US Rates Viewpoint

Postcard from Mexico – Nibble at c.5%

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Value vs fundamentals & global yield dynamic

10yT trade c.60bp cheap vs current fundamentals reflecting expectation for a significant further upgrade for the macro backdrop over the next 3-6m. In our global yield framework, we see c.50bp of cheapness of US yields vs the dynamic of global yields.

Term premium – back to pre-GFC regime

Term premiums have now mean reverted to the pre-GFC regime. The spread between 10y and 2y ACM term premiums at the peak of the '04/06 cycle averaged c.50bp, in line with current levels c.50-55bp.

Neutral rate – repricing still short of pre-GFC levels

Our curve framework suggests a recent repricing of neutral rate expectations to c.3.75%. A further 25bp repricing would push neutral rate expectations into the pre-GFC regime (c.4-4.25%), likely driving 10yT yields to c.5-5.25% levels. We see the potential for the neutral to continue to lead the bearish rates dynamic beyond these levels relatively capped, particularly the potential growth (real yield) component of the neutral.

Range of outcomes

We see 4 potential scenarios for the 10yT over the next couple of quarters. On the bullish side hard landing can take 10yT yields to their c.3-3.25% steady state, while soft landing scenarios imply c.4-4.25%. On the bearish side, scenarios of steady resilience likely imply c.5-5.25% yields, while reacceleration scenarios may push yields > 5.5%. Over the summer the market moved expectations from soft landing to steady resilience.

10-15% reacceleration probability & 10y > 5.5%

Historical transition probabilities suggest c.20% probability of a shift to a risk-off regime (hard landing ~ 3-3.25% for 10yT) from the current context, c.25% probability of moderate risk-off (soft landing ~ 4-4.25% for 10yT), c.45% probability of moderate risk-on (steady resilience ~ 5-5.25% for 10yT), and 10-15% probability of outright risk-on (reacceleration with 10yT yields > 5.5%). Relative to historical transition probability we see more mass on the tails of the distribution, and a skew towards soft landing vs. steady resilience.

Nibble on 10yT at c.5% levels

Our analysis suggests some support for UST allocations over the next quarter. We recommend nibbling on duration at c.5% levels. The main caveat: portfolios may accrue fewer benefits from duration allocations in the current context, at least up until the point where the market enters a risk-off dynamic. However, valuations look compelling from a cycle perspective. As Fed policy shifts to on-hold, and neutral and term premium repricing exhaust themselves as bearish drivers, it is likely that on a relative basis sovereigns perform better over the next quarters. Significantly also, risky assets seem to be trading historically tight vs bond yields which creates scope for negative feedback loops between further bond selloffs and the dynamic of risk.

BE – Inflation breakevens

c. – circa (approximately)

GFC – '08 Great Financial Crisis

SEP – Summary of Economic Projections

UST – US Treasuries

Refer to important disclosures on page 10 to 11. Analyst Certification on page 9. 12619448

Timestamp: 31 October 2023 07:38AM EDT

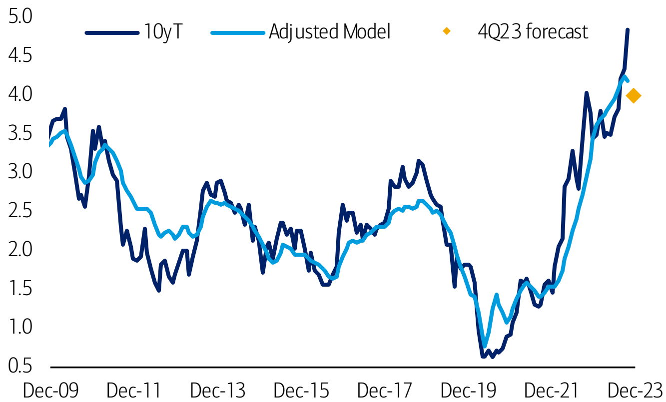
1. 50-60bp of value for 10yT vs fundamentals & global yields.

Fair value for 10yT vs current US macro fundamentals c.4.25% (see Exhibit 1). 10yT trade with both current fundamentals and forward-looking expectations, and the c.60bp of cheapness of 10yT vs current fundamentals likely reflects expectation for a significant further upgrade for the macro backdrop over the next 3-6m.

In our global yield framework (see Exhibit 2), we see 10yT fair value at c.4.35%, and roughly 50bp of cheapness of US yields vs the dynamic of global yields, at a point in the cycle where USTs tend to trade fair or rich vs global yields.

