

## US Rates Watch

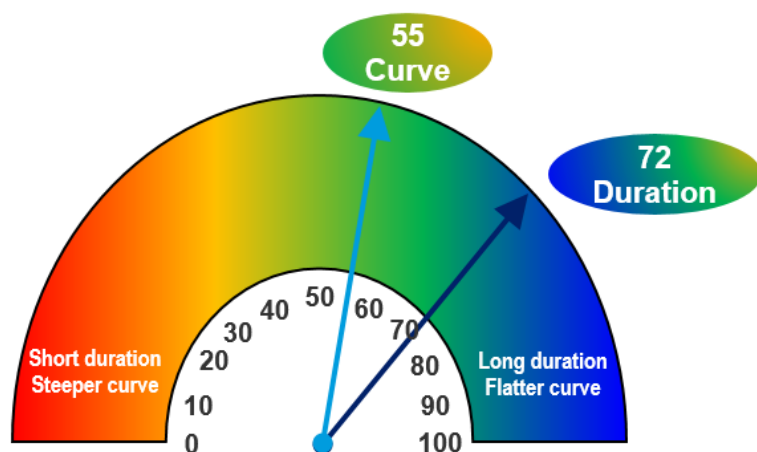
## Fund flows continue to chase yield

## Searching for signal

Positioning indicators still generally point to net longs that have room to be covered across CTAs and speculative investors. However, one positioning indicator that pushes back on this is US total return fund excess performance. Excess returns were positive on the week alongside the selloff and show stronger correlation to higher rates. Fund inflows remain strong to chase higher yields and continue to reflect a dip buying sentiment from investors. We expect this to persist as long as the Fed is still guiding for cuts this year. The biggest upset to this would be a higher for longer rates that can disrupt the supply/ demand balance for USTs (see: Global Rates Weekly).

**Exhibit 1: Curve-o-meter**

Positioning for curve is mixed and duration tilts long



**Source:** BofA Global Research, Note: dials show 5y percentiles for the average non-commercial ex leverage funds & proxy of futures positioning for duration and the average of CTA betas and our proxy for futures positioning for the curve.

BofA GLOBAL RESEARCH

## Bias for rate selloff remains

Our futures positioning proxy (for construction details see: Gauging positioning in Treasury Futures) continues to show a bias for rates to selloff particularly at longer-dated tenors where longs remain intact and vulnerable (Exhibit 12). Composition of open interest in the belly is largely shorts that are in the money as of Thursday (Exhibit 11).

Trading ideas and investment strategies discussed herein may give rise to significant risk and are not suitable for all investors. Investors should have experience in relevant markets and the financial resources to absorb any losses arising from applying these ideas or strategies.

**BofA Securities does and seeks to do business with issuers covered in its research reports. As a result, investors should be aware that the firm may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making their investment decision. Refer to important disclosures on page 21 to 22.**

Refer to important disclosures on page 21 to 22.

Timestamp: 26 February 2024 05:00AM EST

12663455

26 February 2024

Rates Research  
United States

**Meghan Swiber, CFA**  
Rates Strategist  
BofAS  
+1 646 743 7020  
[meghan.swiber@bofa.com](mailto:meghan.swiber@bofa.com)

**Anna (Caiyi) Zhang**  
Rates Strategist  
BofAS  
+1 646 743 7021  
[cai.yi.zhang@bofa.com](mailto:cai.yi.zhang@bofa.com)

**US Rates Research**  
BofAS  
+1 646 855 8846

[See Team Page for List of Analysts](#)

UST= Treasury security

CTA= Commodity trading advisor

OTM= out of the money

ITM=in the money

TIC=Treasury International Capital

QT= quantitative tightening

MoF= ministry of finance

RRP = reverse repo program

SFR = SOFR futures contract

TU = Treasury 2Y futures contract

FV = Treasury 5Y contract

TY = Treasury 10Y contract

UXY = Treasury ultra 10Y contract

US = Treasury 20Y contract

WN = Treasury 30Y contract

TGA= Treasury General Account

TR FI funds = Total return fixed income funds

PPTS = percentage points

JGB = Japanese government bonds

FoF = flow of funds

DB = defined benefit

## CTAs continue to cut duration

Our momentum indicator suggests that CTAs are continuing to reduce duration from elevated levels and have room to continue covering (Exhibit 13). This is relatively consistent with our top-down model (see: [CTA impact on the rates market](#)) which suggests that CTAs are still far from max short.

## Asset managers continue to reduce longs

CFTC data shows that asset manager 10y equivalent positioning continued to retreat the week ending Feb 20<sup>th</sup> to the greatest extent in US and FV (Exhibit 7). Alongside the reduction in asset manager longs, leveraged funds reduced their shorts largely in TY and FV. Leveraged hedge fund duration positioning has retreated from max long the week of Feb 6<sup>th</sup> to just under the 10th percentile over the last 5 years, likely reflecting some moderation in the overall size of the basis trade. Speculative positioning ex-leveraged hedge funds was little changed and remains long (Exhibit 8).

## Foreign official selling cools

Custodial holdings increased modestly by around \$3bn and foreign repo usage also picked up by \$9.5bn (Exhibit 34). This reflects some bottoming after a net reduction in official sector holdings since the start of the year. Japanese investors, however, were modest net sellers of foreign bonds on the week after \$30bn in inflows since the start of the year (Exhibit 27).

## US fund performance suggests underweights

Total return funds on an AUM-weighted basis outperformed their benchmark alongside a further backup in rates (Exhibit 44). While outperformance may be driven by other asset class positioning, correlations between excess returns and the 10y continue to point to an add to underweight UST positions (Exhibit 48).

Inflows to US fixed income funds remained elevated last week and were led by mixed allocation funds (Exhibit 37). UST funds saw modest inflows and short-term funds saw the first week without outflows since Jan 24<sup>th</sup>.

**Exhibit 2: On deck next week**

Calendar of upcoming events

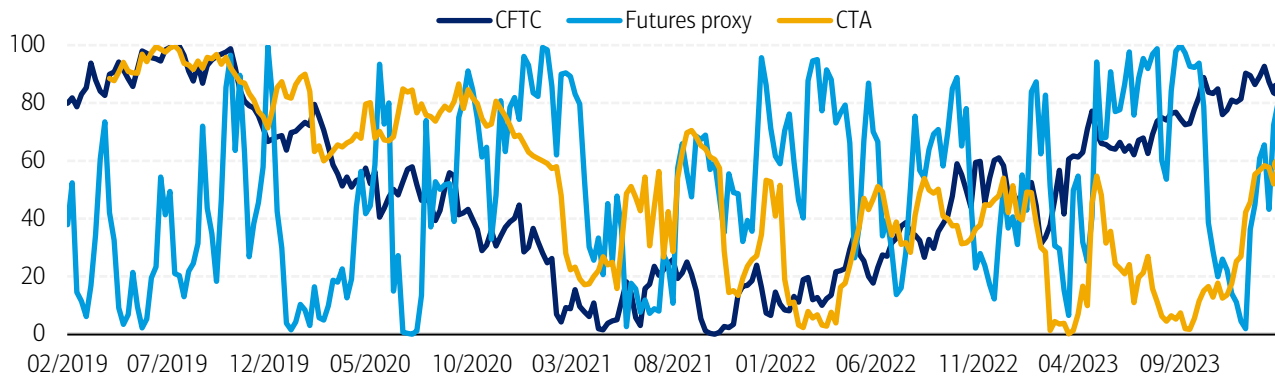
	US Data			Fed Speaker / Event	Treasury Auction		Treasury Settlements	
	Series	BofA	BB Consensus		Security	Amount (\$bn)	Security	Amount (\$bn)
M, Feb 26	New Home Sales	680k	684k		13-week	79		
					26-week	70		
					2-year	63		
					5-year	64		
Tu, Feb 27	Durable Goods Orders	-5.00%	-4.50%		7-year	42	Bills	19
	Durables Ex Transportation	0.20%	0.30%					
	Core Capital Goods Orders	0.10%	0.10%					
	Core Capital Goods Shipments	-0.10%	-					
	Case-Shiller HPI (yoy)	5.50%	-					
	Consumer Confidence	116	114.8					
W, Feb 28	MBA Mortgage Applications	-	-	Bostic (voter) fireside chat 12:00	17-week bill			
	Wholesale Inventories	-	-	Collins fireside chat 12:15				
	GDP (qoq saar)	3.20%	3.30%	Williams (voter) keynote remarks 12:45				
	Personal consumption (qoq saar)	2.60%	2.70%					
	GDP Price Index (qoq saar)	1.50%	-					
	Core PCE (qoq saar)	2.00%	-					
	Advance Goods Trade Balance	-\$89.5bn	-\$88.1bn					
Th, Feb 29	Initial Jobless Claims	195k	-	Bostic (voter) fireside chat 10:50	4-week bill		Bills	22
	Personal Income	0.20%	0.50%	Goosbee monetary policy remarks 11:00	8-week bill		Coupons	96
	Personal Spending	-0.10%	0.20%	Mester (voter) speaks on financial stability and regulation 13:15				
	PCE Headline Prices (mom)	0.30%	0.30%	Williams moderated discussion 20:10				
	PCE Headline Prices (yoy)	2.40%	2.40%					
	PCE Core Prices (mom)	0.40%	0.40%					
	PCE Core Prices (yoy)	2.80%	2.80%					
	Personal saving rate	4.00%	-					
	Chicago Purchasing Managers	48	-					
	Pending Home Sales	2.00%	1.00%					
F, Mar 1	U. of Michigan Sentiment	80	79.6	Bostic on economic outlook, real estate 12:15				
	Construction Spending (mom)	0.50%	0.20%					
	ISM Manufacturing	49.5	49.2	Daly (voter) in panel discussion 13:30				
	Total Vehicle Sales	-	15.5M					

Source: BofA Global Research, Bloomberg, US Treasury

BofA GLOBAL RESEARCH

**Positioning indicators****Exhibit 3: 5y percentile of 10 equivalent duration positioning (percentile: higher = longer)**

Futures positioning proxy shows bias for rates to selloff, CFTC data adjusted for LFs is long, top down CTA model shows positioning is modestly long



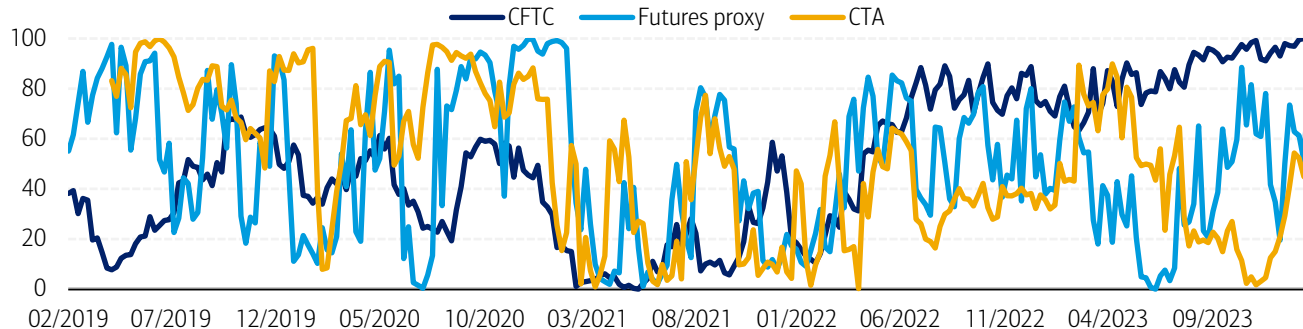
Source: BofA Global Research

BofA GLOBAL RESEARCH



**Exhibit 4: 5y percentile of curve positioning (percentile: higher = longer back-end relative to front end)**

CTAs &amp; futures positioning proxy show no clear curve bias, CFTC AMs have longs further out curve

