US Rates Viewpoint

Postcard from NY – Range of Outcomes

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Rates Research
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3 drivers of the selloff

The summer selloff (10yT c.70bp higher since early June) has in our view been driven by a combination of factors, including: (1) resilient data; (2) term premium buildup; and (3) a repricing of neutral rate expectations.

3 drivers of economic resilience

The drivers of the economic resilience against a backdrop of c.250-300bp of tightening vs neutral has been a key question from clients. Drivers may include: (1) policy lag, which suggests the impact of tightening is yet to peak; (2) an economy that may be transiently more resilient to policy tightening in the current cycle; and (3) a higher neutral rate, suggesting Fed officials may not be as restrictive as they think they are.

Range of outcomes

Understanding the expected evolution of the drivers for the recent selloff and US economic resilience is critical to lay out expectations for the trajectory of rates going forward. We see 4 potential scenarios, with corresponding ranges for 10yT: hard landing from 2.5% to 3-3.25%; mild recession from 3-3.25% to 3.75%, soft-landing from 3.75% to 4.25%; and re-acceleration > 4.25%.

The likelihood shifted over the summer to the right side of the distribution, with an almost 80% probability assigned to soft-landing + re-acceleration or goldilocks scenarios. Our baseline is for data to recouple to soft landing scenarios over 4Q.

Curve dynamic and policy trajectory

Bias is for steepeners, but we favor the backend vs 2s10s: (1) potentially for 5s30s to bull steepen as intermediate forwards likely feel the gravity of a lower neutral c.3-3.25% in scenarios where data recouples to soft-landing; (2) 10s30s may bear steepen on further pressure from supply expectations on term premium. We favor the latter.

Volatility dynamic

A lower degree of dispersion (higher level of conviction) as the market recouples to soft landing scenarios and fades odds around the tails is likely to compound the Fed policy shift to an on-hold stance and help push volatility lower. The left side of the grid is likely to continue to outperform.

Bond/equity correlation and UST demand

Bond/equity correlations have recently turned positive again, highlighting the persistent challenge to the role of USTs as a hedge and a diversifier for portfolios. It is only under hard landing scenarios that we would expect correlations to turn more significantly and persistently negative. A recoupling to soft landing scenarios is likely to keep correlations in positive territory, compounding the challenges from higher supply and adding stickiness to the recent term premium buildup.

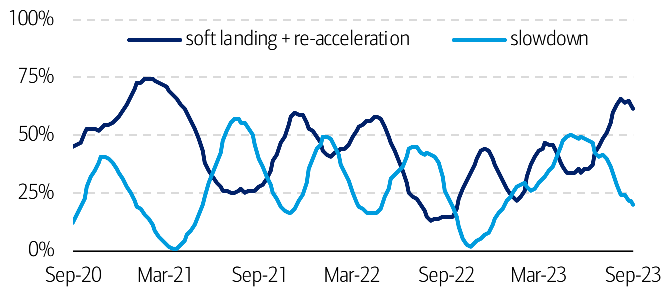
3 drivers for the summer selloff

We see three key drivers for the summer selloff (see Drivers for the recent selloff):

1. **Data resilience** – positive data surprises pushed the market away from slowdown scenarios (hard landing & mild recession) and towards soft-landing or reacceleration scenarios (see Exhibit 1). This cannot be the whole story, however, because better data in the context of a Fed tightening cycle (with a Fed already above neutral) generally leads to a hawkish repricing of policy expectations and bear flattening pressures on the curve. Instead, we saw a recent bear steepening bias on the curve.

