US Rates Viewpoint

Allocations & Duration Demand - 4Q View

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Rates Research
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Lessons from the last quarter ...

Regime shifts for the dynamic of duration over the last year highlight the difficulty of holding a consistent view on the utility of duration in portfolios. USTs have oscillated between a shock absolver for the broader risk dynamic and a driver for x-asset volatility. Optimal portfolios for recent quarters show low sovereign allocations under balanced risk profiles. A recoupling to soft landing scenarios seems underpriced, justifying a slight increase in optimal sovereign allocations over the next couple of quarters. However, continuing challenges to the utility of duration are likely to offset some of that drive.

... and a view for the next quarters

Sovereign bonds were the worst performing asset in the first 3 quarters of the year and offered little diversification benefits over a moderately risk-off 3Q23. As global central banks soften their tightening stance or move to on-hold expectations improve. From a moderate risk-off state in 3Q23, historical transition probabilities suggest a 46% likelihood of a shift into a moderate risk-on state over the next quarter, and a 12% likelihood of transition to risk-on. We prefer to be more cautious in our expectations. We see the likelihood as more balanced in the current context between moderate risk-off and moderate risk-on states. Low conviction, high uncertainty, and a wide range of outcomes imply fatter tails: c.10-15% for risk-on and c.20-25% for risk-off. Historical transitions probabilities suggest some level of outperformance of sovereigns, linkers, and IG vs. equities over the next quarter. A more cautious stance supports a more significant outperformance.

Core view

We favor adding cautiously to long duration exposures on dips to c. 5% for 10yT. We see optimal allocations to bonds in the 30% context for US portfolios, and 15-20% for Global portfolios (max 30% in a risk downgrade). The main driver for this view is longer term value. Other drivers include the pickup in risks around the outlook, our view for asymmetric risk rewards, baseline soft landing scenarios on the unfolding of policy lags, attractive relative valuations, and the potential for negative feedback with risky assets.

Hedge the tails

Caveats to our core view include: high macro data dispersion and positive bond / equity correlations (which may persist in soft landing scenarios); stretched positioning; a glut of supply; high inflation, which erodes the value of nominal returns; and a wide range of outcomes. The latter: (1) challenges the utility of linear exposures; and (2) suggests the buildup of non-linear payoff profiles in portfolios to protect against the tails.

We have recently recommended receiver spreads to hedge downside scenarios, short left vs right side vol, and 6m10y payer ladders to hedge scenarios of higher yields but where the underperformance vs forwards is capped at c.5.5% for 10yT.

For a list of our current trades and those closed over the past 12 months, please see our Global Rates Weekly.

EM – Emerging Markets

EPR – Equity Risk Premium

GFC – Great Financial Crisis

HY – High Yield

IG – Investment Grade

Sov – Sovereign Bonds

UST – US Treasuries

c. – circa (approximately)

Extrapolating from the last quarter …

The bearish rates momentum carried over from end-2Q into a slow grind early in the 3Q, accelerating in Sep / early-Oct. The curve was biased steeper, a relatively unorthodox dynamic this late in the cycle and with the Fed deeply into restrictive territory. The risk backdrop deteriorated late in 3Q as x-asset volatile picked up (even as the left-side of the rates vol grid pushed lower on the pricing of a Fed shift to on-hold):

- July price action snapshot: 10yT +12bp, 2yT -2bp, 1y10y vol +1bp, 1y1y vol -10bp, 1m10y vol +4bp, VIX +0%, SPX +3.1%
- August price action snapshot: 10yT +15bp, 2yT -1bp, 1y10y vol +1bp, 1y1y vol -3bp, 1m10y vol +2bp vol, VIX +0%, SPX -1.8%
- September price action snapshot: 10yT +47bp, 2yT +17bp, 1y10y vol +11bp, 1y1y vol -7bp, 1m10y vol +11bp vol, VIX +4%, SPX -4.9%

The Sep bearish momentum extended into Oct. Geopolitics reminded the market momentarily of the key role USTs fulfill in portfolios, that of a haven asset in periods where risks around the outlook spike, but that dynamic seems to have been short lived.

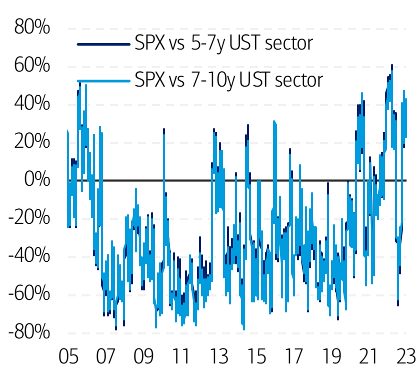
Shifting dynamic between bond yields are risky assets

Hiding under these numbers is a shifting dynamic between bond yields and risky assets, with USTs oscillating between a risk-off asset, a shock absolver for the risk complex (when the Fed put dominates the market dynamic even as fundamentals stay supported), and a driver for x-asset volatility (when increasing odds of re-acceleration push rates and volatility higher to the point where they become a drag for the dynamic of risky, as was the case for much of late Sep / Oct '23).

