **buy $100mln 6m5y ATM+75bp payer in USD (4.75% strike) fully funded by the sale of €92mln 6m5y ATM+50bp payer in EU (3.42% strike)**. We target $600K, with stop at -$400K. The risk to the trade is a selloff in EU rates vs US rates.

2. Factors affecting Curve dynamics mean greater flattening risks in EU

In 2s10s: A repricing of the terminal/neutral rate lower can limit the steepening in 2s10s curve (see Anatomy of cutting cycle). As discussed above, this is more relevant for EU than US. In addition, the larger incremental increase in US bond issuance next year creates more steepening potential relative to EU. Finally, as the ECB is perceived to be the most committed to the 2% target, it would likely be seen as most responsive to an energy price shock, providing greater scope for a curve bear flattening. Conversely, the Fed would been seen as more responsive to a negative shock, bringing forward cuts.

We buy a **1y fwd EU floor on 2s10s (20bp out) vs selling it in USD, receiving 15bp**. We target P&L of 40bp & stop at -20bp. Main risk is a EZ shock & rapid ECB cuts.

In 10s30s: We expect the EU long-end to be resilient to global steepening pressures in the next few quarters: near term, Dutch pension fund receiving can slow the steepening (Global Rates Weekly, 10-Nov). Thereafter, receiving flows from European issuers can emerge. The need to close funding gaps, recent limited appetite for MtM risk in swaps, and conservative cash management mean that these flows can appear if/when the bullish fixed income momentum strengthens. This would limit the potential for a large EU bull steepening dynamic in 1H24. We express this in outright space with a 10s30s EU-US box. In vol, this argues for limiting conditional bull steepeners to the US side. It also suggests 1y30y EU vol can retain a greater premium vs delivered and vs rates.

3. Vega: EU less sensitive to forwards, but still a good buy

The dynamic of vega has been relatively insensitive to the forwards (see Exhibit 8), contrary to what we have seen in the US volatility grid. Broadly we continue to like long dated vega exposures in portfolios, as a positive vol carry (5y30 vol rolls up into 91bp in 2y30y) macro hedge, but we prefer to express these exposures in the US vol grid. Nevertheless, levels in the mid-60bp range seem attractive for 5y30y EU vol. This is specially the case given the potential structural changes in Dutch Pension Fund flows (less receiving) when the switch to Defined Contribution system takes place in '26-27.

Volatility – JP

Bruno Braizinha, CFA
BofAS

- We expect 1y10y vol c.60-70bp over '24 & 1y1y vol around the midpoint of that range (with a bias towards the lower end in 1H24, and the upper end in 2H24). Broadly, these are c.10-15 normals higher from current levels.
- We favor: costless 6m7y payer ladders & 1y fwd 5s30s bear flatteners.

Roadmap for curve and vol over the cycle

Generally, there is a roadmap for the dynamic of the curve and volatility over the cycle. The template is usually the following:

- **Early cycle = Bear steepening = Right side vol outperforms** – Fundamentals improve out of the recession, and backend yields push higher even as monetary policy stays on hold. The curve bear steepens, and the right side of the vol grid gets bid even as left side vol stays relatively anchored by on-hold policy.
- **Mid cycle = Bear flattening = Left side vol outperforms** – The economy improves to such an extent that on-hold guidance loses credibility at a 3-5y horizon. The belly un-anchors, and the curve starts to bear flatten first in 5s30s (short the belly vs the wings) and a couple of quarters later 2s10s (investors shift from short the belly to 2s10s bear flatteners at this point).

  In vol space, market participants may use the richness of the right-side vs the left-side to pre-empt the shift of curve dynamic to bear flattening. Bear flatteners sell right side vol (payers) vs belly or left side and see significant pickups vs the fwds. Generally, the vol grid starts to see a bid for belly vol before the belly un-anchors. To some extent we are seeing this dynamic at play currently in the recent moves on the Japanese vol grid (see Exhibit 9, Exhibit 10 and Waking up or pressing snooze?).
- **Late cycle = Still flattening, but higher bull flattening frequency = Higher vol** – Policy rates overshoot neutral rate expectations and financial conditions tighten. Macroeconomic data dispersion starts to increase, which supports vol broadly, but also starts to support backend yields (more mixed data) even as the monetary policy may continue to tighten. This dynamic increases the frequency of bull flattening moves in the broader flattening dynamic of the late cycle.