Exhibit 1: Frequency of 10y BE moves associated with slowdown vs soft landing + reacceleration expectations

Soft-landing + reacceleration odds outpacing slowdown since late July



Source: BofA Global Research

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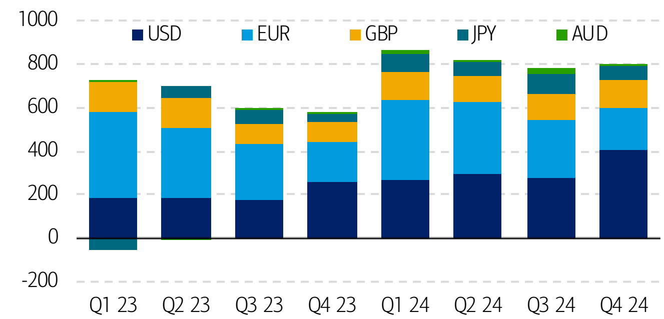
Exhibit 2: Quarterly net supply after central banks ($bn, 10y equiv)

Supply will pick up meaningfully in 2024



Source: BofA Global Research, Note: >1y maturities only

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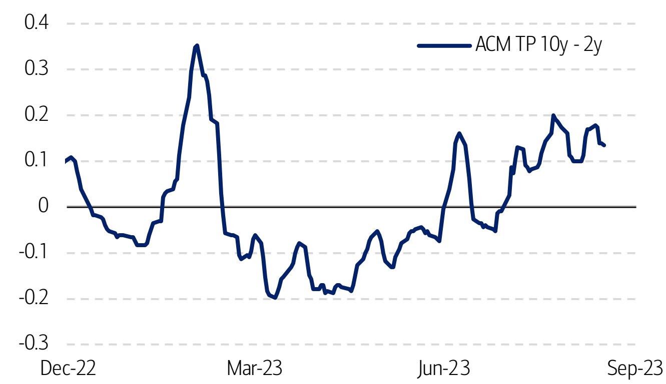
2. **Term premium** – shifting expectations for supply (see Global supply through 2024 and Exhibit 2), in a less than supportive backdrop for demand noted above, drove a buildup of term and risk premium on the curve. The downgrade of US debt added to this dynamic. These constitute a clear bear steepening pressure on the curve (up to 20bp of pressure on the 2s10s curve since late June – see Exhibit 3).

Exhibit 3: Spread of 10yT term premium vs 2yT term premium calculated in the ACM model

Weekly average (bp) higher by c.20bp since late July



Source: BofA Global Research; Bloomberg

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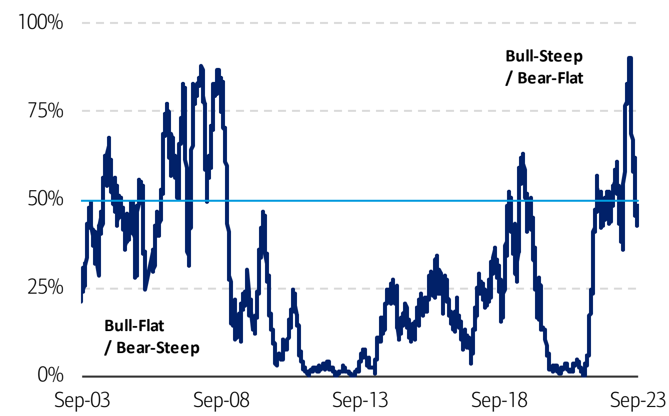
Exhibit 4: 2s10s directionality index (0% when 2yT fully anchored)

Higher degree of freedom in the 2y sector vs the post-GFC regime



Source: BofA Global research

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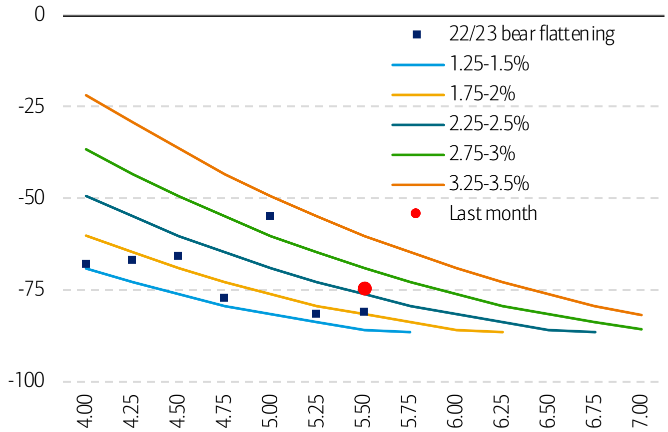
3. **Neutral rate repricing** – we have seen indications also of a c.50bp repricing of the neutral rate across a range of metrics, e.g. in: (1) the increase in the degree of freedom at the frontend of the curve (see The curve dynamic & the neutral rate and Exhibit 4); (2) the recent bear-steepening dynamic (see Exhibit 5); and (3) in the repricing of the steady state for the 10yT post-covid (see Monthly rates models and Exhibit 6). Broadly, upward pressure on the neutral is expected to drive a bear steepening dynamic on the curve, at least until it erodes the Fed tightening to such a degree that pushes the Fed into further tightening (that would require a much more significant neutral repricing beyond the c.50bp argued here).