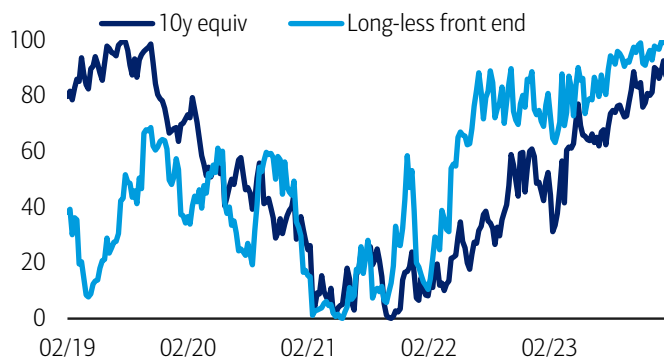


Source: BofA Global Research

BofA GLOBAL RESEARCH

**Exhibit 5: 5y percentile of non-commercial ex LF positioning**

Positioning is historically long and largely concentrated at the back-end

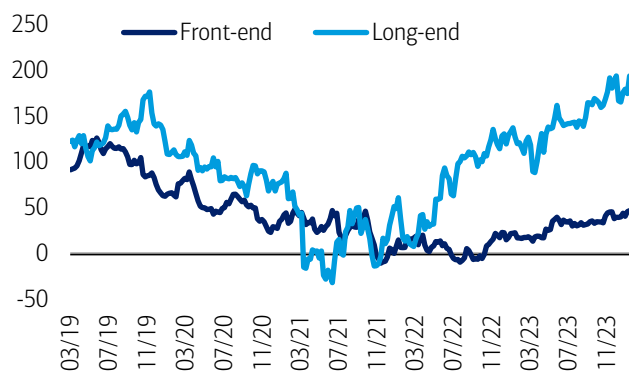


Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

**Exhibit 6: Non-commercial ex leveraged fund positioning (\$bn, 10y equivalent)**

Longs are more concentrated in the back-end

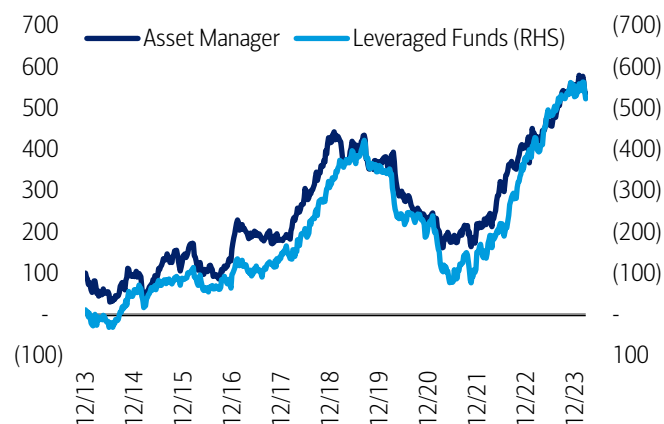


Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

**Exhibit 7: Asset manager and leveraged fund positioning (10y equivalent, \$bn)**

Asset manager longs correspond with leveraged fund shorts

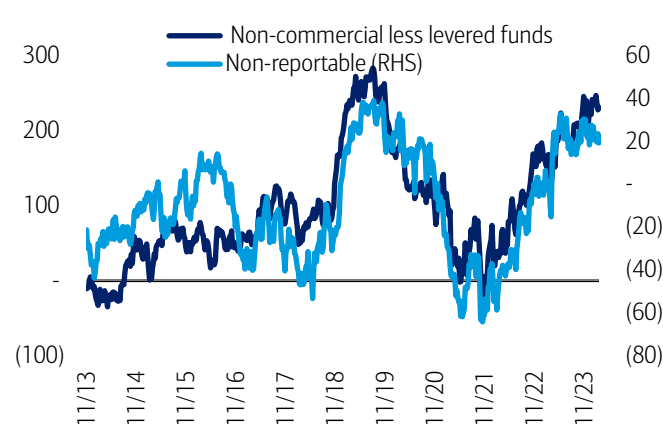


Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

**Exhibit 8: Non-commercial ex LFs and non-reportable positioning (10y equivalent, \$bn)**

Directional positions trend together



Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

### Exhibit 9: 10y rate change for given percentile of non-commercial ex-Leveraged fund positioning (higher percentile = longer)

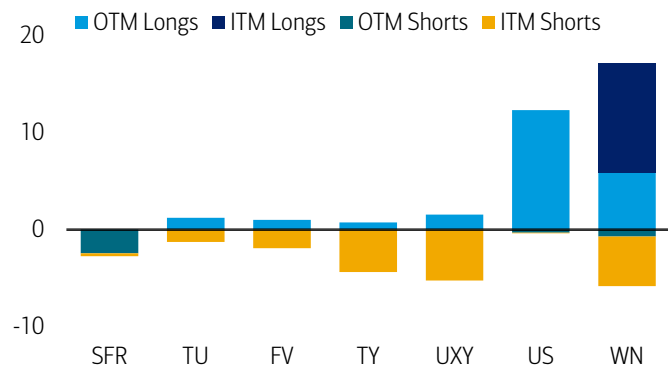
Positioning is a momentum signal: longer positioning is usually followed by stronger 10y performance

	0	1w	4w	8w	12w	16w
0 to 10	10	1	-1	0	1	2
10 to 20	20	2	4	4	3	4
20 to 30	30	5	2	2	2	4
30 to 40	40	2	5	5	4	4
40 to 50	50	0	0	0	1	1
50 to 60	60	1	0	0	0	0
60 to 70	70	1	0	1	1	1
70 to 80	80	-1	-1	-2	-3	-3
80 to 90	90	-4	-4	-3	-3	-5
90 to 100	100	-1	-1	-2	-1	-2

Source: BofA Global Research, Bloomberg, average performance calculated over last 5y  
BofA GLOBAL RESEARCH

### Exhibit 11: Proxies for futures positioning

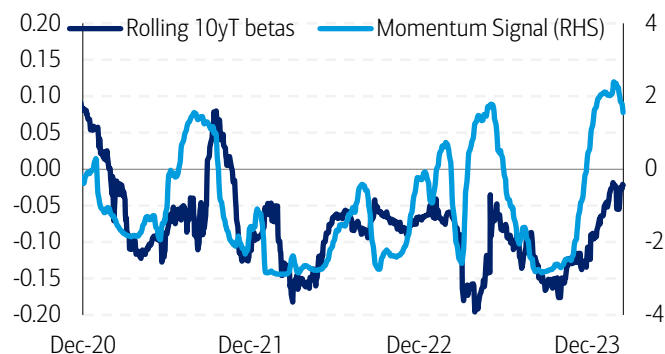
On the week, longs are more prominent at the back-end; shorts are mostly in the money across the belly



Source: BofA Global Research, Bloomberg  
BofA GLOBAL RESEARCH

### Exhibit 13: CTA positioning in 10yT

Momentum signal is off peak



Source: BofA Global Research  
BofA GLOBAL RESEARCH

### Exhibit 10: 10y rate change for given percentile of leveraged fund positioning (higher percentile = longer)

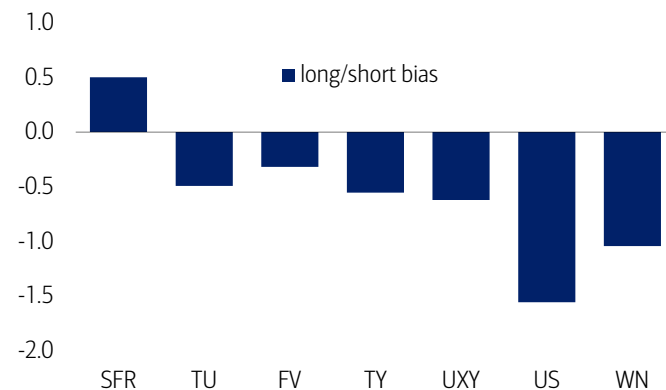
Positioning is contrarian signal: shorter positioning is usually followed by stronger 10y performance

	0	1w	4w	8w	12w	16w
0 to 10	10	0	0	-2	-3	-3
10 to 20	20	3	3	3	3	4
20 to 30	30	-2	-4	-2	-2	-2
30 to 40	40	-3	-2	-3	-3	-4
40 to 50	50	-4	-3	-4	-4	-5
50 to 60	60	4	4	4	2	2
60 to 70	70	4	1	2	3	4
70 to 80	80	3	4	4	3	5
80 to 90	90	2	4	4	4	5
90 to 100	100	-1	-2	-1	0	0

Source: BofA Global Research, Bloomberg, average performance calculated over last 5y  
BofA GLOBAL RESEARCH

### Exhibit 12: Analysis of proxies for futures positioning

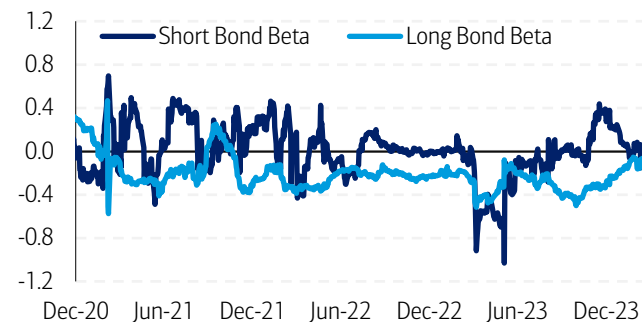
Bias is for rates to sell off except in SFR



Source: BofA Global Research, Bloomberg, Note: reflects average positioning of futures stack over last 5 days  
BofA GLOBAL RESEARCH

### Exhibit 14: CTA positioning in longer duration and shorter duration bonds

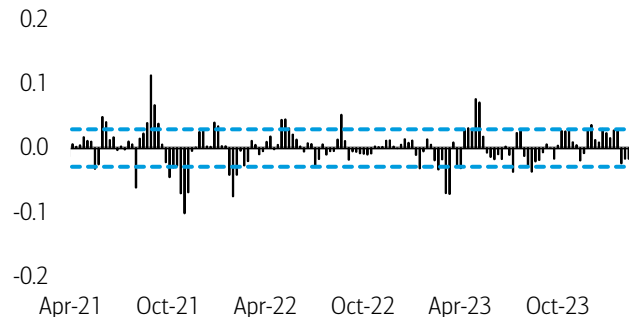
Top-down model suggests CTAs close to neutral at the front-end



Source: BofA Global Research  
BofA GLOBAL RESEARCH

**Exhibit 15: Changes in CTA 10yT beta**

Change in 10y beta was negative on the week

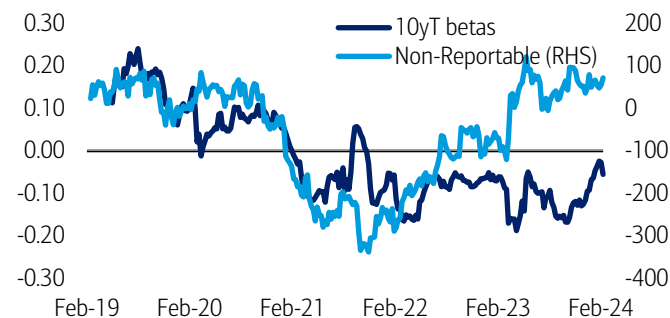


Source: BofA Global Research

BofA GLOBAL RESEARCH

**Exhibit 16: CTA 10y TSY beta and non-reportable positions**

Strong divergence between non-reportable position and top-down model, which tends to be lagged



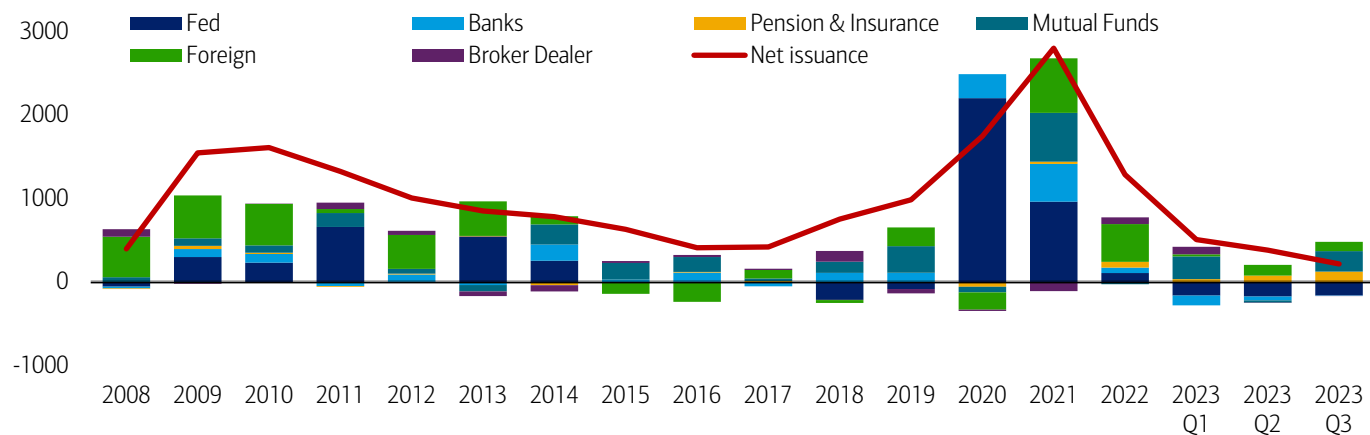
Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

## Flow of funds

**Exhibit 17: Large Treasury investor demand & coupon issuance (\$bn)**

Mutual funds, foreign investors, pension &amp; insurance were the largest buyers in Q3