  Early in the late cycle left side vol is generally rich vs the right. Investors can use this to pre-empt the change in curve dynamic and buy cheap receivers on the right vs rich receivers on the left in conditional bull flatteners (which pickup to the fwds – they sell rich vol on the left to buy cheap vol on the right).
- **Slowdown / recession = Bull steepening = Lower left side vol** – As the slowdown starts to materialize and recession odds increase, monetary policy shifts first to on-hold and subsequently to outright policy easing (rate cuts). The curve dynamic shifts to bull steepening. In vol, we see underperformance of the left side of the grid vs the right side. The US & European grids have to some extent reflected this dynamic over the last couple of quarters (left side underperformance).

Where is the Japanese grid in this context?

The Japanese yield curve and vol grid dynamics have shown material idiosyncrasies vs this generic roadmap in recent years, driven by a low growth & inflation environment, and the implementation of policy tools to address this context (QE, NIRP & YCC). All of these suppress vol, and generally keep curves flatter. The expectation is to see some level of recoupling of Japanese yields and vol dynamics to the above roadmap in '24.

Exhibit 9: Changes on the Japanese vol grid...
... since late June '24

	1y	2y	3y	5y	7y	10y	30y
1m	6	10	12	13	11	10	15
3m	8	11	13	13	12	10	12
6m	9	11	12	12	11	9	7
1y	10	11	12	11	9	7	8
2y	13	14	13	11	10	9	12
3y	15	14	13	11	10	10	12
4y	14	13	13	12	12	12	13
5y	14	13	13	13	13	14	14
10y	12	13	13	13	14	14	10
15y	14	14	14	14	14	14	10
30y	10	10	10	10	10	10	8

Source: BofA Global Research

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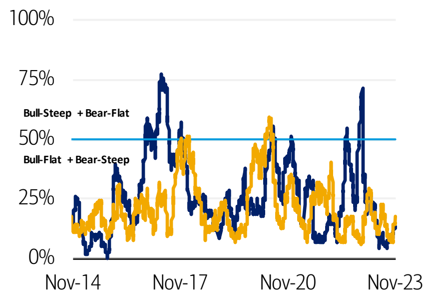
Exhibit 10: Japanese curve directionality
2s10s (blue) and 5s30s (orange) far from levels that reflect un-anchoring (~40-50%)



Source: BofA Global research

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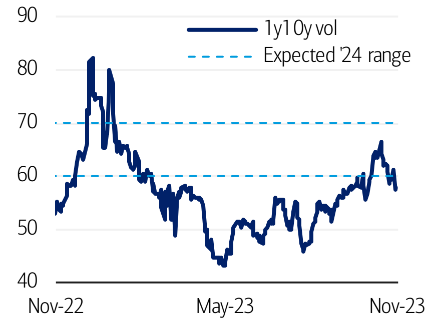
Exhibit 11: 1y10y vol and '24 expected range
60-70bp expected range for 1y10y vol



Source: BofA Global Research; Bloomberg

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Higher vol in '24 ... c.10-15 normals from current levels

We expect to see the BoJ exit NIRP in Jan '24 and reduce JGB purchases which will allow for a higher degree of freedom on the curve (backstop for level of 10y yields at 1.5% vs a target of 1.3% for end '24). Broadly these support higher yields and upward pressure on volatility in '24.

Yet, our expectations for the BoJ policy trajectory (an additional hike to 0.25% in 4Q24 and to 0.5% by 2Q25) are far from the of type of policy expectations that drive a clear change in the dynamic of the curve and volatility into a proper mid-cycle dynamic. On the curve, this is reflected by relative tamed expectations for a shift in dynamic from the recent bear steepening into a slight bear flattening bias.