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

Recent bear steepening suggests an upgrade of neutral to c.2.5%, and potentially to levels as high as c.3.1%



Source: BofA Global Research

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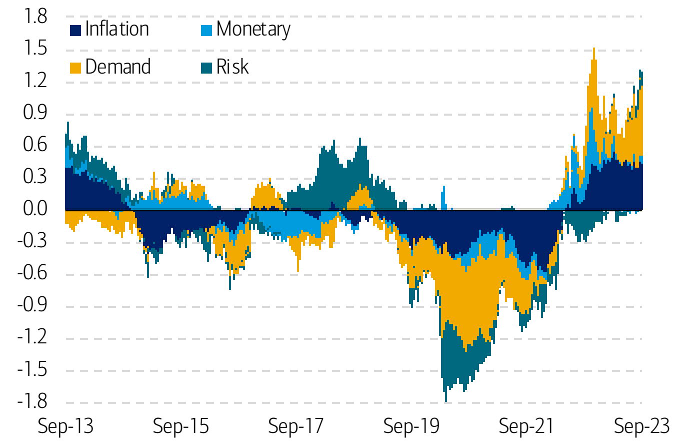
Exhibit 6: Decomposition of the 10yT dynamic

Monetary policy c.5bp, Risk c.10bp; Inflation c.45bp & Demand c.65bp. Steady state for 10yT has reset from c.2% by early '22 to c.2.6-2.7% currently, reflecting a repricing of the neutral of the neutral.



Source: BofA Global Research

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3 drivers for US economic resilience

Another key question from clients was around the drivers for the resilience of the US economy against a backdrop of c.300bp of Fed tightening vs the Fed's own view for the neutral (c.2.5%). Potential drivers for this resilience include:

1. **A higher neutral** – as we noted above, there are good reasons to believe the neutral has repriced higher and monetary may not be as tight as Fed officials think it is. However, even in the most optimistic scenarios for the neutral repricing (of c.100bp to c.3.5% in nominal terms if one uses 3y1y as a proxy for the market view for the neutral, and we will discuss below the issue with this assumption) the Fed is still c.200bp tight to the neutral, and that is just about as much as we have seen in the post-Volcker period.

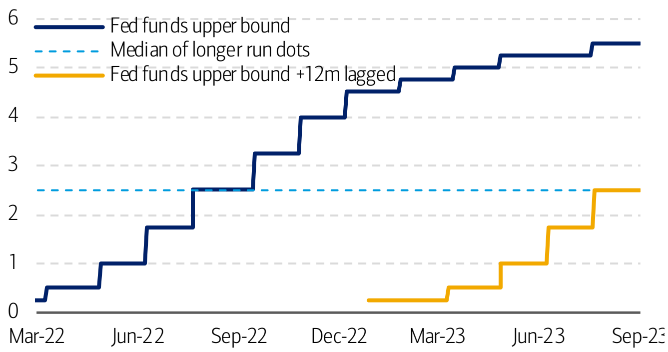
2. **A new hysteresis** – it is likely that the post covid demand shock has created economic distortions that increase the friction in how monetary policy propagates. An economy more resilient to tightening ties out to the next potential driver, i.e., the lags with which monetary policy operates. Even if friction is only transiently, it may increase monetary policy lags and implies higher policy rates for longer.