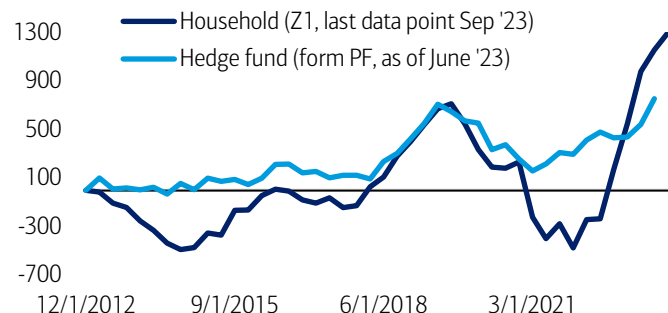


Source: BofA Global Research, Federal Reserve, Note: only reflects real money categories from flow of funds that generally invest in Treasury coupon securities, excludes households. Net issuance is coupon supply excluding Fed flows, which are shown as negative for periods where Fed is reducing size of its balance sheet

BofA GLOBAL RESEARCH

**Exhibit 18: Change in UST holdings (\$bn)**

Hedge funds UST holdings increased last year based on Flow of Funds data and form PF

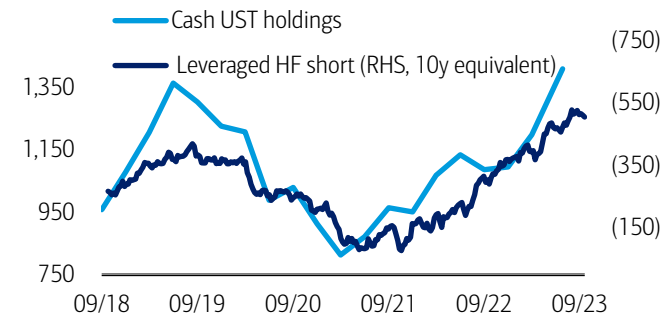


Source: BofA Global Research, Federal Reserve

BofA GLOBAL RESEARCH

**Exhibit 19: Hedge fund cash UST holdings vs leveraged fund shorts (\$bn)**

Form PF confirms that cash long has grown alongside futures short



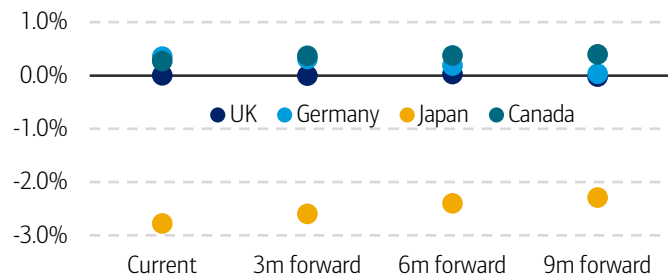
Source: BofA Global Research, Federal Reserve, Bloomberg

BofA GLOBAL RESEARCH

# FX hedged pickup and foreign flows

## Exhibit 20: FX hedged pickup of TSYs vs local alternatives implied by forwards

Market pricing suggests modest pickup for UK, German, CAD investors

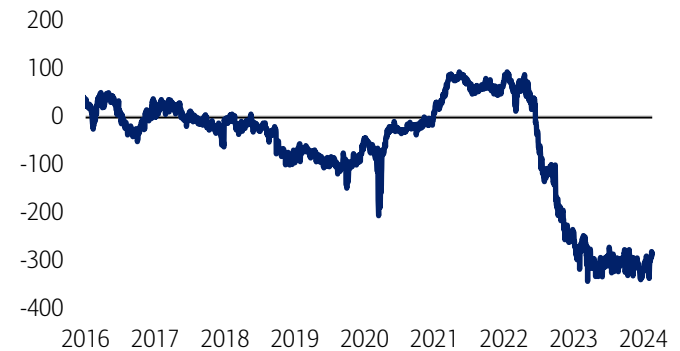


Source: BofA Global Research, Bloomberg. Note: pickup vs 10y local alternative except Japan which is relative to 20y JGB using 3m forward FX hedge

BofA GLOBAL RESEARCH

## Exhibit 21: 10Y UST pickup to 20Y JGB, with 3m fx hedge (bps)

10y TSY now offer very negative hedged pickup vs 20y JGBs

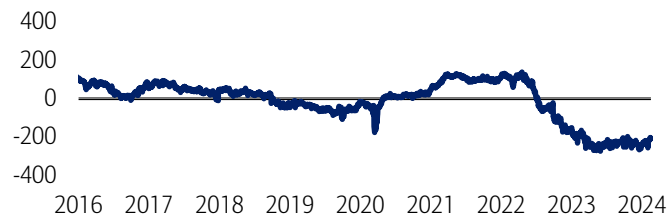


Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

## Exhibit 22: 10Y UST pickup to 10Y JGB, with 3m fx hedge (bps)

10y TSY now offer very negative hedged pickup vs 10y JGBs

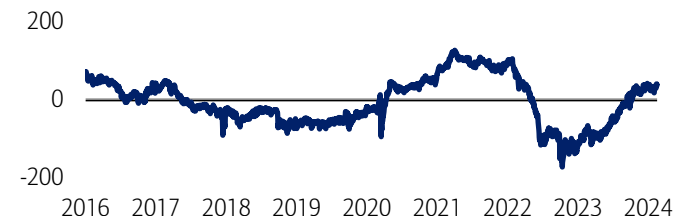


Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

## Exhibit 23: 10Y UST pickup to 10Y Bund, with 3m fx hedge (bps)

10y TSY offers now offer slight positive pickup vs 10y Bund

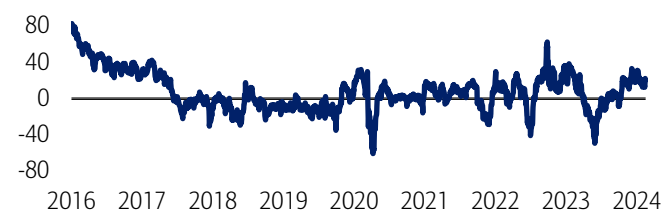


Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

## Exhibit 24: 10Y UST pickup to 10Y CAD govie, with 3m fx hedge (bps)

10y TSY hedged pickup improved to 10y CAD gov bond

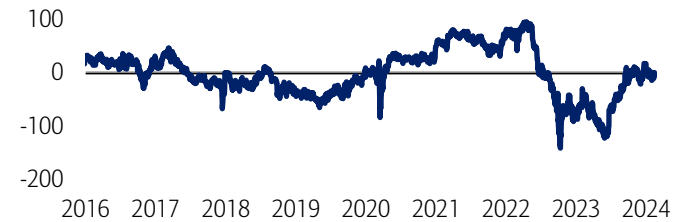


Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

## Exhibit 25: 10Y UST pickup to 10Y Gilt, with 3m fx hedge (bps)

10y TSY offers flat pickup vs gilts



Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

## Exhibit 26: 3m rolling JPY currency hedge

From the perspective of Japanese investor, pickup is negative across all regions

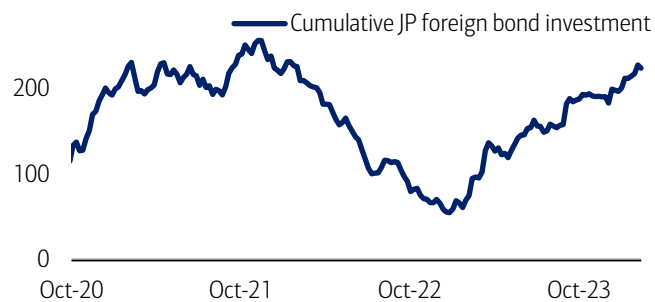
	2/22/2024		As of 1 wk ago		As of 1 mo ago		As of 1 yr ago	
	Pickup to 10y JGB	Pickup to 20y JGB	Pickup to 10y JGB	Pickup to 20y JGB	Pickup to 10y JGB	Pickup to 20y JGB	Pickup to 10y JGB	Pickup to 20y JGB
10y UST	-2.04%	-2.78%	-2.04%	-2.83%	-2.22%	-3.03%	-1.89%	-2.71%
10y GER	-2.41%	-3.14%	-2.43%	-3.21%	-2.56%	-3.37%	-1.15%	-1.96%
10y FRA	-1.94%	-2.67%	-1.96%	-2.74%	-2.08%	-2.88%	-0.67%	-1.49%
10y BEL	-1.85%	-2.59%	-1.85%	-2.64%	-1.95%	-2.76%	-0.55%	-1.37%
10y ITA	-0.95%	-1.68%	-0.96%	-1.75%	-1.05%	-1.86%	0.78%	-0.04%
10y SPA	-1.51%	-2.25%	-1.54%	-2.32%	-1.67%	-2.47%	-0.17%	-0.99%
10y UK	-2.05%	-2.78%	-2.02%	-2.80%	-2.21%	-3.02%	-1.43%	-2.25%
10y CAN	-2.30%	-3.04%	-2.31%	-3.09%	-2.37%	-3.18%	-1.97%	-2.79%

Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

### Exhibit 27: Japan investment in foreign bonds, cumulative weekly (\$bn)

Long & medium term bonds (\$bn) holdings dropped on the week

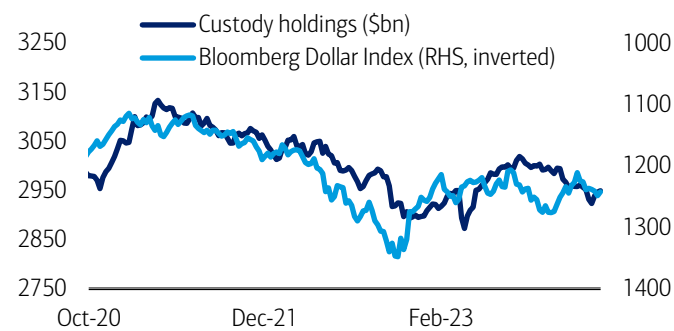


Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

### Exhibit 28: Foreign custody holdings and USD

Custodial holdings picked up modestly on the week

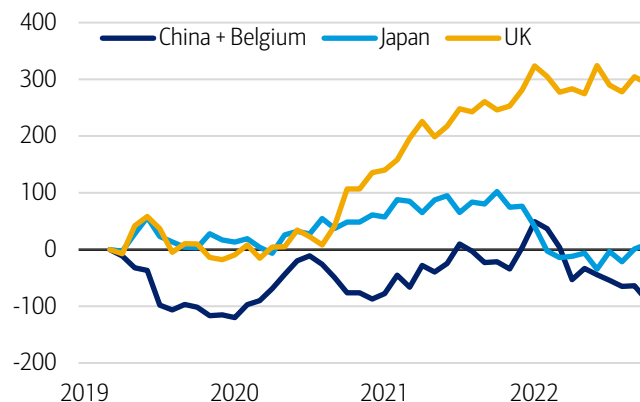


Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

### Exhibit 29: Cumulative UST flows from foreign investors (\$bn)

China + Belgium have turned to net sellers since end of '22, Japan roughly flat after selling last year; UK largest buyer

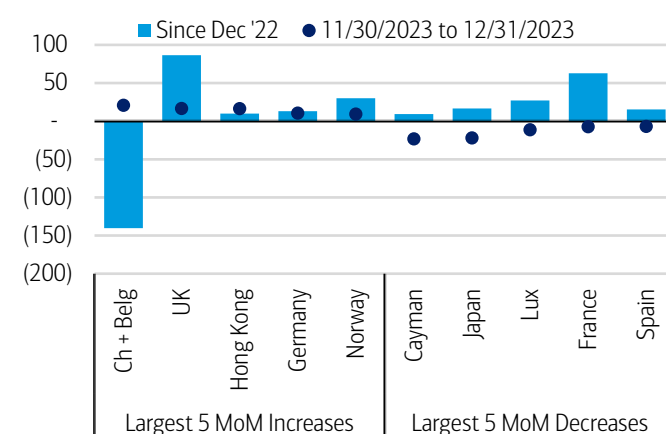


Source: BofA Global Research, Bloomberg, TIC, note: references the valuation-adjusted flow

BofA GLOBAL RESEARCH

### Exhibit 30: Largest MoM changes in foreign TSY holdings (\$bn)

China + Belgium were the largest buyer, Cayman the largest seller in December

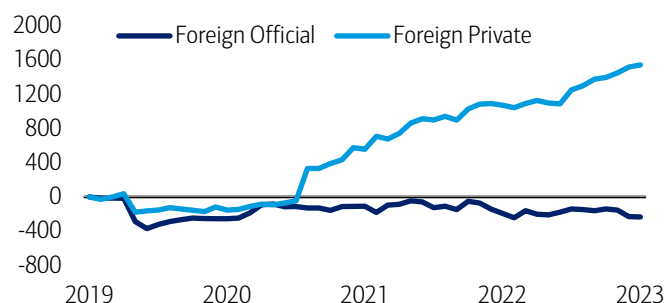


Source: BofA Global Research, TIC, Note: adjusted for level of rates

BofA GLOBAL RESEARCH

### Exhibit 31: Cumulative UST flows from foreign investors (\$bn)

While official UST holdings have declined in recent years, foreign private investors have more than offset