This shifting dynamic is reflected clearly: (1) in bond / equity correlations (see Exhibit 1), which shifted from c.-60% negative by late May / early June (reflecting higher hedging and diversification benefits of USTs in portfolios) to c.35% positive currently (eroding the utility of UST allocations); and (2) in a more nuanced way also in the relative dynamic of rates and equity volatility.

Indeed, soft landing scenarios (a context of positive but sub-potential growth and lower inflation) imply limited pressure on earnings but provide scope for the Fed to exercise its put in response to negative shocks. As soft landing odds increase (as was the case over the summer) rates take on the role of shock absorber for the broader market dynamic, and the inversion of the term structure of rates vol (Exhibit 2) is consistent with a steep term structure of equity vol (Exhibit 3). This regime, however, caps the potential for bond / equity correlations to turn negative, and the utility of USTs for portfolios.

Exhibit 1: Bond / equity (2m) correlations
Shifting from negative to positive over last 3m



Source: BofA Global Research; Bloomberg
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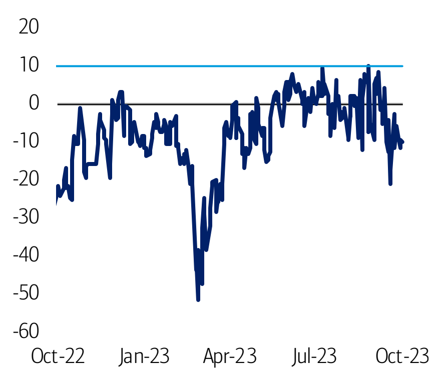
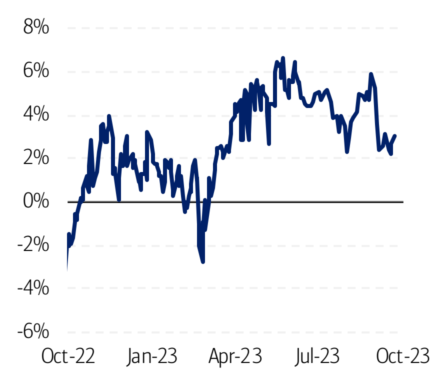
Exhibit 2: Term structure of rates volatility
Spread to 1m10y vs 1y10y vol back to inverted



Source: BofA Global Research; Bloomberg
BofA GLOBAL RESEARCH

Exhibit 3: Term structure of equity volatility
Spread of 1m expiry to 1y expiry vol on the S&P



Source: BofA Global Research; Bloomberg
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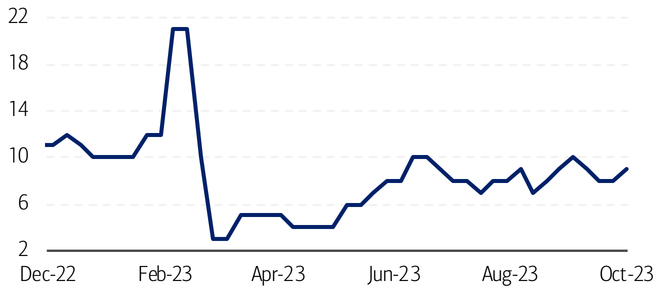
Significantly, as US resilience to tightening persists and re-acceleration odds increase, the neutral reprices higher, the curve steepens, the significance of the Fed put decreases (see Exhibit 4), and rates stop being a shock absorber and instead rates selloffs create scope for negative feedback between bond yields and risky assets (particularly at historically tight ERP – see Exhibit 5). The equity vol term structure pushes flatter as the rates vol term structure inverts, further sustaining positive bond / equity correlations.

Exhibit 4: Pricing of the first Fed cut (y-axis in months)
Steady state for the pricing of the first Fed cut at c.7-10 m on a rolling basis



Source: BofA Global Research

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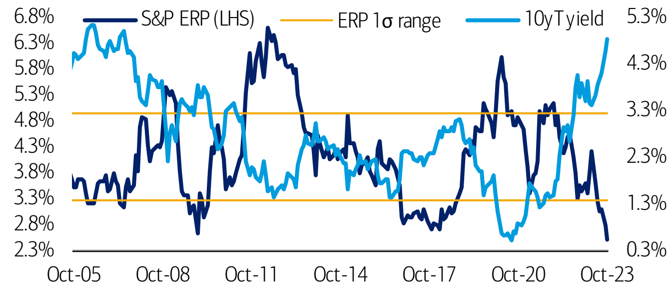
Exhibit 5: S&P equity risk premium (ERP) vs 10yT yields
ERP at the tightest levels since the '08 and early '17



Source: BofA Global Research; Bloomberg

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Optimal asset allocation for 3Q

Against this backdrop of shifting utility for USTs, we calculate optimal US and global portfolios over 3Q in a mean variance framework (see Exhibit 6 and Exhibit 7).