3. **Policy lags** – The Fed moved from neutral to restrictive territory only between September and November '22. Assuming 12m lags, it is only over 4Q23 that this shift to restrictive territory will be fully reflected in the economy (see Exhibit 7). This may have sustained the recent resilience, but by year-end '23 we may have seen a more significant recoupling of data back to soft landing scenarios, and potentially also higher odds of a mild recession.

Range of outcomes

Understanding the expected evolution of the drivers for the recent selloff and US economic resilience is critical to build expectations for the trajectory of rates going forward. Fundamentally, we see 4 potential scenarios: Hard landing, mild recession, soft-landing and re-acceleration. The market has converged to the right side of the range of outcomes over the summer (higher soft landing and reacceleration odds – see Exhibit 1). How the expectations for these four states evolve over the next couple of quarters will dictate the dynamic of rates, curve, and volatility.

Exhibit 7: Degree of tightening that may not be fully reflected in the economy if policy response functions operate with a 12m lag
Full impact of the set of 75bp hikes in '22 felt only over the 4Q23



Source: BofA Global Research estimates, company report

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Exhibit 8: Frequencies of different moves in the 10y BE dynamic
Bear widening dynamic moves (expectations for higher growth & higher inflation) continue to dominate the dynamic of 10y breakevens. Only c.20% probability assigned to slowdown scenarios.

	bull-Tight	bear-Wide	bull-Wide	bear-Tight
Current	16%	62%	3%	19%
1m	21%	57%	3%	19%
2m	20%	62%	2%	16%
3m	23%	63%	1%	13%

Source: BofA Global Research

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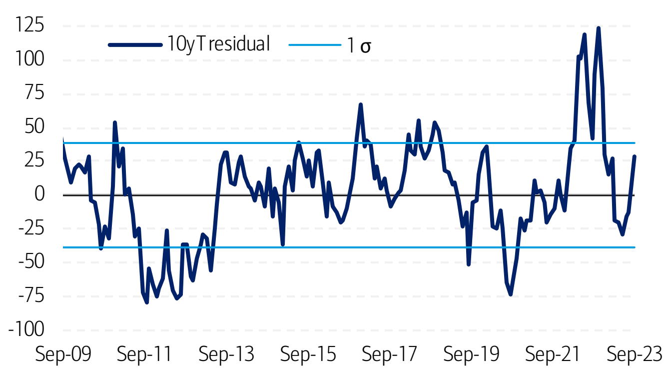
Probability distributions

We can monitor the probabilities that the market is assigning to different scenarios by looking at the frequency of different types of moves in the dynamic of 10y breakevens (see Postcard from Europe from 1 June '23).

The recent dynamic suggests almost 80% probability assigned to scenarios where resilience persists, and within those c.20% probability of goldilocks scenarios (higher growth and lower inflation = bear tightening – see Exhibit 8). This is a stark change from early June when the market was pricing c.60% probability of a slowdown.

In the summer repricing, therefore, the market shifted materially to the right side of the distribution of outcomes, and in our view, beyond the soft-landing scenarios that our economists see as baseline. This has pushed yields to reflect some degree of decoupling from: (1) current fundamentals to reflect expectations for a further upgrade of fundamentals ahead (10yT trading c.20-25bp cheap to macro fair value – Exhibit 9); and (2) to some degree from the dynamic of global yields reflecting scenarios for some decoupling of the US economy from the global backdrop (10yT trading 15-20bp cheap to fair values implied by global yields, relatively unorthodox in the late cycle – Exhibit 10).