Source: BofA Global Research, Bloomberg, TIC, note: references the valuation-adjusted flow

BofA GLOBAL RESEARCH

### Exhibit 32: Foreign buyers and sellers of USTs in 2023(\$bn)

Foreign demand from private investors was strong in 2023, while China and Belgium were the largest regional sellers



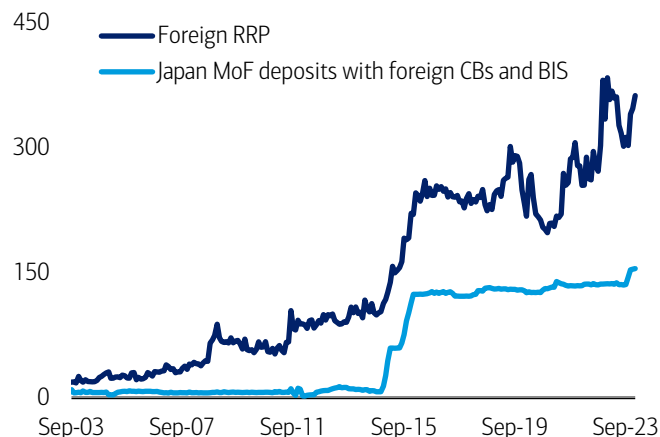
Source: BofA Global Research, Note: TIC data YTD through August adjusted for valuation

BofA GLOBAL RESEARCH



### Exhibit 33: Japanese deposits with other central banks and Fed foreign repo pool (\$bn)

Vast majority of \$154bn in MoF deposits likely at Fed's foreign repo pool



Source: Japan MoF, Federal Reserve, Bloomberg

BofA GLOBAL RESEARCH

### Exhibit 35: Monthly change in Japanese investor foreign bond holdings (\$USD, bn)

Banks were largest buyers in January

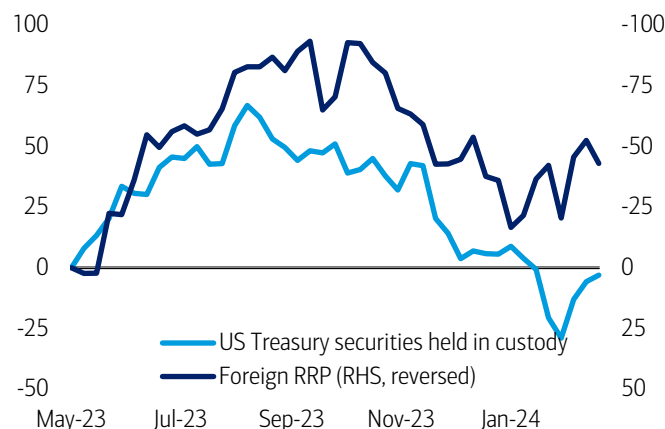
	Pension	Lifer	Bank	
Jan - 24	2.4	0.3	8.9	
Dec - 23	7.3	-0.5	3.5	
Nov - 23	-3.3	-6.6	-5.5	
Oct - 23	-1.4	-1.8	4	
Sep - 23	-5	-1.2	31.9	
Aug - 23	7.7	1.6	2.5	
Jul - 23	4.3	-0.5	-12.9	
Jun - 23	3	-0.4	12.1	
May - 23	-0.1	-0.4	23.5	
Apr - 23	2.1	0.5	-15.3	
Mar - 23	3.4	0.1	28.8	
Feb - 23	3.4	-2.8	27.9	
Jan - 23	10.3	-8.5	-4.2	

Source: BofA Global Research, Japanese MoF

BofA GLOBAL RESEARCH

### Exhibit 34: Cumulative change in custody holdings and foreign RRP since May 2023 (\$bn)

Custody holdings & RRP increased on the week

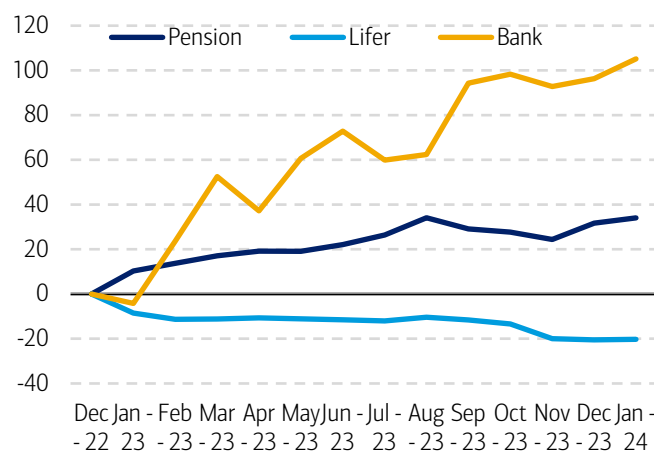


Source: BofA Global Research, Federal Reserve, Bloomberg

BofA GLOBAL RESEARCH

### Exhibit 36: Cumulative change in Japanese investor foreign bond holdings (\$USD, bn)

Banks were the largest buyers in 2023



Source: BofA Global Research, Japanese MoF

BofA GLOBAL RESEARCH

# Fund flows and returns

## Exhibit 37: US fixed income fund flows (\$million)

Large inflows driven by mixed allocation funds

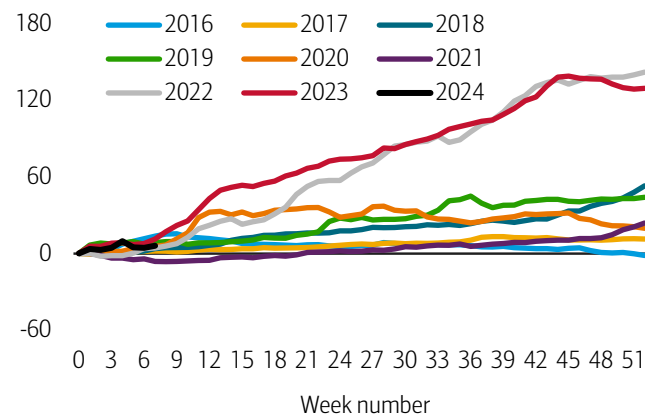
	2/21/2024	Rolling 4w average	Rolling 8w average	Rolling 12w average	Rolling 52w average
Gov: short	207	(2,041)	(394)	(870)	689
Gov: intermediate	1,009	585	563	297	354
Gov: long	1,300	1,197	896	685	1,278
Corp: IG	738	102	1,616	1,448	412
Corp:HY	826	855	588	712	233
Corp: all quality	59	62	79	81	51
MBS	38	209	313	154	269
Inflation	(111)	(128)	(91)	(424)	(403)
Muni	555	423	327	159	(14)
Mixed allocation	4,741	5,250	4,437	3,259	2,136
All US FI	9,310	6,415	8,137	5,499	4,695

Source: BofA Global Research, EPFR

BofA GLOBAL RESEARCH

## Exhibit 38: Sovereign fund inflows by year (\$bn)

Flows on the week picked up

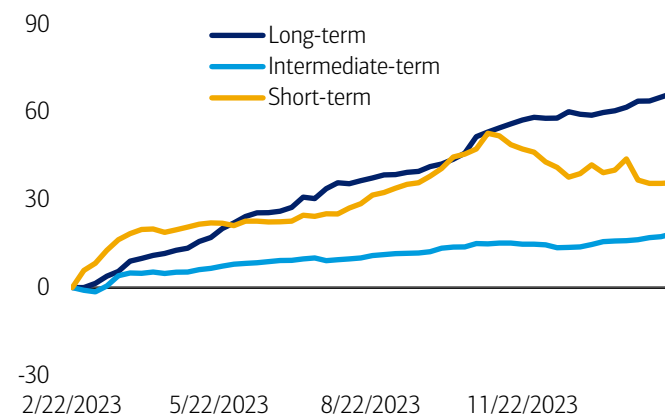


Source: BofA Global Research, EPFR

BofA GLOBAL RESEARCH

## Exhibit 39: Sovereign inflows by tenor (\$bn)

Inflows have been concentrated in long-term and short-term funds, inflows in short-term funds has declined since Nov last year

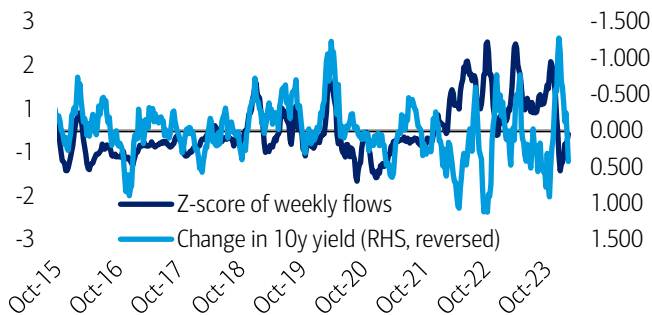


Source: BofA Global Research, EPFR

BofA GLOBAL RESEARCH

**Exhibit 40: Fund flows and rate change (Z-score)**

Fund flows recently have been historically strong alongside rates rally

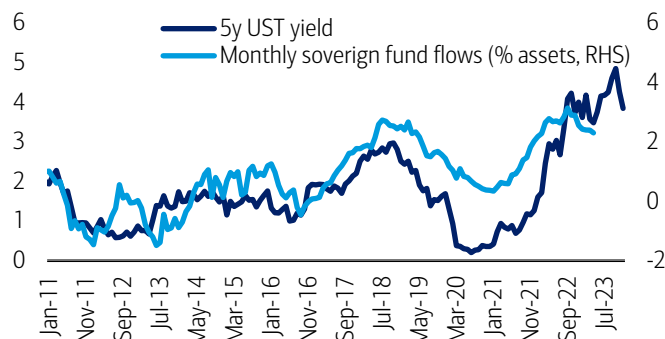


Source: BofA Global Research, EPFR

BofA GLOBAL RESEARCH

**Exhibit 42: Sovereign fund flows and UST yield**

Inflows higher when yields are higher

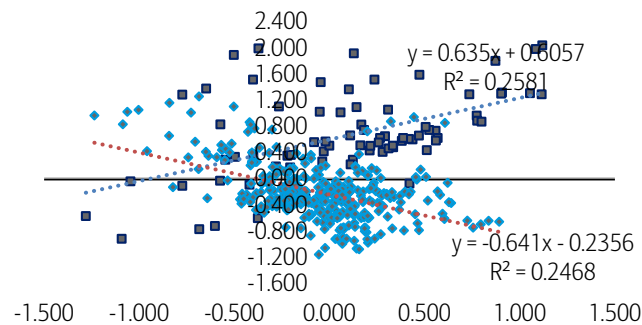


Source: BofA Global Research, EPFR, Note: sovereign fund flows is midpoint of 12mo average

BofA GLOBAL RESEARCH

**Exhibit 41: Fund flows and rate change**

Since start of '22, fund flows are less negatively correlated to change in rates

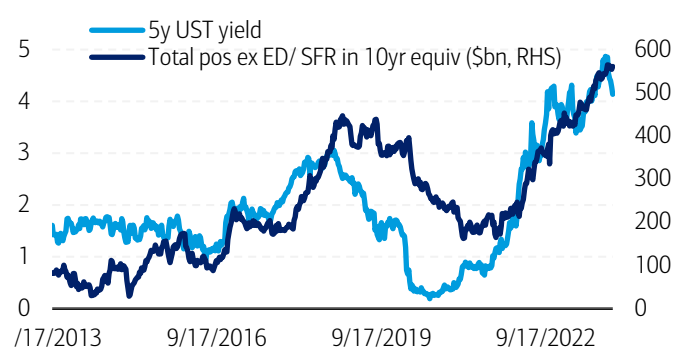


Source: BofA Global Research, EPFR, Bloomberg, Note: dark = post '22, light = '15-'22