Not surprisingly, the allocations obtained under balanced risk profiles reflect relatively conservative carry type portfolios. The results show: (1) a mild underweight in equities, with a bias towards on value; (2) underweight bonds, with a bias towards linkers in the US portfolio, and EM Local in the Global portfolio; (3) max overweigh credit; (4) max overweight cash; and (5) overweight alternatives with a bias towards commodities.

A downgrade of risks drives bond allocations to max overweight in the US portfolio at the expense of credit and equity allocations. In the Global portfolio a risk averse tilt drives higher allocations to sovereign bonds and mortgages, at the expense of commodities, EM Local bonds, and Value equities.

Exhibit 6: Optimal US long only portfolio for 3Q23
Optimal allocation weights obtained in a mean variance framework

	Min	Max	Risk Averse	Balanced	Risk Seeking
Equities	30%	70%	30%	39%	55%
Large Cap	10%	50%	10%	10%	25%
Small Cap	5%	35%	5%	5%	5%
Value	0%	25%	15%	24%	25%
Growth	0%	25%	0%	0%	0%
Bonds	5%	50%	50%	11%	5%
Sov	0%	45%	45%	6%	0%
Linkers	0%	5%	5%	5%	5%
Credit	0%	20%	5%	20%	10%
IG	0%	20%	5%	10%	0%
HY	0%	10%	0%	10%	10%
Cash	0%	15%	15%	15%	15%
US	0%	15%	15%	15%	15%
Alt	0%	20%	0%	15%	15%
Commodities	0%	15%	0%	15%	15%
Mortgages	0%	15%	0%	0%	0%

Source: BofA Global Research

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Exhibit 7: Optimal Global long only portfolio for 3Q23
Optimal allocation weights obtained in a mean variance framework

	Min	Max	Risk Averse	Balanced	Risk Seeking
Equities	30%	70%	30%	42%	55%
Large Cap	10%	50%	10%	10%	10%
Small Cap	5%	35%	5%	7%	20%
Value	0%	25%	15%	25%	25%
Growth	0%	25%	0%	0%	0%
EM	0%	15%	0%	0%	0%
Bonds	5%	50%	20%	8%	5%
Sov	0%	45%	20%	0%	0%
Linkers	0%	5%	0%	0%	0%
EM Hard	0%	10%	0%	0%	0%
EM Local	0%	10%	0%	8%	5%
Credit	0%	20%	20%	20%	10%
IG	0%	20%	10%	10%	0%
HY	0%	10%	10%	10%	10%
Cash	0%	15%	15%	15%	15%
US	0%	15%	15%	15%	15%
Alt	0%	20%	15%	15%	15%
Commodities	0%	15%	0%	15%	15%
Mortgages	0%	15%	15%	0%	0%

Source: BofA Global Research

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Ongoing challenges for portfolio duration demand

The speed of succession of these shifts in regime for the dynamic of duration over the last year highlights the difficulty in holding a consistent view for the utility of duration in portfolios. The dynamic over the last year ranged from risk off (e.g., Mar '22 & mid Oct '23) to periods dominated by soft landing expectations (e.g., late '22 / early '23 & early summer '23), and reacceleration expectations (e.g., Feb '23 and Sep / Oct '23).

This dynamic is the reflection of a wide range of outcomes and a context of wide macro data dispersion, which may persist over the next quarters and likely also deep into '24. We have argued that 10yT yields (see [Are 10yT cheap? from 5 Oct '23]):

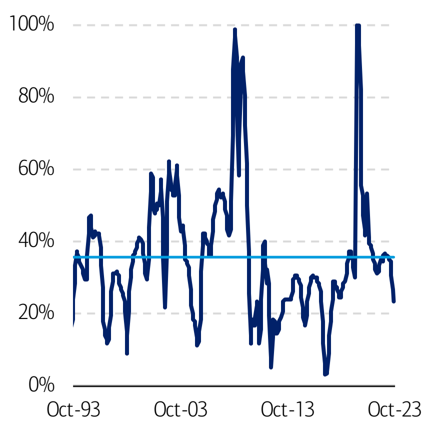
- **Scenario 1**: may reach c.3.25% levels (±25bp, which we view as the steady state levels for 10yT over the cycle) on harder landing scenarios for the US economy where date recouples materially to the downside,
- **Scenario 2**: recouple to fundamentals c.4-4.25% (±25bp) as monetary policy lags unfold slowly and the economy soft lands in line with our economist's baseline,
- **Scenario 3**: reach levels c.5-5.5% in scenarios where term premium and neutral repricing continue to drive the bearish dynamic and converge to a pre-GFC regime, but where a context of high uncertain (low conviction – Exhibit 8) drives the market to continue to price Fed cuts at a 12m horizon on a rolling basis (see Exhibit 4),
- **Scenario 4**: and may push beyond 5.5% in a context where the economy stays resilient or re-accelerates, and inflation fundamentals potentially recouple back to growth fundamentals, driving a full pricing out of Fed cuts at a 2-3y horizon and eventually also the pricing of further fed tightening.