Drivers for the cheapening include a repricing of term premium and neutral rate expectations over the summer.

Exhibit 1: 10yT macro framework
Current 10yT fair value c.4.25%



Source: BofA Global Research; Bloomberg

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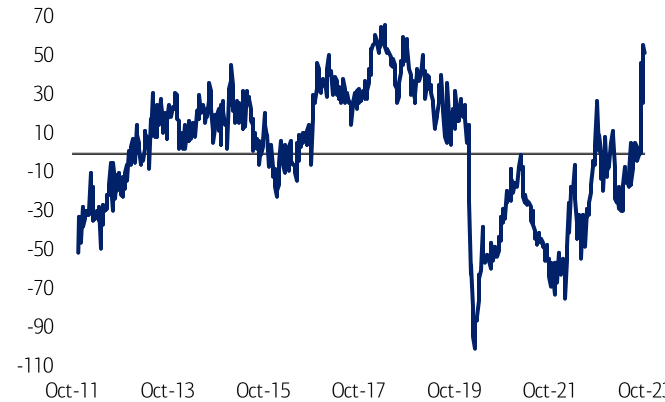
Exhibit 2: Global yield framework
10yT fair value c.4.35% in our global yield framework



Source: BofA Global Research

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2. Term premium back to the pre-GFC regime

Term premiums have now mean reverted to the pre-GFC regime. The term premium dynamic is mainly driven by the fed cycle, tightening as the Fed tightens policy rates and widening as the Fed cuts rates. The best historical comparison for current UST term premiums is therefore the peak of the '04/06 tightening cycle, when the Fed reached 5.25% policy rates. The spread between 10y and 2y ACM term premiums averaged c.50bp in that context, in line with current levels c.50-55bp (see Exhibit 3).

Exhibit 3: Spread of 10y vs 2y ACM term premiums
Current spread c.50-55bp, in the context of the levels reach at the peak of the '04/06 tightening cycle

Source: BofA Global Research; Bloomberg

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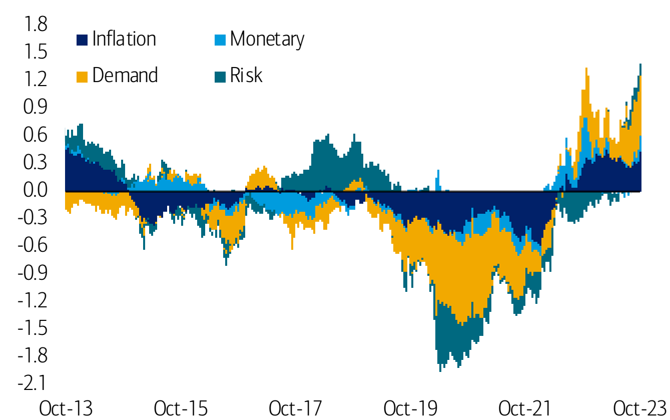
Exhibit 4: Decomposition of the 10yT dynamic
Monetary policy c.20bp, Risk c.10bp; Inflation c.45bp & Demand c.65bp



Source: BofA Global Research

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3. Neutral rate repricing still short of pre-GFC levels

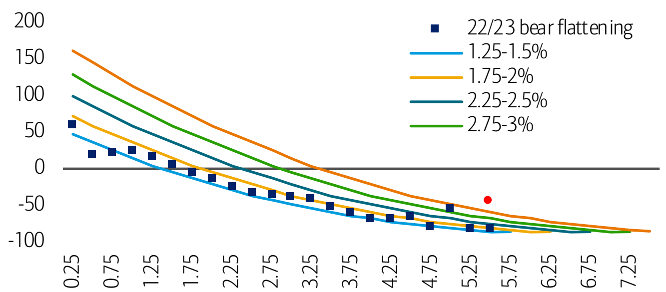
As we argued in recent publications, we have seen indications of a repricing of neutral range expectations across a range of metrics, for example in the upward drift of the steady state for 10yT (from c.2% in early '22 to closer to c.3% currently) in our decomposition of the 10yT dynamic as a function of monetary policy, risk, demand, and inflation shocks (see Exhibit 4).

However, agreeing on the degree of this repricing is more challenging. The steady state extracted from the 10yT decomposition suggests 100bp higher to c.3%, but the upward drift here is expected to adjust slowly as the model is calibrated on 10y windows.