BofA GLOBAL RESEARCH

**Exhibit 43: Asset manager futures positioning and UST yield**

Asset manager futures positioning trends with yield levels



Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

**Exhibit 44: Total return FI fund performance vs benchmark**

Over the last week, AUM weighted fund performance was modestly above benchmark

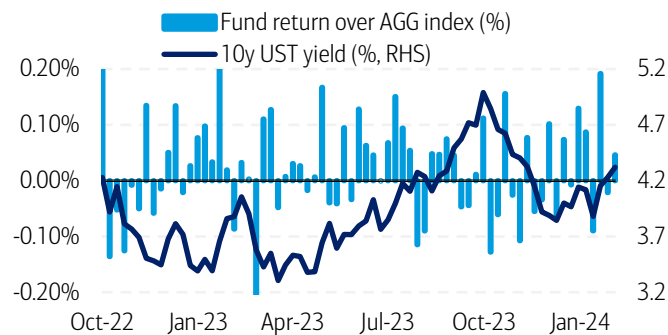
	AUM (\$Bn)	2/22/2024	Vs. Agg	Last 4w	Vs. Agg
Vanguard Total Bond Market II Index Fund	275	-0.36%	0.08%	-0.90%	0.03%
Vanguard Total Bond Market Index Fund	211	-0.46%	-0.02%	-0.99%	-0.06%
PIMCO Income fund	141	-0.25%	0.19%	-0.35%	0.58%
The Bond Fund of America	80	-0.54%	-0.10%	-1.10%	-0.17%
MetWest Total Return Bond Fund	52	-0.59%	-0.15%	-1.12%	-0.18%
PIMCO Total Return Fund	54	-0.51%	-0.06%	-0.85%	0.08%
Dodge & Cox Income Fund	72	-0.40%	0.04%	-0.72%	0.21%
PGIM Total Return Bond Fund	43	-0.33%	0.11%	-0.66%	0.27%
BlackRock Strategic Income Opportunities Fund	37	-0.23%	0.21%	-0.09%	0.84%
Baird Aggregate Bond Fund	44	-0.41%	0.03%	-0.77%	0.16%
JPMorgan Core Bond Fund	44	-0.39%	0.05%	-0.81%	0.12%
DoubleLine Total Return Bond Fund	31	-0.35%	0.10%	-0.53%	0.40%
Fidelity Series Investment Grade Bond Fund	36	-0.42%	0.02%	-0.78%	0.15%
Fidelity Total Bond Fund	35	-0.34%	0.10%	-0.73%	0.20%
Western Asset Core Plus Bond Portfolio	21	-0.45%	-0.01%	-0.93%	0.00%
Baird Core Plus Bond Fund	28	-0.30%	0.14%	-0.73%	0.20%
John Hancock Bond Fund	23	-0.36%	0.08%	-0.70%	0.23%
TIAA-CREF Bond Index Fund	23	-0.46%	-0.02%	-1.00%	-0.07%
BlackRock Total Return Fund	19	-0.42%	0.02%	-0.77%	0.16%
JPMorgan Core Plus Bond Fund	19	-0.28%	0.16%	-0.63%	0.30%
Bridge Builder Core Bond Fund	17	-0.37%	0.07%	-0.69%	0.24%
T Rowe Price New Income Fund	16	-0.42%	0.02%	-1.08%	-0.15%
Western Asset Core Bond Fund	14	-0.49%	-0.05%	-0.92%	0.01%
CREF Bond Market Account	11	-0.35%	0.09%	-0.68%	0.25%
Fidelity Investment Grade Bond Fund	9	-0.35%	0.09%	-0.83%	0.10%
DoubleLine Core Fixed Income Fund	7	-0.33%	0.12%	-0.67%	0.26%
TCW Total Return Bond Fund	2	-0.64%	-0.19%	-1.15%	-0.21%
Janus Henderson Flexible Bond Fund	3	-0.45%	-0.01%	-1.02%	-0.09%
Weighted avg	1366	-0.40%	0.05%	-0.80%	0.13%
Agg		-0.44%		-0.93%	
10y return		-0.91%		-2.02%	

Source: BofA Global Research, Bloomberg. Note: Excess returns are fund total returns over Bloomberg Barclays Agg Index

BofA GLOBAL RESEARCH

**Exhibit 45: Total return funds, excess return vs. 10y rate**

Weekly asset-weighted total returns for total return funds. Funds outperformed with higher rates.

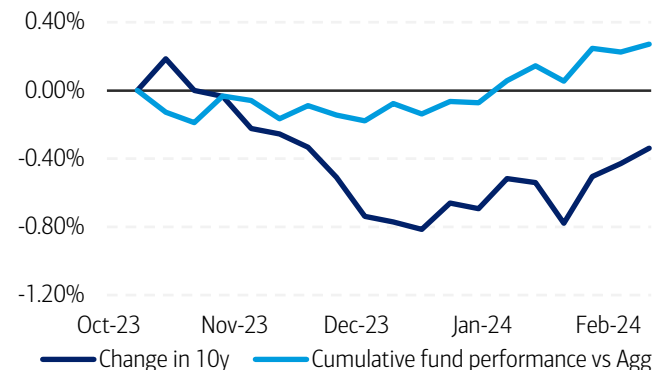


Source: BofA Global Research, Bloomberg. Note: Excess returns are fund total returns over Bloomberg Barclays Agg index

BofA GLOBAL RESEARCH

**Exhibit 46: Cumulative return of TR FI funds over benchmark vs 10yT**

Funds have modestly outperformed since start of the year



Source: BofA Global Research, Bloomberg. Note: Excess returns are fund total returns over Bloomberg Barclays AGG index

BofA GLOBAL RESEARCH

**Exhibit 47: Total return funds' published UST allocations vs benchmark from Q3 and Q4 '23**

While on an AUM-weighted basis positioning was largely unchanged, more funds added to UST allocation by 1PPT than reduced UST allocation by 1PPT

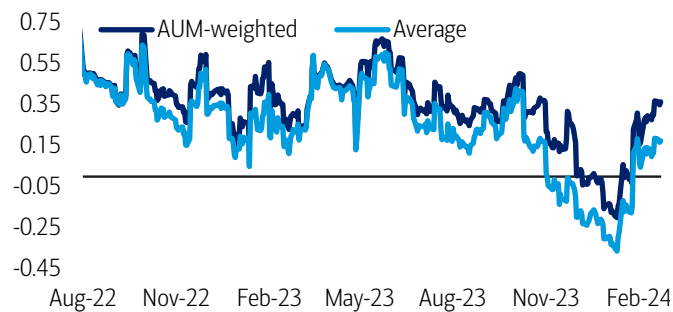
		Q3 '23 (%)	Q4 '23 (%)	Change (PPTS)
VTBIX	Vanguard Total Bond Market II Index Fund	2.2	2.3	0.0
VBMFX	Vanguard Total Bond Market Index Fund	1.3	1.0	-0.3
PIMIX	PIMCO Income fund	-34.8	-35.0	-0.2
ABNDX	The Bond Fund of America	-22.4	-23.6	-1.1
DODIX	Dodge & Cox Income Fund	-29.8	-29.1	0.7
PTTRX	PIMCO Total Return Fund	-23.9	-25.6	-1.8
MWTIX	MetWest Total Return Bond Fund	-17.4	-14.6	2.8
PGBOX	JPMorgan Core Bond Fund	-3.9	-5.3	-1.4
BAGIX	Baird Aggregate Bond Fund	-18.8	-18.3	0.5
PDBAX	PGIM Total Return Bond Fund	-34.9	-35.4	-0.5
BSIIX	BlackRock Strategic Income Opportunities Fund	-24.0	-30.2	-6.2
FSIGX	Fidelity Series Investment Grade Bond Fund	-6.4	-4.1	2.3
FTBFX	Fidelity Total Bond Fund	-11.6	-9.8	1.7
DBLTX	DoubleLine Total Return Bond Fund	-34.6	-35.1	-0.5
BCOIX	Baird Core Plus Bond Fund	-19.1	-15.2	3.9
JHBIX	John Hancock Bond Fund	-21.6	-19.6	2.0
TBIIX	TIAA-CREF Bond Index Fund	0.0	-0.1	-0.1
WACPX	Western Asset Core Plus Bond Portfolio	-38.6	-36.0	2.6
ONIAx	JPMorgan Core Plus Bond Fund	-3.1	-11.4	-8.3
MAHQX	BlackRock Total Return Fund	-1.9	-7.2	-5.3
BBTBX	Bridge Builder Core Bond Fund	-24.6	-22.1	2.5
PRCIX	T Rowe Price New Income Fund	-8.6	-6.8	1.8
WATFX	Western Asset Core Bond Fund	-32.1	-28.6	3.5
QCBMIX	CREF Bond Market Account	-23.0	-21.2	1.9
FBNDX	Fidelity Investment Grade Bond Fund	3.5	-4.4	-7.9
DBLFX	DoubleLine Core Fixed Income Fund	-18.5	-18.6	-0.1
JFLEX	Janus Henderson Flexible Bond Fund	-26.0	-28.1	-2.1
TGLMX	TCW Total Return Bond Fund	-39.9	-39.7	0.2
<b>AUM weighted</b>		-13.7	-13.9	-0.2

Source: BofA Global Research, funds' publicly available reports

BofA GLOBAL RESEARCH

**Exhibit 48: Rolling 30-day correlation between excess return and change in 10y UST yield**

A higher correlation between the two would suggest that when UST yields increase, excess return is higher (more short), recent decline may suggest moderation in short positioning

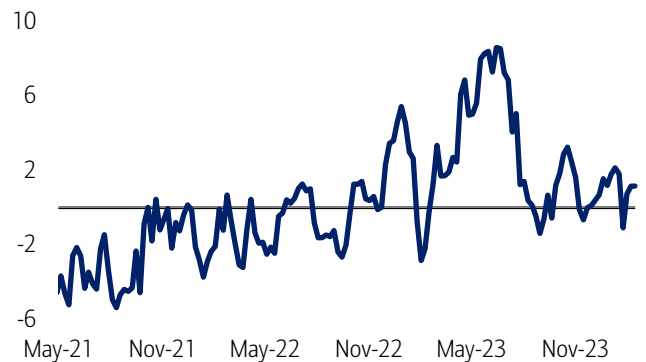


Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

**Exhibit 49: Primary dealer 2-6y holdings of TIPS (\$bn)**

Primary dealer holdings flat so far in Feb

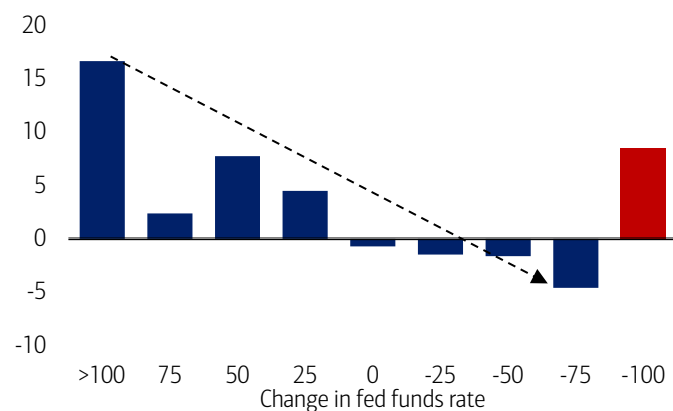


Source: BofA Global Research, Note: cumulative change since 2021 reflects adjustment for change in market value

BofA GLOBAL RESEARCH

### Exhibit 50: Rolling 3mo change in US duration exposure from FXRS Survey vs rolling 3mo change in Fed funds rate

Duration allocation is stable/ lower as Fed cuts

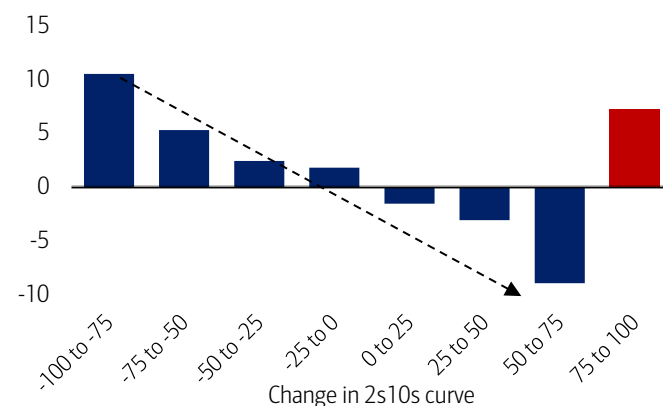


Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

### Exhibit 51: Rolling 3mo change in US duration exposure from FXRS Survey vs rolling 3mo change in 2y10y curve

As curve steepens duration allocation is reduced

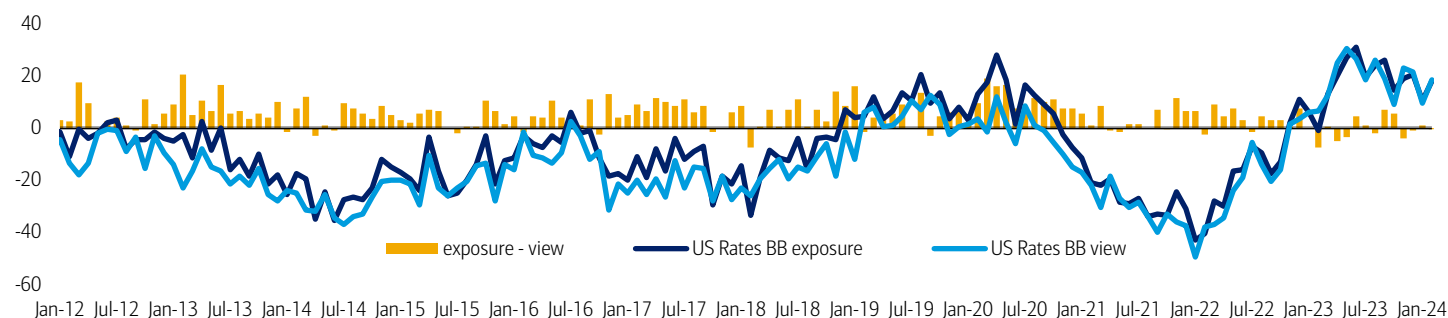


Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

### Exhibit 52: Duration exposure and view: USD

Duration longs up, in line with sentiment



Source: BofA Global Research FX and Rates Sentiment Survey

BB is the Bull-Bear Index for exposure and view. It weights responses to create an index ranging from -100 to +100, zero representing neutral. See appendix for formulas.