The market seems to be delivering higher likelihood of bearish scenarios (#3 and #4) in the recent dynamic of breakevens: c.30% chance of goldilocks scenarios of higher yields and anchored inflation, and 40-50% chance of more orthodox bearish scenarios of higher growth and higher inflation – see Exhibit 9.

The vol market, however, seems to be assigning less than 15% probability to scenario 4 (10y yields > 5.5% over the next couple of quarters – see Exhibit 10), and c.35-40% chance of a mean reversion to pre-GFC regime (5-5.25% yields for 10yT as the bearish dynamic exhausts the repricing of term premium and neutral rate expectations in a mean reversion to the pre GFC regime – broadly scenario 3). We find these odds more appropriate than the ones expressed in the recent dynamic of breakevens.

Exhibit 8: Measure of market conviction

Conviction at the lowest levels since the '17 "Trump bump' selloff



Source: BofA Global Research

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Exhibit 9: Breakdown of the dynamic of 10y breakevens into bull tightening & widening and bear tightening and widening moves

Recent dynamic expresses higher chances of resilience/reacceleration (bear widening) or goldilocks (bear tightening) scenarios

	bull-Tight	bear-Wide	bull-Wide	bear-Tight
2w	15%	49%	8%	28%
1m	18%	41%	7%	34%
2m	20%	49%	5%	27%
3m	19%	55%	4%	22%

Source: BofA Global Research

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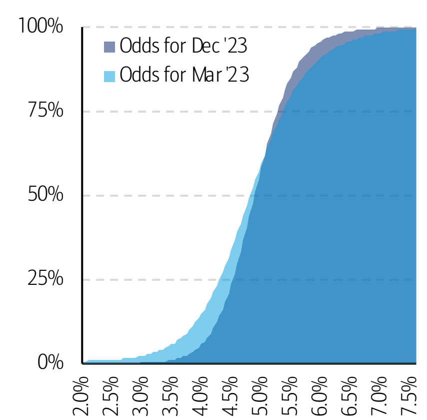
Exhibit 10: 10yT CDF implied by SOFR options at constant spreads

15% odds of 10yT > c.5.5% over 4Q23 & 1Q24



Source: BofA Global research

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Bottom line: Regime shifts for the dynamic of duration over the last year highlight the difficulty of holding a consistent view on the utility of duration in portfolios. USTs have oscillated between a shock absolver for the broader risk dynamic and a driver for x-asset volatility. Optimal portfolios for recent quarters show low sovereign allocations under balanced risk profiles. A recoupling to soft landing scenarios seems underpriced, justifying a slight increase in optimal sovereign allocations over the next couple of quarters. However, continuing challenges to the utility of duration (more on this below) are likely to offset some of that drive.

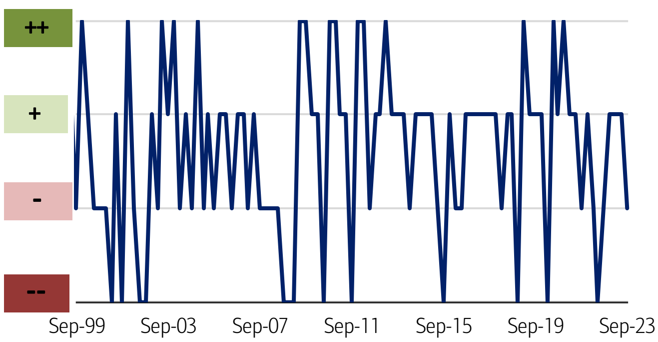
… a view for the next couple of quarters

We extend our 3-state framework for asset allocation (see Allocations & Duration Demand - 2Q View from 10 Apr '23) by including another state for the relative performance of asset classes.

We group historical quarterly returns across asset classes into 4 return regimes (using the cartesian distance between asset returns). By looking at the centroids of each regime we can map them: (1) a risk-on market dynamic (++, with outperformance of risky assets); (2) a risk-off/recession market dynamic (--, with outperformance of safe-havens); and (3) moderate risk-on (+) and moderate risk-off (-) that add more granularity to the market dynamic in between risk-on and risk-off regimes.

In this framework, 3Q23 is characterized as moderate risk-off, a downgrade from the previous two quarters (1Q23 and 2Q23) which were marked by a moderate risk-on regime for returns (see Exhibit 11).

Exhibit 11: 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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Exhibit 12: 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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Transition probabilities

From a moderate risk-off state, historical probabilities suggest 46% probability of a transition into a moderate risk-on state over the next quarter, and 12% of transition to risk-on (see Exhibit 12). Together these suggest 58% probability of an upgrade of risk sentiment over the next quarter (that is lower than the 70-80% implied by the dynamic of 10y BEs, but in line with the c.50-55% implied by the options market).