Recently, we proposed using the bear-flattening and bull-steepening dynamic of the curve with the Fed tightening and easing cycles, respectively, as a way to determine the degree of the recent neutral repricing (see [The curve dynamic & the neutral rate]). We find that most of the bear flattening dynamic in the current cycle seems consistent with a neutral rate c.2%, however, the recent steepening suggests an upgrade of neutral to levels in the 3.75% context (see Exhibit 5). Significantly, the steepening dynamic implied by 2s10s curve forwards vs 3m OIS forwards also suggest a repricing of neutral rate expectations to levels > 3.5% (see Exhibit 6).

Exhibit 5: The flattening dynamic in '22/23 vs generic bear flattening trajectories and implications for neutral rate expectations

Most of the bear flattening dynamic in the current cycle seems consistent with a neutral rate c.2%. Recent steepening suggests neutral c.3.75%.



Source: BofA Global Research

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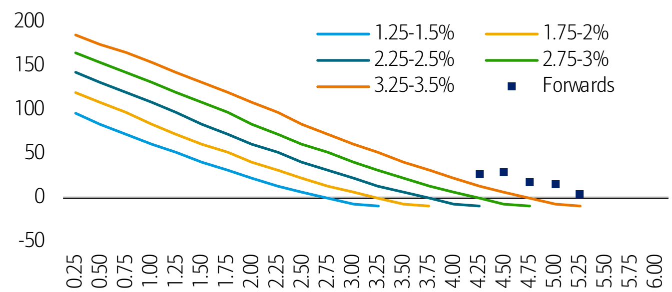
Exhibit 6: Expectations for the bull steepening dynamic in the upcoming easing cycle contingent on the market view for the neutral

2s10s curve forwards vs 3m OIS forwards imply a steepening dynamic consistent with neutral rate expectations also > 3.5%



Source: BofA Global Research

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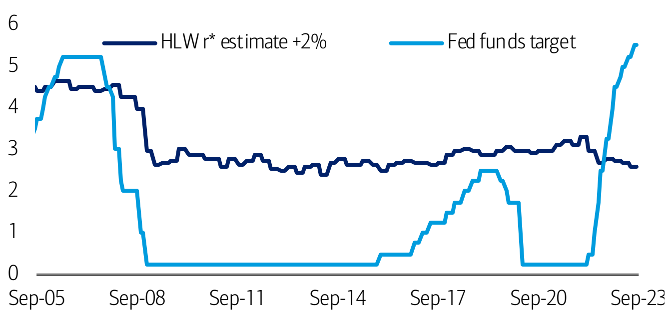
Our curve framework therefore suggests a recent repricing of neutral rate expectations to c.3.75%, short of the c.4.25% pre-GFC regime (see Exhibit 7). A further 25bp repricing would push neutral rate expectations into the pre-GFC regime (c.4-4.25%), likely driving 10yT yields to c.5-5.25% levels. However, we see the potential for the neutral to continue to lead the bearish rates dynamic beyond these levels relatively capped.

Exhibit 7: Fed funds target vs HLW estimate for real r* + 2%

Fed tightened c.75bp > nominal r* in the '04/06 tightening cycle, and potentially 275-300bp in the current cycle



Source: BofA Global Research, FRB; Bloomberg

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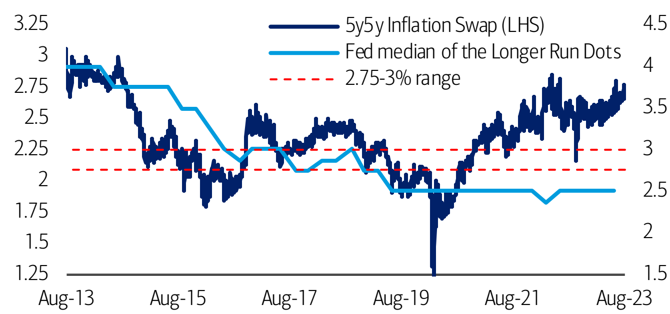
Exhibit 8: Median of the Longer run dots and 5y5y inflation

Median of the longer run Fed dots (proxy for the Fed's view of the neutral) has decoupled from longer term inflation expectations recently



Source: BofA Global Research

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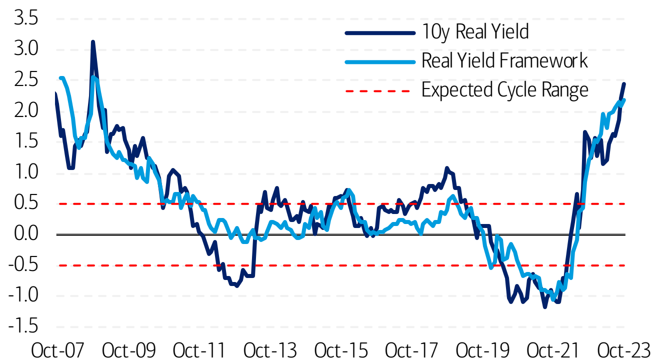
Neutral repricing led by the potential growth component

Expectations for the nominal neutral rate can be decomposed into potential growth and longer-term inflation components. In the dynamic of rates, these are generally expressed differently, the former through real yield and the latter though breakeven driven moves.