BofA GLOBAL RESEARCH

# Bank balance sheets

## Exhibit 53: Changes to bank balance sheet assets (\$bn)

US banks saw an increase in assets driven by cash & other

		Current (02/14/2024)	1w change	Rolling 4w avg wkly chg	Rolling 8w avg wkly chg	Rolling 12w avg wkly chg	Rolling 52w avg wkly chg
All (\$bn, NSA)	Total Assets	23336	48	4	3	20	6
	Cash	3570	1	-11	7	6	8
	UST & Agency	1564	4	2	-3	3	-1
	MBS	2542	8	0	4	3	-3
	Loans and Leases	12304	9	5	-6	3	5
	Other	3356	25	8	2	4	-2
Large Domestic (\$bn, NSA)	Total Assets	13489	58	-13	-16	6	4
	Cash	1701	16	-25	-10	0	6
	UST & Agency	1162	9	5	-3	3	-1
	MBS	1929	6	0	3	2	0
	Loans and Leases	6741	3	0	-7	-1	1
	Other	1956	25	6	1	2	-2
Small Domestic (\$bn, NSA)	Total Assets	6603	6	1	1	5	1
	Cash	467	1	0	-1	2	2
	UST & Agency	294	1	0	0	0	-1
	MBS	583	1	0	1	2	-3
	Loans and leases	4473	2	1	1	2	4
	Other	786	2	1	0	-1	-1
All Domestic (\$bn, NSA)	Total Assets	20092	64	-13	-15	11	5
	Cash	2168	16	-25	-11	2	8
	UST & Agency	1456	9	5	-3	3	-1
	MBS	2512	7	-1	4	3	-3
	Loans and leases	11214	5	1	-7	1	4
	Other	2742	27	6	1	1	-3
Foreign (\$bn, NSA)	Total Assets	3243	-16	17	19	9	1
	Cash	1402	-15	14	18	4	0
	UST & Agency	108	-5	-3	0	0	0
	MBS	30	1	1	0	0	0
	Loans and leases	1090	4	4	0	2	1
	Other	614	-2	1	1	3	1

Source: BofA Global Research, Federal Reserve, Bloomberg

BofA GLOBAL RESEARCH

## Exhibit 54: Select bank balance sheet liabilities (\$bn, NSA)

Deposits increased

		Current (02/14/2024)	1w change	Rolling 4w avg wkly chg	Rolling 8w avg wkly chg	Rolling 12w avg wkly chg	Rolling 52w avg wkly chg
Deposits (\$bn, NSA)	All	17489	55	-6	-13	10	-4
	Domestic	16151	47	-12	-20	7	-3
	Large Domestic	10826	43	-13	-18	5	-3
	Small Domestic	5325	4	1	-2	2	-1
	Foreign	1338	8	5	7	4	0
Other borrowing (\$bn, NSA)	All	2460	8	8	12	10	9
	Domestic	1405	8	6	7	4	7
	Large Domestic	984	6	6	7	4	6
	Small Domestic	421	1	-1	0	0	0
	Foreign	1054	1	2	5	6	3

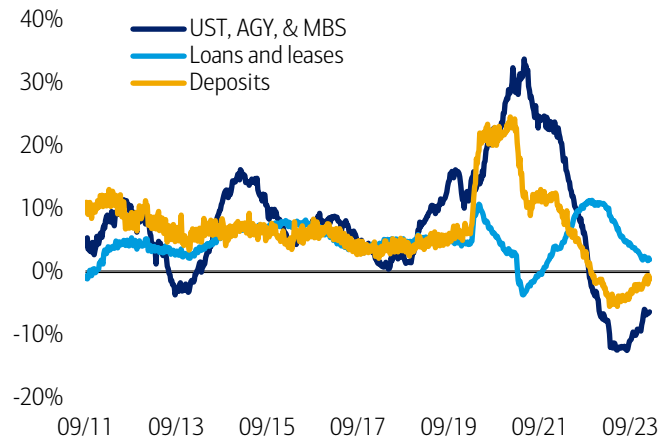
Source: BofA Global Research, Federal Reserve, Bloomberg

BofA GLOBAL RESEARCH



**Exhibit 55: YoY change in securities, loans, and deposits**

Securities growth usually only positive when deposit growth is positive

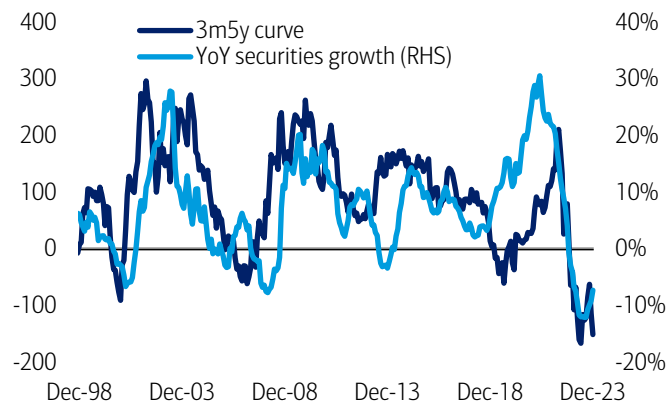


Source: BofA Global Research, Bloomberg, Federal Reserve

BofA GLOBAL RESEARCH

**Exhibit 57: Front-end curve and YoY bank securities portfolio change**

Securities portfolio growth picks up historically with steeper front-end curve

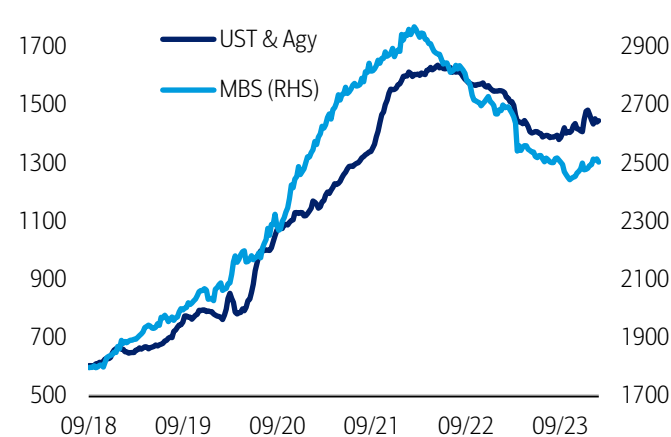


Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

**Exhibit 56: Domestic bank holdings of UST& Agy, MBS**

Holdings have stabilized after declining since start of '22



Source: BofA Global Research, Bloomberg, Federal Reserve

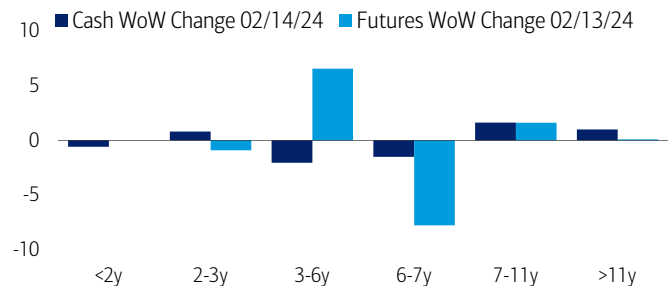
BofA GLOBAL RESEARCH



# Primary dealer balance sheet

## Exhibit 58: Dealers WoW change in positions

10y equivalent, \$bn, futures position higher in 3-6y; lower in 6-7y

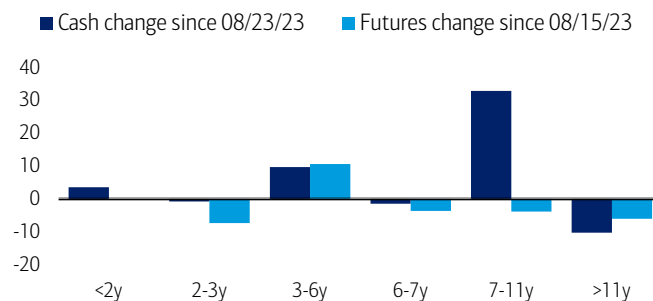


Source: BofA Global Research, NY Fed, CFTC

BofA GLOBAL RESEARCH

## Exhibit 59: Dealers change in positions over last 6mo

10y equivalent, \$bn, cash positions higher in 3-6y & 7-11y buckets

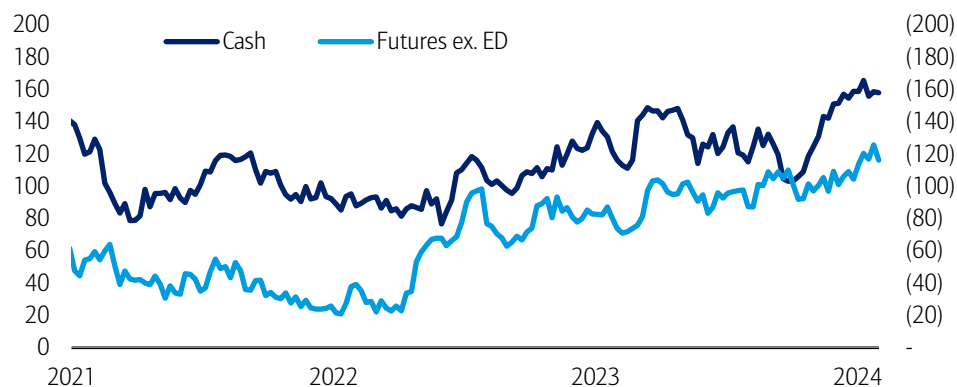


Source: BofA Global Research, NY Fed, CFTC

BofA GLOBAL RESEARCH

## Exhibit 60: Dealers total sector positions

10y equivalent, \$bn, growth in cash holdings has outpaced futures



Source: BofA Global Research, NY Fed, CFTC, Note: futures on RHS axis

BofA GLOBAL RESEARCH

# Auction statistics

## Exhibit 61: Auction summary statistics

Z-score calculated on levels, Investment fund participation in auctions remains robust

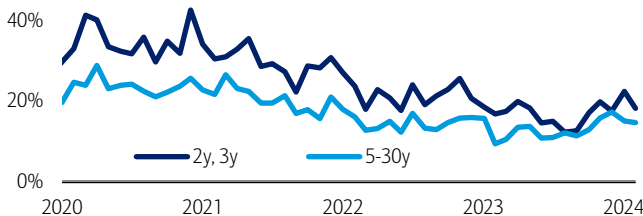
		Primary Dealer	Indirect Bidder	Direct Bidder	Investment Fund	Foreign	Depository Institution
2y	1/31/2024	18.6%	61.9%	19.5%	68.2%	14.6%	0.0%
	MoM Change	0.0%	0.0%	0.0%	0.5%	3.3%	0.0%
	1Y Z-score	0.6	-0.2	-0.4	0.5	-0.2	-0.2
3y	1/16/2024	17.8%	65.3%	16.8%	68.3%	12.3%	0.0%
	MoM Change	-8.4%	13.2%	-4.9%	8.3%	0.8%	0.0%
	1Y Z-score	0.1	0.3	-0.7	0.6	-0.9	-0.3
5y	1/31/2024	14.0%	15.4%	70.6%	68.6%	8.8%	0.0%
	MoM Change	0.0%	0.0%	0.0%	-6.4%	0.3%	0.0%
	1Y Z-score	0.3	-1.3	0.5	-1.2	-1.1	-0.5
7y	1/31/2024	16.9%	63.7%	19.4%	69.8%	13.8%	0.0%
	MoM Change	0.0%	0.0%	0.0%	0.8%	2.4%	0.0%
	1Y Z-score	0.9	-0.9	0.5	-0.4	0.4	-0.5
10y	1/16/2024	15.1%	66.1%	18.7%	67.6%	13.0%	0.0%
	MoM Change	-2.2%	2.3%	-0.2%	-0.3%	1.6%	0.0%
	1Y Z-score	0.2	-0.1	0.0	0.2	-0.4	-0.5
20y	1/31/2024	12.9%	66.4%	20.7%	69.1%	10.8%	0.0%
	MoM Change	0.0%	0.0%	0.0%	0.1%	-4.4%	0.0%
	1Y Z-score	1.2	-1.0	0.5	-1.3	-1.3	#DIV/0!
30y	1/16/2024	14.5%	67.8%	17.7%	76.0%	6.6%	0.0%
	MoM Change	0.3%	-0.7%	0.4%	6.3%	-5.8%	0.0%
	1Y Z-score	0.2	-0.1	-0.3	0.9	-1.8	-0.7