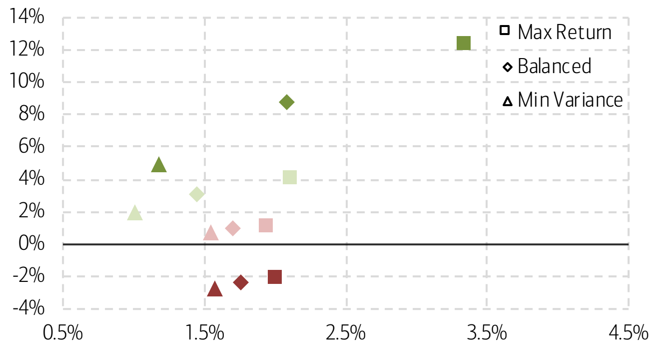
We prefer to be more cautious in our expectations vs. these historical transition figures. We see probabilities more balanced in the current context between staying in a moderate risk-off state (-) and transitioning to moderate risk-on (+). The large uncertainty, low conviction, and wide range of outcomes noted above also likely imply higher probabilities for the tails: 10-15% for risk-on (++) and 20-25% for risk-off (--).

These transitions probabilities, along with the historical returns for the 4 regimes, allow the estimation of period ahead asset class return expectations. Historically transition probabilities (see Exhibit 12) suggest some level of outperformance of sovereigns, linkers, and IG vs. equities. A more cautious stance (e.g., 22.5%, 30%, 35% and 12.5% respectively for --, -, + and ++ states) supports a more significant outperformance.

In Exhibit 13 we show the 4 efficient frontiers calculated for each of the 4 regimes above, each construct with 3 levels of risk: (1) risk averse (the min variance portfolio), (2) risk seeking (the max return portfolio), and (3) balanced (which targets the average volatility of the other two). The 4 return regimes map relatively well to efficient frontiers that reflect a progressive upgrade of return vs risk expectations.

Exhibit 13: Historical efficient frontiers for each of the 4 return states

The four return states map relatively well to efficient frontiers that reflect a progressive upgrade of return vs risk expectations



Source: BofA Global Research

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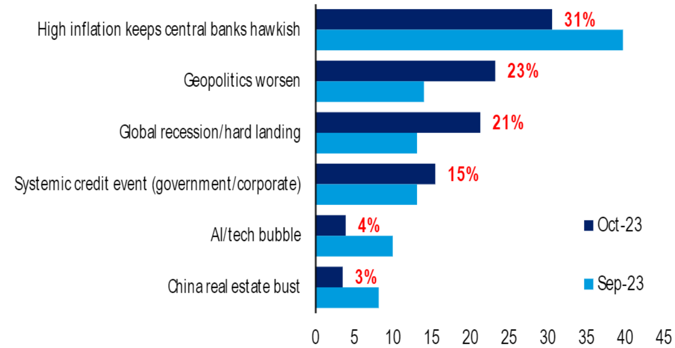
Exhibit 14: Key tail risks

Withing the credit event (#4 tail risk), the focus is on US/EU commercial real estate as the most likely source of stress



Source: BofA Global Fund Manager Survey

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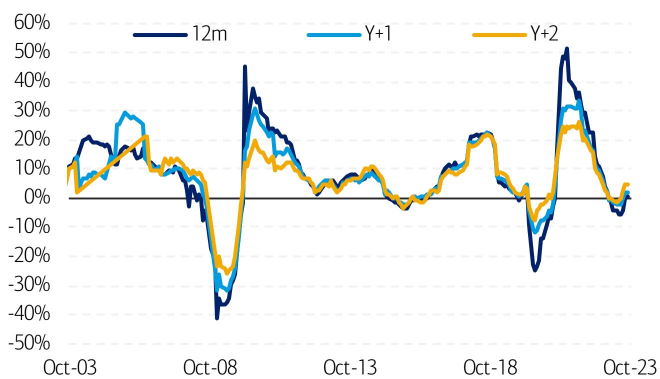
Approach 4Q23 and 1Q24 with caution

We think portfolios should stay relatively conservative in their allocations over the next couple of quarters (moderate risk-off or moderate risk-on profiles at best). Drivers for a more cautious stance and a slightly more constructive view on duration include:

- **Longer term Value** – 10yT yields closer to 5% represent value for investors from a cycle perspective and in the context of the range of outcomes noted above. We see relatively asymmetric risk reward for duration at levels c.4.75-5% for 10yT. While downside scenarios contain scope for c.3.25% yields, further upside from 5-5.5% is contingent on a further pricing out of Fed cuts and a pickup of re-acceleration expectations. We see a low probability (10-15%) for the latter as we noted above.
- **Risk** – The collection of risk factors is increasing (see Exhibit 14): (1) commercial real estate, (2) regional banking sector; (3) a war in Europe; (4) and the potential for a broader conflict in the Middle East. There is very little premium assigned to these risks, and to the potential for both endogenous and exogenous shocks to impact the US economy at a relatively fragile point in the cycle (the Fed tightening peak).