In the repricing of neutral rate expectations over the decade preceding the covid crisis (where the longer run dot moved from c.4-4.25% to c.2.5% – light blue line in Exhibit 8), US potential growth may have contributed to c.1/3 of the repricing (the view for potential growth fell from 2.25% to 1.75% between '12 and pre-covid) while longer term inflation expectations drove c.2/3 of the repricing (5y5y inflation collapsed from c.3% into low-2% levels – see dark blue line in Exhibit 8).

Significantly, much of the neutral repricing over the summer was led by the potential growth component, and the moves in nominal yields led the real yield component (10y breakevens widened by c.10bp over the summer, while 10y real yields moved c.60bp higher – see Exhibit 9). 10y real yields have now mean reverted to pre-GFC levels, but longer-term inflation expectations are still short of a full mean reversion (5y5y inflation currently c. 2.75% vs c.3% average for the pre-GFC regime – see Exhibit 8).

Exhibit 9: Macro framework for 10y real yields
10y real yields have reverted back to pre-GFC levels



Source: BofA Global Research, Bloomberg

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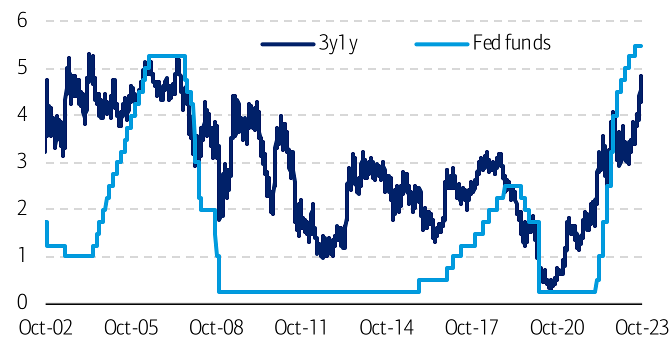
Exhibit 10: Fed funds target vs 3y1y forwards
3y1y forwards overestimate neutral expectations when the market prices higher no-landing probabilities. 3y1y now c.4.65%.



Source: Bloomberg

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Shortcomings of 3y1y fwd as a proxy for neutral

The 3y1y rate is often seen as a proxy for the neutral. Broadly this makes sense, but the underlying assumption for using the 3y1y as a proxy for the neutral in the late cycle is that Fed tightening will slow the economy down medium term, and therefore policy rates will need to be back to neutral at that horizon (the belly of the curve).

However, in a context where the market starts to price higher odds of no-landing scenarios for the US economy, as it has been the case over the summer, the 3y1y decouples from the neutral. In our view, therefore, the 4.75% levels for 3y1y are not a reflection of where the market sees the neutral. The recent 3y1y dynamic reflects the recent neutral repricing but extended beyond it on higher no-landing odds.

4. Discretizing scenarios

We discretize the range of outcomes for US rates over the next couple of quarters into 4 potential scenarios, two bullish scenarios (hard landing & soft landing) and two bearish scenarios (steady resilience & reacceleration).

Bullish case scenario

- **Hard landing** – In harder landing scenarios for the US economy where data recouples materially to the downside, cuts are frontloaded, the curve bull steepens (likely first in 5s30s and closer to the first cut in 2s10s), and 10yT yields reach 3.25% (±25bp) which we view as closer to the steady state over the cycle.