Source: BofA Global Research, Treasury

BofA GLOBAL RESEARCH

## Exhibit 62: Primary dealer – average auction allotment

Dealer participation declined

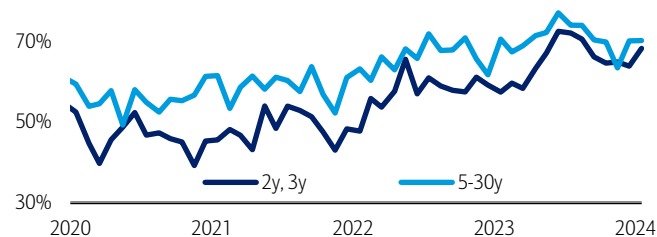


Source: BofA Global Research, Treasury

BofA GLOBAL RESEARCH

## Exhibit 63: Investment fund – average auction allotment

Fund participation still elevated

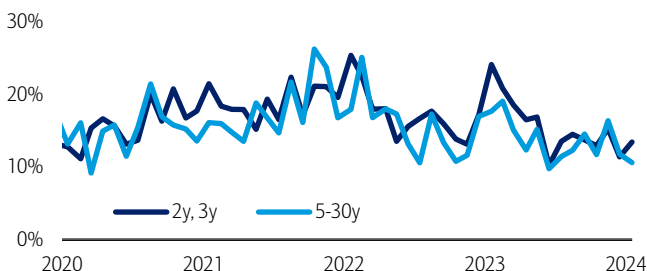


Source: BofA Global Research, Treasury

BofA GLOBAL RESEARCH

## Exhibit 64: Foreign investment – average auction allotment

Foreign participation still below average and declined recently

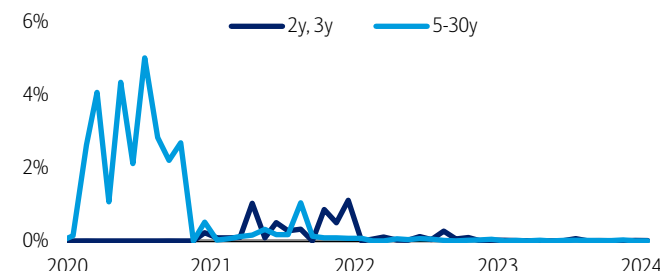


Source: BofA Global Research, Treasury

BofA GLOBAL RESEARCH

## Exhibit 65: Depository institutions – average auction allotment

Participation is minimal



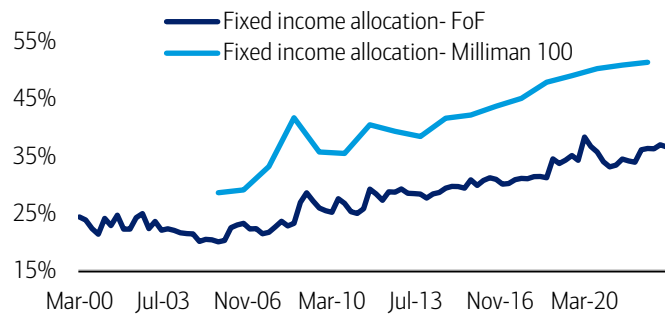
Source: BofA Global Research, Treasury

BofA GLOBAL RESEARCH

# Pensions

## Exhibit 66: DB private pension fixed income allocation from Flow of Funds and smaller Milliman subset

Milliman funds have shown more de-risking than broader private DB pension funds according to FoF

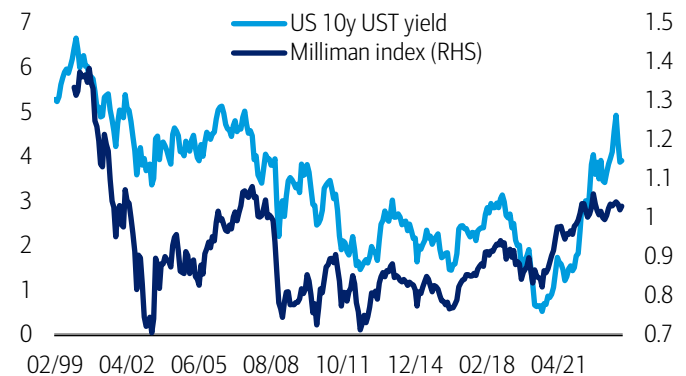


Source: BofA Global Research, Milliman, Federal Reserve

BofA GLOBAL RESEARCH

## Exhibit 67: 10y UST yield and Milliman pension funded index

Funded status historically improves with an increase in interest rates

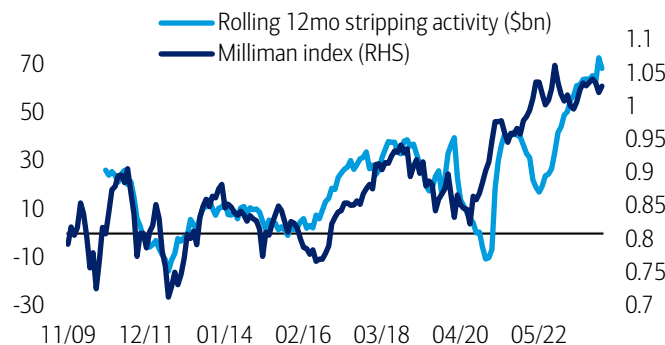


Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

## Exhibit 68: Milliman index and 12mo increase in USTs held in stripped form

Higher pension funded status aligns with higher stripping activity

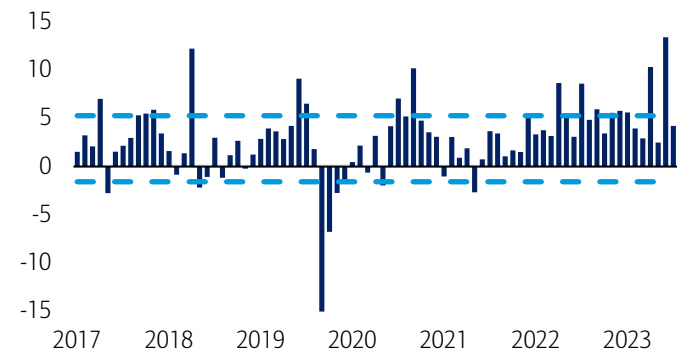


Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

## Exhibit 69: Change in USTs held in stripped form (\$bn)

USTs held in stripped form declined from December record high

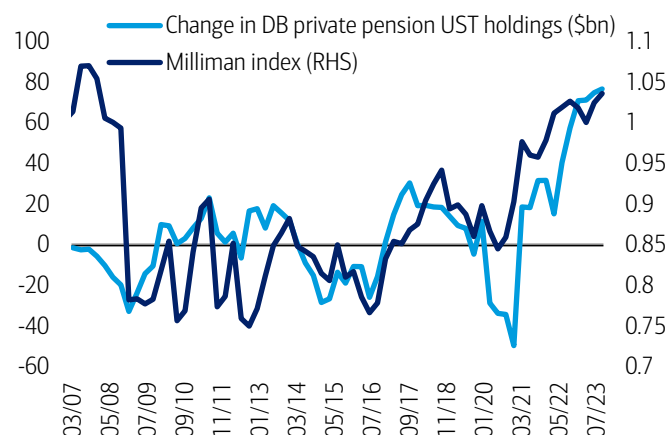


Source: BofA Global Research, Note: dashed line is 1stdev

BofA GLOBAL RESEARCH

## Exhibit 70: UST holdings of private DB pensions and funded status

When funded status is higher, pension funds buy more USTs



Source: BofA Global Research, Bloomberg, Federal Reserve

BofA GLOBAL RESEARCH



# Disclosures

## Important Disclosures

BofA Global Research personnel (including the analyst(s) responsible for this report) receive compensation based upon, among other factors, the overall profitability of Bank of America Corporation, including profits derived from investment banking. The analyst(s) responsible for this report may also receive compensation based upon, among other factors, the overall profitability of the Bank's sales and trading businesses relating to the class of securities or financial instruments for which such analyst is responsible. BofA Securities fixed income analysts regularly interact with sales and trading desk personnel in connection with their research, including to ascertain pricing and liquidity in the fixed income markets.

## Other Important Disclosures

Prices are indicative and for information purposes only. Except as otherwise stated in the report, for any recommendation in relation to an equity security, the price referenced is the publicly traded price of the security as of close of business on the day prior to the date of the report or, if the report is published during intraday trading, the price referenced is indicative of the traded price as of the date and time of the report and in relation to a debt security (including equity preferred and CDS), prices are indicative as of the date and time of the report and are from various sources including BofA Securities trading desks.

The date and time of completion of the production of any recommendation in this report shall be the date and time of dissemination of this report as recorded in the report timestamp.

This report may refer to fixed income securities or other financial instruments that may not be offered or sold in one or more states or jurisdictions, or to certain categories of investors, including retail investors. Readers of this report are advised that any discussion, recommendation or other mention of such instruments is not a solicitation or offer to transact in such instruments. Investors should contact their BofA Securities representative or Merrill Global Wealth Management financial advisor for information relating to such instruments. Rule 144A securities may be offered or sold only to persons in the U.S. who are Qualified Institutional Buyers within the meaning of Rule 144A under the Securities Act of 1933, as amended. SECURITIES OR OTHER FINANCIAL INSTRUMENTS DISCUSSED HEREIN MAY BE RATED BELOW INVESTMENT GRADE AND SHOULD THEREFORE ONLY BE CONSIDERED FOR INCLUSION IN ACCOUNTS QUALIFIED FOR SPECULATIVE INVESTMENT. Recipients who are not institutional investors or market professionals should seek the advice of their independent financial advisor before considering information in this report in connection with any investment decision, or for a necessary explanation of its contents. The securities or other financial instruments discussed in this report may be traded over-the-counter. Retail sales and/or distribution of this report may be made only in states where these instruments are exempt from registration or have been qualified for sale. Officers of BofAS or one or more of its affiliates (other than research analysts) may have a financial interest in securities of the issuer(s) or in related investments. This report, and the securities or other financial instruments discussed herein, may not be eligible for distribution or sale in all countries or to certain categories of investors, including retail investors.

Refer to [BofA Global Research policies relating to conflicts of interest](#).

**"BofA Securities" includes BofA Securities, Inc. ("BofAS") and its affiliates. Investors should contact their BofA Securities representative or Merrill Global Wealth Management financial advisor if they have questions concerning this report or concerning the appropriateness of any investment idea described herein for such investor. "BofA Securities" is a global brand for BofA Global Research.**