Exhibit 9: 10yT macro model residual
10yT cheap to current fundamentals by c.20-25bp, reflecting expectations for a further upgrade of fundamentals ahead



Source: BofA Global Research

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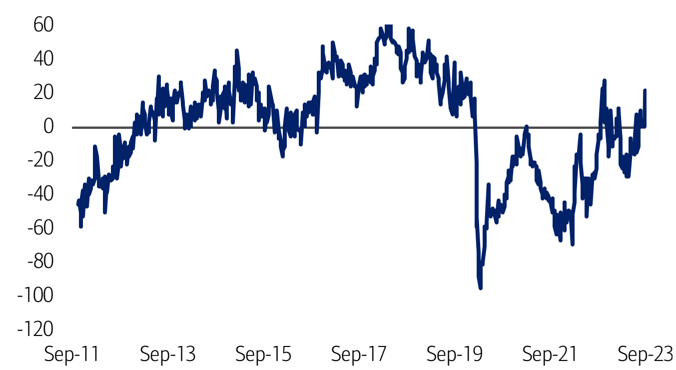
Exhibit 10: 10yT global yield framework residual
10yT cheap to global yields by c.15-20bp, reflecting expectations for a some degree of decoupling of US to global fundamentals



Source: BofA Global research

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We expect the term-premium and neutral components of the recent repricing to be sticky near/medium-term. These have likely pushed 10yT ranges slightly higher. We see:

- **Soft landing** scenarios consistent with 10y yields in the 3.75-4.25% range (our 10yT target for end-'23 is 4%).

- **Mild recession** scenarios imply lower yields between 3-3.25% and 3.75%. Over May and early June, with slowdown probability of c.60%, fundamentals were consistent with c.3.5-3.65% for 10yT. The 10yT reached c.3.3% in the March and early-April risk off wave, and we see the potential to revisit these lows or slightly below in scenarios where the market starts to see a mild recession materializing.
- **Hard landing** is expected to drive 10yT to levels around their steady state currently c.2.6-2.7% (see Exhibit 6). We see the 10yT range consistent with these hard landing scenarios between 2.5% and 3-3.25% (potentially lower in scenarios of more significant stress to financial stability).
- 10yT yields > 4.25% seem to be consistent with higher probabilities of reacceleration of the economy, which we think are unlikely when the Fed is c.200-250bp tight to prevailing views for the neutral.

The recent shift in probabilities to the right side of the range of outcomes pushed 10yT yields to levels beyond those consistent with soft landing scenarios. As lags unfold over 4Q and we expect macroeconomic data to recouple back to soft-landing scenarios, and 10yT yields to retrace back to c.4% levels (our end '23 target). Breaking 3.75% levels likely requires more balanced probabilities between slowdown and soft landing/re-acceleration scenarios, similarly to the early June context (see Exhibit 1).

Curve dynamic and policy trajectory

The different macro scenarios above also define different expectations for the policy trajectory (particularly the cuts priced on the curve for '24 and '25). It is useful to look at the degree of contingency of rates and volatility on these scenarios.

The market is currently pricing c.100bp of cuts in '24 and 75-100bp of cuts in '25. We shock these expectations to understand the potential impact of different scenarios on yields, curve, and volatility. We apply two types of shocks:

1. A persistent shock that is more likely to correspond to a repricing of neutral rate expectations around the tail scenarios, higher re-acceleration scenarios or lower in hard landing scenarios.
2. A frontloading/backloading of cuts (more cuts priced into '24 at the expense of '25, or vice versa), which is more likely to be driven by repricing of policy lags or economic friction to policy tightening (and we find more likely in shifts between mid-recession and soft-landing scenarios).

Exhibit 11: Bullish repricing of the policy trajectory (changes to 2y and 10yY yields in bps)
Recoupling to soft landing or faster than expected unfolding of policy lags

Scenario	#1	#2	#3	#4	#6	#7
2024	-50	-50	-50	-100	-100	-100
2025		-25	+50		-50	+100
2y	-30	-32	-26	-58	-63	-49
10y	-46	-66	-6	-92	-133	-12
2s10s	-16	-34	19	-34	-70	37

Source: BofA Global Research

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Exhibit 12: Bearish repricing of the policy trajectory (changes to 2y and 10yY yields in bps)
Higher-for-longer policy or upward repricing of neutral rate

Scenario	#1	#2	#3	#4	#5	#6
2024	+50	+50	+50	+100	+100	+100
2025		-25	-50		-50	-100
2y	26	24	21	54	49	45
10y	45	25	5	91	51	11
2s10s	19	2	-16	37	2	-33

Source: BofA Global Research

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Bullish scenarios

In bullish scenarios where lags start to unfold, macroeconomic data recouples back to soft landing expectations and probabilities of acceleration decrease. For the most part, we see the bullish shocks fading some of the recent upward pressure on the neutral:

- Scenarios where the market prices back cuts in '24 and pushes the neutral back to c.3% levels drive c.45bp of bullish pressure in 10yT (still in the context of the soft-landing range – see scenario #1 in Exhibit 11) and a c.15bp flattening in 2s10s.