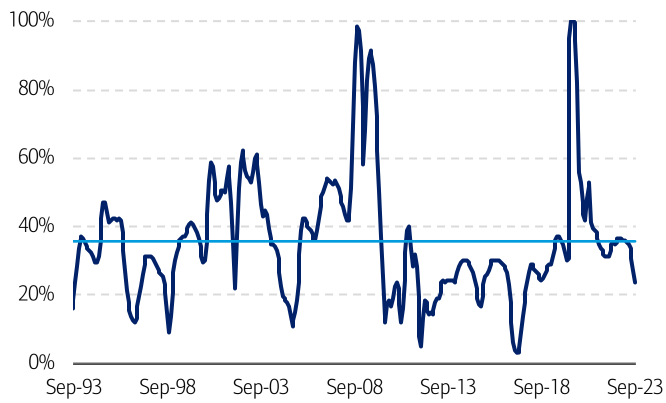
- **Soft landing** – In soft landing scenarios the 10yT likely recouples to c.4-4.25% levels as monetary policy lags unfold slowly, and the US growth converges levels >0 but < potential (likely slightly higher than the 1.75% levels suggested by the Fed SEP) context. We favor receiving 3y1y rates in this context, as belly forwards are likely to start to feel the gravity from a lower neutral (around 3-3.25%).

Bearish scenarios

- **Steady resilience** – In scenarios of steady resilience the market view for US growth converges fully to the pre-GFC regime, and inflation expectations continue to be relatively anchored. The Fed stays on hold. The recent drivers for the bearish dynamic (term premium and neutral repricing, and the latter through the potential growth component) exhaust themselves at c.5-5.25% levels for 10yT. Significant levels of uncertainty (see Exhibit 11) continue to drive some pricing of Fed cuts at a 1y horizon (see Exhibit 12), and in that context 10yT yields trade at a slight premium to frontend yields (i.e., 10yT yields < c.5.25%)
- **Re-acceleration** – In these scenarios the economy either re-accelerates or stays resilient but sees a recoupling of growth and inflation fundamentals. These are likely to drive a full pricing out of Fed cuts from the curve, and potentially the pricing in of hike expectations. 10yT likely push beyond c.5.5% in this context.

  It is difficult to estimate where yields may peak in this context, but if neutral rate expectations revert fully to the pre-GFC regime (c.4-4.25%) and we stay in the post Volcker regime where the Fed tightens by a maximum of 200bp vs. the neutral, then one can expect peak policy rates c. 6.25% in this scenario. For the 10yT, whereas in scenarios of steady resilience uncertainty drives the pricing of Fed cuts over the next 1-2y, in re-acceleration scenarios it is the certainty that the Fed must slowdown the economy. In practical terms, this means that it is also likely difficult for 10yT yields to trade at a discount to the frontend in this context (i.e., 10yT < c.6.25%).

Exhibit 11: Measure of market conviction
Conviction at the lowest levels since the '17 "Trump bump" selloff



Source: BofA Global Research

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Exhibit 12: Horizon pricing (y-axis in months) for the first Fed cut
Steady state for the pricing of the first Fed cut at c.7-10m horizon on a rolling basis

Source: BofA Global Research

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5. Estimating probability for different scenarios

The discrete scenarios above suggest that over the summer we saw an upgrade of the outlook from soft-landing scenarios to scenarios of steady resilience (10yT from c.4% to c.5%). In estimating probability for the above scenarios, we are particularly interest in:

- the breakdown in probability between scenarios 1+2 (bullish scenarios) and 3+4 (bearish scenarios) from current levels,
- and estimating the probability of scenario 4, as this scenario implies a significant further bearish upside from current levels.

Implying probability from the dynamic of 10y BEs

10y breakevens can move in one of 4 ways:

- bull-tighten = lower yield & tighter BEs = slowdown (scenarios 1+2)
- bear-widen = higher yields & wider BEs = expansion (scenarios 3+4)
- bull-widen = lower yields & wider BEs = stagflation
- bear-tighten = higher yields and tighter BEs = goldilocks

The first two are orthodox as they reflect positive correlations (and causality) between growth and inflation fundamentals. Together these dominate the dynamic of BEs over the cycle (c.80% frequency on average). The last two modes (stagflation and goldilocks) are non-orthodox and less structural (more transient), although goldilocks type moves may show up with higher frequencies in the early expansion phase of the cycle.

Monitoring the frequency of these different types of moves allows us to infer the probability that the market is assigning to each of implicit scenarios. Exhibit 13 suggests that the market is:

- assigning c.20-25% odds to slowdown scenarios (bull tightening = scenarios 1+2),
- assigning c.50-55% odds to resilience or expansion (bear widening = scenarios 3+4).

Significantly also, it is clear from this analysis that the summer selloff reflected higher odds of goldilocks scenarios (c.20-25% odds – see Exhibit 14), which makes sense as it was the potential growth component (real yields) of the neutral rate dynamic that led the repricing, with the longer term inflation component (inflation breakevens) lagging.