Exhibit 15: Changes in yoy EPS projections (12m, 1y and 2y ahead)

EPS projections stabilizing around single digit expectations



Source: BofA Global Research; Bloomberg

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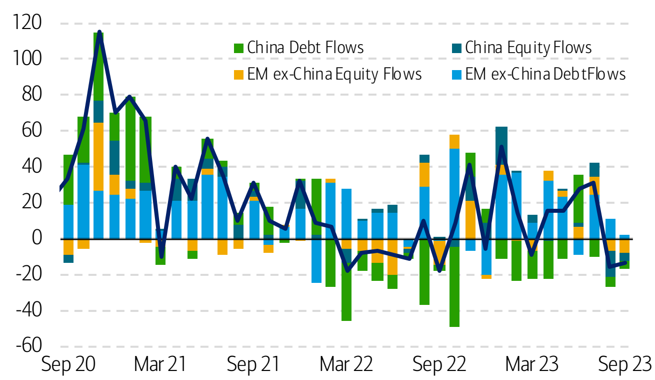
Exhibit 16: Total Portfolio Flows into Emerging Markets ($bn)

China outflows offset by broader EM inflows



Source: National Sources, Bloomberg, IIF

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- **Policy lags** - The potential for monetary policy lags to unfold over the next couple of quarters, as the impact from the shift into restrictive territory that the Fed delivered between Sep and Nov of '22 (where policy rates moved from 2.5% to 4%) peaks. We also see scope for a higher level of conviction as fundamentals recouple to soft landing scenarios that continue to constitute our economist's baseline.
- **Relative valuations** – USTs trade cheap vs equities, which is reflected clearly in historically tight ERP levels (see Exhibit 5). Tight ERPs increase the scope for negative feedback between bond yields and risky assets.

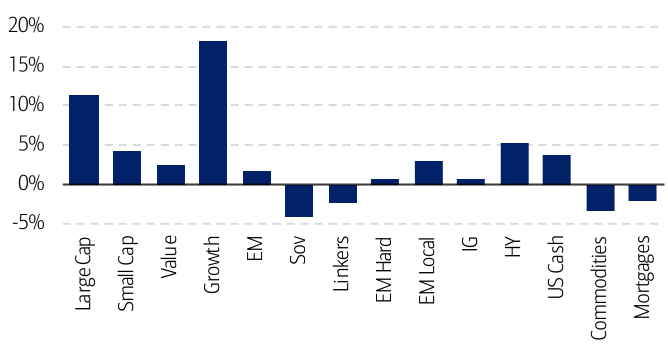
  A material upgrade to earnings expectations is likely required to make risk more resilient to higher yields. However, expectations have stabilized at relatively low levels (see Exhibit 15), and our equity strategists are below consensus seeing mid to high single digits as the more likely baseline (see Earnings Tracker from 10 Oct '23).

  The past year was also marked by a significant level of demand for carry strategies and diversification of portfolios in equity space, EM (particularly EM ex-China) and credit (see Exhibit 16 and Exhibit 17). Value was glaring across risk as we noted in Asset Allocation & Duration Demand in '23 from Oct '22. However, the push into carry strategies compressed valuations and expectations for risk adjusted returns. There is scope for carry strategies in our baseline view (allocations in between moderate risk-off and risk-on), but relative valuations are less compelling currently.

  The un-orthodox steepening dynamic priced in curve forwards is also less supportive for risk than the more orthodox late-cycle bull steepening dynamic. Forwards suggest a re-steepening of the US 2s10s curve at a c.9m horizon for 3m OIS levels c.5%, implying a steepening mechanism supported more but the repricing of neutral and term premium than by Fed cuts expectations which tend to support risk.

Exhibit 17: 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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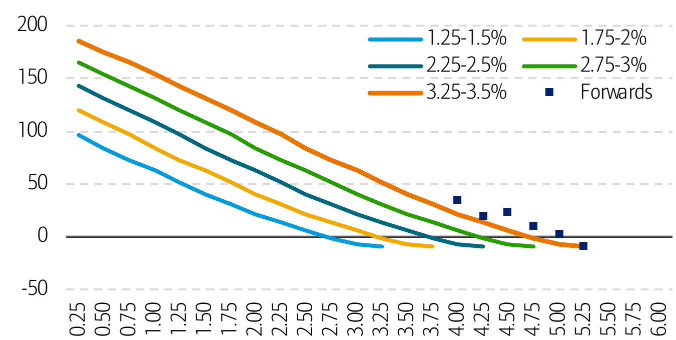
Exhibit 18: Expectations for 2s10s bull steepening (y-axis) vs 3m OIS forwards (x-axis) under different expectations for the neutral rate