- In the transition to mid recession (as lags unfold more aggressively) the market adds to cuts across '24 and '25 (scenarios #2 and #6 – see Exhibit 11). In these scenarios the 10yT leads the outperformance on the curve (scenario #2 in Exhibit 11 corresponds to a c.75bp move in 3y1y rates back to the 2.75-3% range).
- Scenarios #3 and #7 in Exhibit 11 show that to realize a bull steepening dynamic in 2s10s the market needs to fade the cuts that are added near term out the curve (i.e., cut beyond neutral near-term and a return to neutral medium term). Bull steepening is more likely in 5s30s in these scenarios before it extends to 2s10s.

We favor scenario #2 in Exhibit 11 (mild recession) as the most likely tail on the bullish side (with 3y1y back to 2.75-3% as lags unfold). Vol is likely lower in this context. Scenarios #4 and #6 are closer to harder landing expectations which are relatively unlikely to materialize over the next couple of quarters.

Bearish scenarios

In higher-for-longer scenarios or scenarios of upward repricing of the neutral rate view:

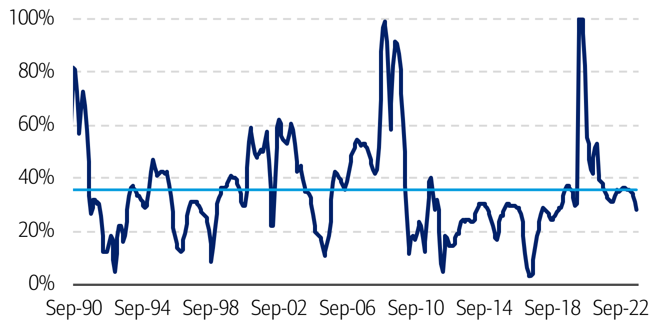
- Higher for longer policy rates (as lags take longer to unfold) drive a further pricing out of hikes in '24 (+50bp in scenarios #2 and #3, or more extreme +100bp in scenarios #5 and #6 – see Exhibit 12), but potentially add cuts to '25. These scenarios imply a bearish impulse for rates of up to c.50bp in 10yT (to c.4.75%) but limited steepening pressure on the 2s10s curve.
- Higher neutral expectations, on the other hand, are likely to imply a more persistent shock to policy rates (+50bp in scenario #1 or #2 or a rather extreme +100bp in scenarios #4 and #5 – see Exhibit 12). They imply up to 90bp of bearish impulse in 10yT (to c.5.15%), with up to c.35bp of steepening pressure on the 2s10s curve.

We find the former more likely than the latter (i.e., higher for longer more likely than a further structural repricing of the neutral rate higher from here). We favor scenario #2 in Exhibit 12 as a most likely tail on the bearish side (c.4.5% for 10yT). We therefore expect limited potential further 2s10s steepening pressure ahead. Both these types of shocks are likely to keep vol supported, with the latter offering more support for the left side of the grid than the former. Bear steepeners in 10s30s is favored in bearish scenarios on the potential for further pressure from supply expectations on term premium.

Volatility dynamic

As the market refocuses back on soft-landing scenarios, the probability assigned to the tails is likely to decrease, reflecting a context of lower uncertainty. Volatility is likely to drift lower with the left side of the grid leading the way (see Soft-landing scenarios and vol).