Exhibit 13: Breakdown of the dynamic of 10y breakevens into bull tightening & bear widening and bull widening & bear tightening.
Recent dynamic expresses higher chances of resilience/reacceleration (bear widening) or goldilocks (bear tightening) scenarios

	bull-tightening = slowdown	bear-widening = resilience	bull-widening = stagflation	bear-tightening = goldilocks
2w	25%	57%	5%	13%
1m	21%	50%	8%	22%
2m	20%	50%	6%	25%
3m	19%	53%	5%	24%

Source: BofA Global Research

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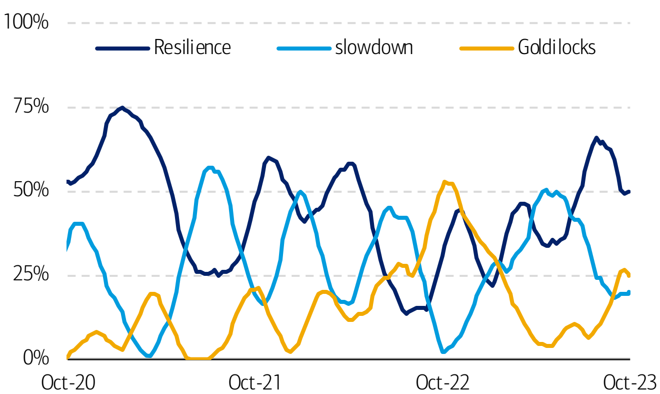
Exhibit 14: Evolution of the frequency of slowdown, resilience and goldilocks moves in the dynamic of 10y breakevens
Frequency of goldilocks moves picked up over the summer



Source: BofA Global Research

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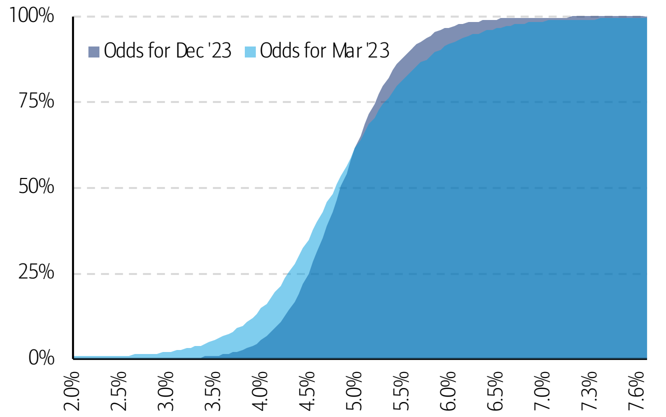
... and from the rates vol market

In Exhibit 15 we show the CDF for 10yT yields (at constant spreads vs SOFR rates) implied by the swaption market at 3m and 6m horizons. We currently see:

- c.15% probability of 10yT yields > c.5.5% by 1Q24 (re-acceleration expectations of scenario 4),
- c.10-20% probability of 10yT yields < c.4.25% by 1Q24 (deteriorating fundamentals beyond soft landing of scenario 2).

The vol market seems to be pricing lower probability of reacceleration expectations vs the BE dynamic, and similar probability of slowdown scenarios (soft landing or beyond).

Exhibit 15: 10yT CDF implied by SOFR options at constant spreads
15% odds of 10yT > c.5.5% over 4Q23 & 1Q24



Source: BofA Global research

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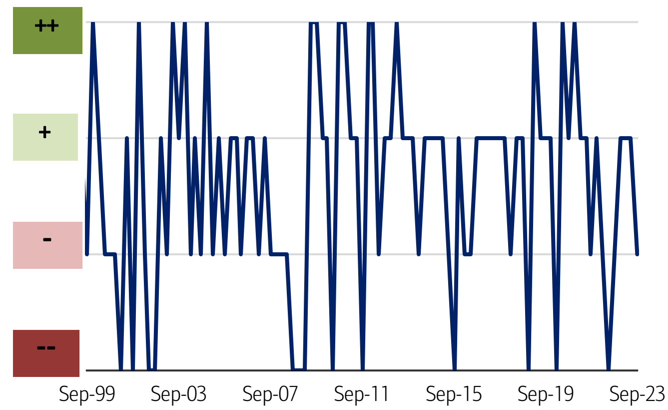
Exhibit 16: Regimes for quarterly performance across asset classes
US market dynamic in 3Q23 was closer to a moderate risk-off



Source: BofA Global Research

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Historical probability

In Allocations & Duration Demand - 4Q View, we noted how the x-asset return regime was downgraded from moderate risk-on in the first two quarters of '23, into moderate risk-off in 3Q23 (see Exhibit 16).