Curve forwards suggesting view for neutral closer to 3.5% or slightly above



Source: BofA global research

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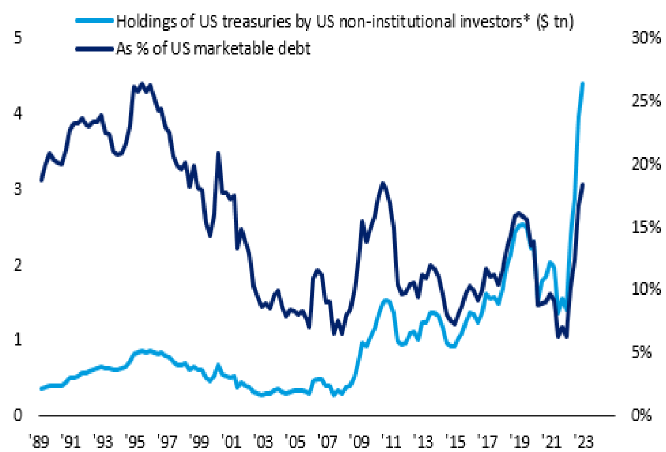
There are, as we noted above, material caveats to a more constructive view on duration:

- a wide range of outcomes, which to some extent challenges the utility of linear exposures and suggests the buildup of non-linear payoff profiles in portfolios to protect against the tails,
- high macro data dispersion that may persist in our baseline soft landing view,
- the likely persistence of positive correlations between bond and equity returns (see Exhibit 1) in soft landing scenarios, which continue to erode the utility of USTs as a diversifier,
- positioning which likely already reflects higher duration exposures (see Exhibit 19) then the optimal allocations calculated above, and may leave less scope to add over the next couple of quarters,

- a glut of supply that we discussed in Global supply through 2024: it's only just begun from 14 Sep '23 ...
- ... and a high inflation context that erodes the value of nominal returns, although at this point real returns are starting to look historically attractive (see Exhibit 20).

Exhibit 19: High UST holdings by US non-institutional investors
... may leave less scope to add over the next couple of quarters



Source: BofA Global Research

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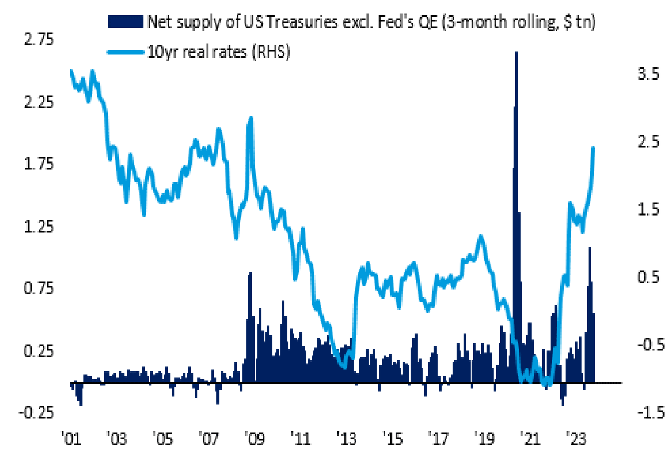
Exhibit 20: Supply glut is a headwind for demand
.. but real yields are reaching historically attractive levels



Source: BofA Global Research

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Bottom line: Sovereign bonds were the worst performing asset in the first 3 quarters of the year and offered little diversification benefits over a moderately risk-off 3Q23. As global central banks soften their tightening stance or move to on-hold expectations improve. From a moderate risk-off state in 3Q23, historical transition probabilities suggest 46% probability of a shift into a moderate risk-on state over the next quarter, and 12% probability of transition to risk-on. We prefer to be more cautious in our expectations. We see probabilities as more balanced in the current context between moderate risk-off and moderate risk-on states. Uncertainty, low conviction, and a wide range of outcomes imply fatter tails: c.10-15% for risk-on and c.20-25% for risk-off. Historical transitions probabilities suggest some level of outperformance of sovereigns, linkers, and IG vs. equities over the next quarter. A more cautious stance supports a more significant outperformance.

Recommendations

We favor adding cautiously to long duration exposures on dips to c. 5% for 10yT. We see optimal allocations to bonds in the 30% context for US portfolios, and 15-20% for Global portfolios (see Appendix). The main driver for this view is longer term value. Other drivers include the pickup in risks around the outlook, our view for asymmetric risk rewards, baseline soft landing scenarios on the unfolding of policy lags, attractive relative valuations, and the potential for negative feedback with risky assets.

Caveats to our core view include: high macro data dispersion and positive bond / equity correlations (which may persist in soft landing scenarios); stretched positioning; a glut of supply; high inflation which erodes the value of nominal returns; and a wide range of outcomes. The latter: (1) challenges the utility of linear exposures; and (2) suggests the buildup of non-linear payoff profiles in portfolios to protect against the tails.

We have recommended recently receiver spreads to hedge downside scenarios, short left vs right side vol, and 6m10y payer ladders (see 10yT at 5% - What Would it Take?, currently -6bp) to hedge scenarios of higher yields but where the underperformance vs forwards is capped at c.5.5% for 10yT (the position is exposed to unlimited downside in scenarios of reacceleration which may diver 10yT yields > 5.5%).