In vol, the best parallel we can find in recent history is the tentative start of the Fed tightening cycle between late '15 and '16 – with a c.35-45% lognormal vol regime for 1y10y, and the left side trading still relatively cheap to the right side. At constant spreads these imply a c.60-70bp range for 1y10y vol (see Exhibit 11), with 1y1y vol likely trading around the midpoint of that range (with a bias towards the lower end of the range in 1H24, and the upper end of the range in 2H24). Broadly, we are looking at volatility levels in '24 c.10-15 normals higher from current levels, but still far from a mean reversion to a proper mid-cycle dynamic for the curve and vol in '24.

Trade recommendations

We expect higher rates and higher vol in '24. However, we see the potential for the selloff to extend beyond 1.5% for 10y JGBs (1.7% for swap levels at constant spreads) relatively capped. The left side is likely to move more in parallel vs the right from here. We favour:

- **Costless 6m7y payer ladders ATM/+20bp/+40bp** (indicative), with max upside in the 1.16-1.36% range for 7y rates, and downside breakeven c.1.56%. The main risk on the position is a more aggressive than expected pace of policy tightening, with potentially unlimited downside.
- **Costless 1y fwd 5s30s bear flatteners**, with a pickup of c.13bp to the forwards (fwds currently c.85bp, vs entry level on the position c.98bp) The main risk on the position is a further bear steepening on the curve (beyond the OTM strike on the short 30y leg) with potentially unlimited downside.

Volatility – AU

Bruno Braizinha, CFA
BofAS

- Lower vol with 1y10 expected in the c.85-105 range over '24.
- We favor: costless 1y fwd 2s10s bull steepeners and long 1y5y receiver spreads outright or financed by selling 3m5y receivers (proxy for receiver calendars).

Lower vol in '24

Expectations for lower yields (3.9% target for the 10y at year end '24) and an RBA shift to on-hold with cuts expected early in '25 drive a baseline view for lower vol and the potential for underperformance of the left side of the grid vs the right side over '24.

We expect 1y10y log vol in the 20-25% context, which at constant spreads implies a range for 1y10y normal vol c.85-105bp (c.30bp lower relative to current levels – see Exhibit 12). Significantly (and contrary to what we see in the US vol grid), the left side of the AU vol grid is already trading cheap to the right side (see Exhibit 13), i.e., the AU rates vol market is ahead of the US rates vol market in pricing a policy shift to on-hold.

Given the current left side cheapness, we expect the left side of the grid to move more in parallel with the right side over '24, with a midpoint for the 1y1y vol range c.80bp.

Bull steepeners

The 2s10s swap curve is projected to steepen from c.32bp currently to c.95bp by end '24 (vs. a 1y fwd 2s10s curve c.53bp). The richness of the right side of the grid vs. the left side allows investors to position for a bull steepening bias conditionally with a pickup to the forwards. We favour **costless 1y fwd 2s10s bull steepeners**, which picks c.9bp to the forwards (indicative). The main risk on the position is a bull flattening dynamic on the curve (potentially driven by an RBA that stays behind the curve in a context where fundamentals deteriorate materially) with potentially unlimited downside.

Exhibit 12: 1y10y vol vs expected range for '24
85-105bp range expected for 1y10y vol

Source: BofA Global Research

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Exhibit 13: 1y10y vs 1y1y volatility spread
Left side of the grid already trading cheap to the right side

Source: BofA Global Research

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Receiver spreads or proxies for receiver calendars

We continue to like **1y5y receiver spreads** (see AU rates vol – Distortions on the grid, currently 17.5bp) to leverage our baseline soft-landing view. The downside on this position is capped to the upfront premium.

A sticky inflation context is likely to leave the RBA on hold near term, but our macro backdrop for '24 allows for some pricing of rate cuts later in '24. In this context, it makes sense also to **finance the 1y5y receivers spreads ATM/-40bp by selling 3m5y receivers ATM-12bp** (costless indicative). Because we are selling the shorter expiry receivers, this position is exposed to scenarios where the RBA cuts near term and hikes medium term, with potentially unlimited downside.

Analyst Certification

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