This analysis implies the quarter-ahead historical transition probabilities shown in Exhibit 17. In the current context it makes sense to map the risk off regime (--) to scenario 1 (hard landing), the moderate risk-off regime (-) broadly to scenario 2 (soft landing), the moderate risk-on regime (+) broadly to scenario 3 (steady resilience), and the risk-on regime (++) to scenario 4 (reacceleration).

Exhibit 17: Transition probabilities between different states for the US market dynamic
From moderate risk-off the highest transition probabilities are either into a moderate risk-on state (46%) or staying in moderate risk-off (23%)

	--	-	+	++
--	21%	7%	21%	50%
-	19%	23%	46%	12%
+	13%	33%	46%	9%
++	0%	26%	53%	21%

Source: BofA Global Research

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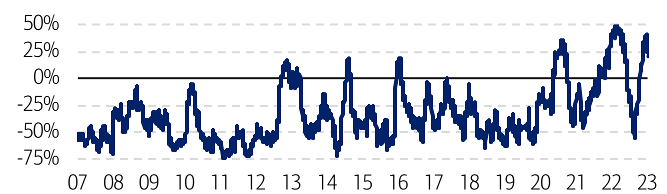
Exhibit 18: Bond / equity (3m) correlations
Shifting from negative to positive over last 3m



Source: BofA Global Research

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It is noteworthy that the moderate risk-off state is the lowest conviction / highest uncertainty in terms of the distribution of transition probabilities (closest to 25% across). From a moderate risk-off state, we can therefore expect in the quarter ahead:

- **Scenario 1** (hard landing) – c.20% probability of transition to outright risk-off
- **Scenario 2** (soft landing) – c.25% probability of staying broadly moderate risk off
- **Scenario 3** (steady resilience) – c.45% probability of transition to moderate risk-on
- **Scenario 4** (reacceleration) – 10-15% probability of transition to outright risk-on

Together these suggest 55-60% probability of an upgrade of risk sentiment over the next quarter (lower than the 70-80% implied by the dynamic of 10y BEs). We prefer to be more cautious in our expectations vs. these historical transition probabilities. We see odds more balanced in the current context between staying in a moderate risk-off state (-) and transitioning to moderate risk-on (+). The large uncertainty, low conviction, and wide range of outcomes noted above also likely imply higher probabilities for the tails: 20-25% for risk-off (--) and 10-15% for risk-on (++).

These transitions probabilities, along with the historical returns for the 4 regimes, allow the estimation of period ahead return expectations. Historically transition probabilities suggest some level of outperformance of sovereigns, linkers, and IG vs. equities and commodities. A more cautious stance (e.g., 22.5%, 35%, 30% and 12.5% respectively for --, -, + and ++ states, which is also closer to our economist's baseline view) supports a more significant outperformance.

One can also probability weight the expectations for 10yT yields under the 4 scenarios above (3-3.25% for scenario 1 which we map to risk-off, 4-4.25% for scenario 2 which we map to moderate risk-off, 5-5.25% for scenario 3 which we map to moderate risk-on, and > 5.5% for scenario 4 which we map to outright risk-on). Historical transition probabilities imply c.4.5-4.6% for 10yT, and c.15-20bp lower with the more cautious stance above on the transition probability.

6. Accrual of the utility of duration with the downgrade of risk

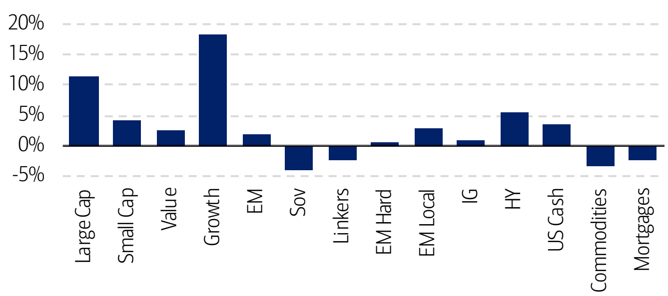
The results above suggest some support for UST allocations over the next quarter. In a recent note (see Allocations & Duration Demand - 4Q View) we saw optimal allocations to bonds in the 30% context for US portfolios, and 15-20% for Global portfolios (max 30% in a risk downgrade).