Appendix: optimal portfolios in a 4-state framework

Below we show US optimal allocations for each of the 4 return regimes under risk averse (min variance – Exhibit 21) and balanced (targeting the average vol of min variance and max return portfolios – Exhibit 22) allocation profiles:

Projecting historical transition probabilities out of a moderate risk off regime (see Exhibit 12) onto these states suggests c.30% allocations to Bonds under balanced risk profiles, and c.35% under risk averse profiles.

Exhibit 21: Optimal US portfolios for risk averse allocation profiles
... across the 4 return regimes: risk-off (--), moderate risk-of (-), moderate risk-on (+) and risk-on (++)

	--	-	+	++
Equities	30%	30%	30%	30%
Large Cap	10%	23%	14%	10%
Small Cap	5%	5%	6%	5%
Value	7%	0%	10%	11%
Growth	8%	2%	0%	4%
Bonds	37%	36%	35%	35%
Sov	37%	36%	35%	33%
Linkers	0%	0%	0%	2%
Credit	0%	8%	5%	0%
IG	0%	0%	0%	0%
HY	0%	8%	5%	0%
Cash	15%	15%	15%	15%
US Cash	15%	15%	15%	15%
Alternatives	18%	10%	15%	20%
Commodities	3%	10%	0%	5%
Mortgages	15%	0%	15%	15%

Source: BofA Global Research

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Exhibit 22: Optimal US portfolios for balanced allocation profiles
... across the 4 return regimes: risk-off (--), moderate risk-of (-), moderate risk-on (+) and risk-on (++)

	--	-	+	++
Equities	30%	30%	50%	50%
Large Cap	10%	16%	27%	10%
Small Cap	5%	5%	6%	20%
Value	11%	8%	5%	5%
Growth	4%	1%	13%	15%
Bonds	44%	41%	23%	20%
Sov	41%	38%	20%	19%
Linkers	3%	3%	2%	1%
Credit	2%	9%	12%	10%
IG	2%	0%	5%	5%
HY	0%	9%	7%	5%
Cash	8%	8%	8%	8%
US Cash	8%	8%	8%	8%
Alternatives	16%	13%	8%	13%
Commodities	1%	13%	0%	5%
Mortgages	15%	0%	8%	8%

Source: BofA Global Research

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In Exhibit 23 and Exhibit 24 we show similar results for the global portfolio. Projecting historical transition probabilities (see Exhibit 25) onto these states suggests c.15-20% allocations to global sovereign bonds under balanced risk profiles, and c.35% under risk averse profiles.

Exhibit 23: Optimal global portfolios for risk averse allocation profiles
... across the 4 return regimes: risk-off (--), moderate risk-of (-), moderate risk-on (+) and risk-on (++)

	--	-	+	++
Equities	30%	40%	65%	45%
Large Cap	10%	10%	26%	10%
Small Cap	5%	5%	5%	35%
Value	0%	25%	25%	0%
Growth	15%	0%	0%	0%
EM	0%	0%	9%	0%
Bonds	25%	20%	10%	10%
Sov	20%	10%	0%	5%
Linkers	5%	0%	0%	5%
EM Hard	0%	0%	10%	0%
EM Local	0%	10%	0%	0%
Credit	15%	10%	10%	15%
IG	15%	0%	0%	5%
HY	0%	10%	10%	10%
Cash	15%	15%	15%	15%
US Cash	15%	15%	15%	15%
Alternatives	15%	15%	0%	15%
Commodities	0%	0%	0%	0%
Mortgages	15%	15%	0%	15%

Source: BofA Global Research

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Exhibit 24: Optimal global portfolios for balanced allocation profiles
... across the 4 return regimes: risk-off (--), moderate risk-of (-), moderate risk-on (+) and risk-on (++)

	--	-	+	++
Equities	30%	55%	67%	58%
Large Cap	10%	25%	18%	10%
Small Cap	5%	5%	20%	35%
Value	7%	25%	17%	0%
Growth	7%	0%	0%	12%
EM	0%	0%	12%	0%
Bonds	37%	15%	10%	8%
Sov	32%	5%	0%	2%
Linkers	5%	0%	0%	3%
EM Hard	0%	5%	5%	0%
EM Local	0%	5%	5%	2%
Credit	10%	10%	7%	12%
IG	10%	0%	0%	2%
HY	0%	10%	7%	10%
Cash	8%	8%	8%	8%
US Cash	8%	8%	8%	8%
Alternatives	15%	12%	8%	15%
Commodities	8%	0%	7%	7%
Mortgages	8%	12%	0%	8%

Source: BofA Global Research

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Exhibit 25: Global transition probabilities between different states for the market dynamic

From moderate risk-off the highest transition probabilities are either into a moderate risk-on state (47%) or staying in moderate risk-off (21%)

	--	-	+	++
--	14%	29%	43%	14%
-	21%	21%	47%	11%
+	5%	36%	56%	3%
++	0%	0%	80%	20%

Source: BofA Global Research

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