Exhibit 13: Level of conviction around the four macro scenarios
Max dispersion = 0% index (25% odds assigned to each of the 4 scenarios) = low conviction; min dispersion = 100% index = high conviction



Source: BofA Global research

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Exhibit 14: Moves in the US vol grid since early June
Downward pressure on the upper left corner driven by the priced of a Fed shift to on-hold capped from propagating out the grid

	1y	2y	3y	5y	7y	10y	30y
1m	-79	-65	-50	-32	-16	-3	5
3m	-70	-56	-47	-26	-13	-4	6
6m	-57	-47	-39	-21	-11	-4	5
1y	-31	-20	-15	-6	-2	-1	5
2y	-7	-2	-2	1	2	3	7
3y	3	3	3	4	4	4	7
4y	4	5	5	5	5	5	8
5y	5	5	5	5	6	5	8
10y	5	5	5	4	4	5	5
15y	3	3	3	3	3	3	3
30y	3	4	3	4	3	3	3

Source: BofA Global research

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In Exhibit 13 we show the level of dispersion/conviction around the 4 scenarios for the economy (downturn, slowdown, recovery and expansion) – 0% in this context corresponds to max dispersion (low conviction where the market assigns 25% odds to each of the 4 scenarios) while 100% corresponds to min dispersion (high conviction where the market assigns 100% to one of the scenarios, and 0% to the other 3). Over the summer, the market has reflected the highest level of dispersion (lowest conviction) since late '18/early '19.

Low conviction (higher uncertainty), along with a repricing of term premium and the neutral over the summer, have capped the potential for the downward pressure on the left side of the grid (as the market prices a shift in Fed policy to on-hold) to propagate out across the grid (see Exhibit 14).

A lower degree of dispersion (higher level of conviction) as the market recouples to soft landing scenarios and fades odds around the tails is likely to compound the shift in Fed policy to an on-hold stance and help push volatility lower.

Bond/equity correlation and UST demand

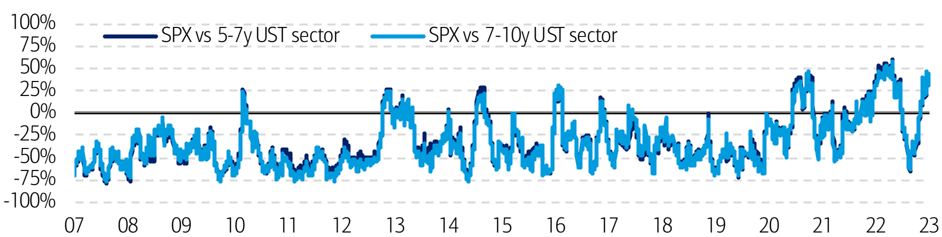
Above we have mapped scenarios for the US outlook to expectations for the dynamic of rates, fed policy, curve and vol. It is significant also to define the expectations for bond/equity correlations under those scenarios for the outlook, to understand the potential feedback from the dynamic of risky assets on the demand for duration.

Correlations have recently turned positive again, highlighting the persistent challenge to the role of USTs as a hedge and a diversifier for portfolios (Exhibit 15). We think that:

- It is only under **hard landing scenarios** that we see correlations turning more significantly and persistently negative, as earnings expectations dominate the dynamic of risky assets while the Fed dominates the dynamic of duration (negative correlation between bond and equity returns).
- **Soft landing scenarios** are likely to keep correlations in positive territory, compounding the challenges from higher supply and adding stickiness to the recent term premium buildup (and help drive a slight reset of the 10yT range under these scenarios to 3.75-4.25%). In these scenarios the repricing of equities intrinsic fundamentals (i.e., earnings expectation) is relatively capped and the dynamic of equities continues to have a high sensitivity to the discounting component.
- In **mild recession scenarios** correlations are likely in between positive correlations of soft-landing scenarios and the negative correlations of hard landing ones.
- In **reacceleration scenarios** expectations for the dynamic of correlations is contingent on the inflation regime. In a recoupling of inflation to growth fundamentals the bias is more positive vs scenarios where inflation continues to drift lower even as growth stays resilient. The former is more likely than the latter.

Exhibit 15: 2m rolling correlations between equities and bond total returns

Correlations back > 0%, highlighting the challenging role of USTs a hedge and diversifier for portfolios.



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