However, it is important to note that portfolios may accrue fewer benefits from duration allocations in the current context, at least up until the point where the market enters a risk-off dynamic. In soft-landing and steady resilience scenarios, the potential for a downgrade of earnings expectations is limited, and the discounting component of valuations continues to be a significant driver of the broader dynamic of risk. This caps the potential for negative correlations between bonds & equity returns (see Exhibit 18), and the diversification and hedging benefits of duration for portfolios. Also, duration is likely to remain the main shock absorber in these scenarios, and volatility in rates space may stay relatively elevated suggesting less of a role for duration as a dampener of volatility in portfolios.

On the other hand, as we noted above, valuations are rather compelling from a cycle perspective. Significantly also, on a relative basis, sovereign bonds were the worst performing asset in the first three quarters of the year (see Exhibit 19), not surprisingly perhaps with the Fed tightening policy and the market pricing a higher neutral and term premium on the curve. As Fed policy shifts to on-hold, and neutral and term premium repricing exhaust themselves as bearish drivers, it is likely that on a relative basis sovereigns will perform better over the next quarters (in line with the period ahead performance suggested by historical transition probabilities). Also on a relative basis, risky assets seem to be trading historically tight vs bond yields (see Exhibit 20), which creates scope for negative feedback loops between further bond selloffs and risk.

Exhibit 19: Asset class performance over the first 3 quarters of '23

Sovereign debt the worst performing assets over '23. As global central banks soften their tightening stance or move to on-hold expectations improve



Source: BofA Global Research; Bloomberg

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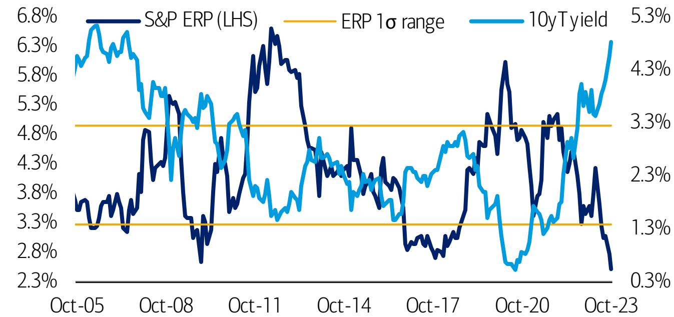
Exhibit 20: S&P equity risk premium (ERP) vs 10yT yields

ERP at the tightest levels since the '08 and early '17



Source: BofA Global Research; Bloomberg

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7. Putting it all together

Treasuries trade cheap vs current fundamentals and the recent dynamic of global yields.

The recent bearish dynamic has been driven by a buildup of term premium on the curve, and the repricing of nominal neutral rate expectations (particularly the potential growth component of the neutral).

Term premiums have repriced to the pre-GFC regime. We see c.3.75% neutral rate expectations reflected in the recent rates dynamic, just short of the c.4-4.25% range of the pre-GFC regime

The bearish drivers for the recent selloff (term premium and neutral repricing) may exhaust themselves at c.5-5.25% for 10yT in a mean reversion to the pre-GFC regime.

Our baseline view for the quarter ahead is between soft-landing and steady resilience, between scenario 2 and scenario 3, and between 4-4.25% and 5-5.25% for 10yT yields. Over the summer the market upgraded expectations for the US outlook from soft-landing scenarios to scenarios of steady resilience.

On a relative basis sovereigns were the worst performing asset in the first 3 quarters of the year. As Fed policy shifts to on-hold, and neutral and term premium repricing exhaust themselves as bearish drivers, it is likely that sovereigns will perform better over the next quarters on a relative basis.

Risky assets seem to be trading historically tight vs bond yields, which creates scope for negative feedback loops between further bond selloffs and risk.

We see LT value for USTs at c.5% in this context, and favor adding to duration on dips to these levels.

There is a wide range of outcomes (from 3-3.25% for 10yT in hard landing scenarios to > 5.5% in reacceleration), and significant odds at the tails of the distribution. Portfolios should hedge the tails. We favor being long vol of vol, short left side vs right side of the grid, receive in 3y1y forwards to position for our economists soft landing baseline view, and long frontend OTM payers to hedge reacceleration scenarios.

Analyst Certification

I, Bruno Braizinha, CFA, hereby certify that the views expressed in this research report accurately reflect my personal views about the subject securities and issuers. I also certify that no part of my compensation was, is, or will be, directly or indirectly, related to the specific recommendations or view expressed in this research report.

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