### Information relating to Non-US affiliates of BofA Securities and Distribution of Affiliate Research Reports:

BofAS and/or Merrill Lynch, Pierce, Fenner & Smith Incorporated ("MLPF&S") may in the future distribute, information of the following non-US affiliates in the US (short name: legal name, regulator): Merrill Lynch (South Africa): Merrill Lynch South Africa (Pty) Ltd., regulated by The Financial Service Board; MLI (UK): Merrill Lynch International, regulated by the Financial Conduct Authority (FCA) and the Prudential Regulation Authority (PRA); BofASE (France): BofA Securities Europe SA is authorized by the Autorité de Contrôle Prudentiel et de Résolution (ACPR) and regulated by the ACPR and the Autorité des Marchés Financiers (AMF). BofA Securities Europe SA ("BofASE") with registered address at 51, rue La Boétie, 75008 Paris is registered under no 842 602 690 RCS Paris. In accordance with the provisions of French Code Monétaire et Financier (Monetary and Financial Code), BofASE is an établissement de crédit et d'investissement (credit and investment institution) that is authorised and supervised by the European Central Bank and the Autorité de Contrôle Prudentiel et de Résolution (ACPR) and regulated by the ACPR and the Autorité des Marchés Financiers. BofASE's share capital can be found at [www.bofam.com/BofASEdisclaimer](http://www.bofam.com/BofASEdisclaimer); BofA Europe (Milan): Bank of America Europe Designated Activity Company, Milan Branch, regulated by the Bank of Italy, the European Central Bank (ECB) and the Central Bank of Ireland (CBI); BofA Europe (Frankfurt): Bank of America Europe Designated Activity Company, Frankfurt Branch regulated by BaFin, the ECB and the CBI; BofA Europe (Madrid): Bank of America Europe Designated Activity Company, Sucursal en España, regulated by the Bank of Spain, the ECB and the CBI; Merrill Lynch (Australia): Merrill Lynch Equities (Australia) Limited, regulated by the Australian Securities and Investments Commission; Merrill Lynch (Hong Kong): Merrill Lynch (Asia Pacific) Limited, regulated by the Hong Kong Securities and Futures Commission (HKSF); Merrill Lynch (Singapore): Merrill Lynch (Singapore) Pte Ltd, regulated by the Monetary Authority of Singapore (MAS); Merrill Lynch (Canada): Merrill Lynch Canada Inc, regulated by the Canadian Investment Regulatory Organization; Merrill Lynch (Mexico): Merrill Lynch Mexico, SA de CV, Casa de Bolsa, regulated by the Comisión Nacional Bancaria y de Valores; Merrill Lynch (Argentina): Merrill Lynch Argentina SA, regulated by Comisión Nacional de Valores; BofAS Japan: BofA Securities Japan Co., Ltd., regulated by the Financial Services Agency; Merrill Lynch (Seoul): Merrill Lynch International, LLC Seoul Branch, regulated by the Financial Supervisory Service; Merrill Lynch (Taiwan): Merrill Lynch Securities (Taiwan) Ltd., regulated by the Securities and Futures Bureau; BofAS India: BofA Securities India Limited, regulated by the Securities and Exchange Board of India (SEBI); Merrill Lynch (Israel): Merrill Lynch Israel Limited, regulated by Israel Securities Authority; Merrill Lynch (DIFC): Merrill Lynch International (DIFC Branch), regulated by the Dubai Financial Services Authority (DFSA); Merrill Lynch (Brazil): Merrill Lynch S.A. Corretora de Títulos e Valores Mobiliários, regulated by Comissão de Valores Mobiliários; Merrill Lynch KSA Company: Merrill Lynch Kingdom of Saudi Arabia Company, regulated by the Capital Market Authority.

This information has been approved for publication and is distributed in the United Kingdom (UK) to professional clients and eligible counterparties (as each is defined in the rules of the FCA and the PRA) by MLI (UK), which is authorized by the PRA and regulated by the FCA and the PRA - details about the extent of our regulation by the FCA and PRA are available from us on request; has been approved for publication and is distributed in the European Economic Area (EEA) by BofASE (France), which is authorized by the ACPR and regulated by the ACPR and the AMF; has been considered and distributed in Japan by BofAS Japan, a registered securities dealer under the Financial Instruments and Exchange Act in Japan, or its permitted affiliates; is issued and distributed in Hong Kong by Merrill Lynch (Hong Kong) which is regulated by HKSF; is issued and distributed in Taiwan by Merrill Lynch (Taiwan); is issued and distributed in India by BofAS India; and is issued and distributed in Singapore to institutional investors and/or accredited investors (each as defined under the Financial Advisers Regulations) by Merrill Lynch (Singapore) (Company Registration No 198602883D). Merrill Lynch (Singapore) is regulated by MAS. Merrill Lynch Equities (Australia) Limited (ABN 65 006 276 795), AFS License 235132 (MLEA) distributes this information in Australia only to 'Wholesale' clients as defined by s.761G of the Corporations Act 2001. With the exception of Bank of America N.A., Australia Branch, neither MLEA nor any of its affiliates involved in preparing this information is an Authorised Deposit-Taking Institution under the Banking Act 1959 nor regulated by the Australian Prudential Regulation Authority. No approval is required for publication or distribution of this information in Brazil and its local distribution is by Merrill Lynch (Brazil) in accordance with applicable regulations. Merrill Lynch (DIFC) is authorized and regulated by the DFSA. Information prepared and issued by Merrill Lynch (DIFC) is done so in accordance with the requirements of the DFSA conduct of business rules. BofA Europe (Frankfurt) distributes this information in Germany and is regulated by BaFin, the ECB and the CBI. BofA Securities entities, including BofA Europe and BofASE (France), may outsource/delegate the marketing and/or provision of certain research services or aspects of research services to other branches or members of the BofA Securities group. You may be contacted by a different BofA Securities entity acting for and on behalf of your service provider where permitted by applicable law. This does not change your service provider. Please refer to the [Electronic Communications Disclaimers](#) for further information.

This information has been prepared and issued by BofAS and/or one or more of its non-US affiliates. The author(s) of this information may not be licensed to carry on regulated activities in your jurisdiction and, if not licensed, do not hold themselves out as being able to do so. BofAS and/or MLPF&S is the distributor of this information in the US and accepts full responsibility for information distributed to BofAS and/or MLPF&S clients in the US by its non-US affiliates. Any US person receiving this information and wishing to effect any transaction in any security discussed herein should do so through BofAS and/or MLPF&S and not such foreign affiliates. Hong Kong recipients of this information should contact Merrill Lynch (Asia Pacific) Limited in

respect of any matters relating to dealing in securities or provision of specific advice on securities or any other matters arising from, or in connection with, this information. Singapore recipients of this information should contact Merrill Lynch (Singapore) Pte Ltd in respect of any matters arising from, or in connection with, this information. For clients that are not accredited investors, expert investors or institutional investors Merrill Lynch (Singapore) Pte Ltd accepts full responsibility for the contents of this information distributed to such clients in Singapore.

#### General Investment Related Disclosures:

Taiwan Readers: Neither the information nor any opinion expressed herein constitutes an offer or a solicitation of an offer to transact in any securities or other financial instrument. No part of this report may be used or reproduced or quoted in any manner whatsoever in Taiwan by the press or any other person without the express written consent of BofA Securities.

This document provides general information only, and has been prepared for, and is intended for general distribution to, BofA Securities clients. Neither the information nor any opinion expressed constitutes an offer or an invitation to make an offer, to buy or sell any securities or other financial instrument or any derivative related to such securities or instruments (e.g., options, futures, warrants, and contracts for differences). This document is not intended to provide personal investment advice and it does not take into account the specific investment objectives, financial situation and the particular needs of, and is not directed to, any specific person(s). This document and its content do not constitute, and should not be considered to constitute, investment advice for purposes of ERISA, the US tax code, the Investment Advisers Act or otherwise. Investors should seek financial advice regarding the appropriateness of investing in financial instruments and implementing investment strategies discussed or recommended in this document and should understand that statements regarding future prospects may not be realized. Any decision to purchase or subscribe for securities in any offering must be based solely on existing public information on such security or the information in the prospectus or other offering document issued in connection with such offering, and not on this document.

Securities and other financial instruments referred to herein, or recommended, offered or sold by BofA Securities, are not insured by the Federal Deposit Insurance Corporation and are not deposits or other obligations of any insured depository institution (including, Bank of America, N.A.). Investments in general and, derivatives, in particular, involve numerous risks, including, among others, market risk, counterparty default risk and liquidity risk. No security, financial instrument or derivative is suitable for all investors. Digital assets are extremely speculative, volatile and are largely unregulated. In some cases, securities and other financial instruments may be difficult to value or sell and reliable information about the value or risks related to the security or financial instrument may be difficult to obtain. Investors should note that income from such securities and other financial instruments, if any, may fluctuate and that price or value of such securities and instruments may rise or fall and, in some cases, investors may lose their entire principal investment. Past performance is not necessarily a guide to future performance. Levels and basis for taxation may change.

BofA Securities is aware that the implementation of the ideas expressed in this report may depend upon an investor's ability to "short" securities or other financial instruments and that such action may be limited by regulations prohibiting or restricting "shortselling" in many jurisdictions. Investors are urged to seek advice regarding the applicability of such regulations prior to executing any short idea contained in this report.

This report may contain a trading idea or recommendation which highlights a specific identified near-term catalyst or event impacting a security, issuer, industry sector or the market generally that presents a transaction opportunity, but does not have any impact on the analyst's particular "Overweight" or "Underweight" rating (which is based on a three month trade horizon). Trading ideas and recommendations may differ directionally from the analyst's rating on a security or issuer because they reflect the impact of a near-term catalyst or event.

Foreign currency rates of exchange may adversely affect the value, price or income of any security or financial instrument mentioned in this report. Investors in such securities and instruments effectively assume currency risk.

BofAS or one of its affiliates is a regular issuer of traded financial instruments linked to securities that may have been recommended in this report. BofAS or one of its affiliates may, at any time, hold a trading position (long or short) in the securities and financial instruments discussed in this report.

BofA Securities, through business units other than BofA Global Research, may have issued and may in the future issue trading ideas or recommendations that are inconsistent with, and reach different conclusions from, the information presented herein. Such ideas or recommendations may reflect different time frames, assumptions, views and analytical methods of the persons who prepared them, and BofA Securities is under no obligation to ensure that such other trading ideas or recommendations are brought to the attention of any recipient of this information.

In the event that the recipient received this information pursuant to a contract between the recipient and BofAS for the provision of research services for a separate fee, and in connection therewith BofAS may be deemed to be acting as an investment adviser, such status relates, if at all, solely to the person with whom BofAS has contracted directly and does not extend beyond the delivery of this report (unless otherwise agreed specifically in writing by BofAS). If such recipient uses the services of BofAS in connection with the sale or purchase of a security referred to herein, BofAS may act as principal for its own account or as agent for another person. BofAS is and continues to act solely as a broker-dealer in connection with the execution of any transactions, including transactions in any securities referred to herein.

#### Copyright and General Information:

Copyright 2024 Bank of America Corporation. All rights reserved. iQdatabase® is a registered service mark of Bank of America Corporation. This information is prepared for the use of BofA Securities clients and may not be redistributed, retransmitted or disclosed, in whole or in part, or in any form or manner, without the express written consent of BofA Securities. BofA Global Research information is distributed simultaneously to internal and client websites and other portals by BofA Securities and is not publicly-available material. Any unauthorized use or disclosure is prohibited. Receipt and review of this information constitutes your agreement not to redistribute, retransmit, or disclose to others the contents, opinions, conclusion, or information contained herein (including any investment recommendations, estimates or price targets) without first obtaining express permission from an authorized officer of BofA Securities.

Materials prepared by BofA Global Research personnel are based on public information. Facts and views presented in this material have not been reviewed by, and may not reflect information known to, professionals in other business areas of BofA Securities, including investment banking personnel. BofA Securities has established information barriers between BofA Global Research and certain business groups. As a result, BofA Securities does not disclose certain client relationships with, or compensation received from, such issuers. To the extent this material discusses any legal proceeding or issues, it has not been prepared as nor is it intended to express any legal conclusion, opinion or advice. Investors should consult their own legal advisers as to issues of law relating to the subject matter of this material. BofA Global Research personnel's knowledge of legal proceedings in which any BofA Securities entity and/or its directors, officers and employees may be plaintiffs, defendants, co-defendants or co-plaintiffs with or involving issuers mentioned in this material is based on public information. Facts and views presented in this material that relate to any such proceedings have not been reviewed by, discussed with, and may not reflect information known to, professionals in other business areas of BofA Securities in connection with the legal proceedings or matters relevant to such proceedings.

This information has been prepared independently of any issuer of securities mentioned herein and not in connection with any proposed offering of securities or as agent of any issuer of any securities. None of BofAS any of its affiliates or their research analysts has any authority whatsoever to make any representation or warranty on behalf of the issuer(s). BofA Global Research policy prohibits research personnel from disclosing a recommendation, investment rating, or investment thesis for review by an issuer prior to the publication of a research report containing such rating, recommendation or investment thesis.

Any information relating to the tax status of financial instruments discussed herein is not intended to provide tax advice or to be used by anyone to provide tax advice. Investors are urged to seek tax advice based on their particular circumstances from an independent tax professional.

The information herein (other than disclosure information relating to BofA Securities and its affiliates) was obtained from various sources and we do not guarantee its accuracy. This information may contain links to third-party websites. BofA Securities is not responsible for the content of any third-party website or any linked content contained in a third-party website. Content contained on such third-party websites is not part of this information and is not incorporated by reference. The inclusion of a link does not imply any endorsement by or any affiliation with BofA Securities. Access to any third-party website is at your own risk, and you should always review the terms and privacy policies at third-party websites before submitting any personal information to them. BofA Securities is not responsible for such terms and privacy policies and expressly disclaims any liability for them.

All opinions, projections and estimates constitute the judgment of the author as of the date of publication and are subject to change without notice. Prices also are subject to change without notice. BofA Securities is under no obligation to update this information and BofA Securities ability to publish information on the subject issuer(s) in the future is subject to applicable quiet periods. You should therefore assume that BofA Securities will not update any fact, circumstance or opinion contained herein.

Certain outstanding reports or investment opinions relating to securities, financial instruments and/or issuers may no longer be current. Always refer to the most recent research report relating to an issuer prior to making an investment decision.

In some cases, an issuer may be classified as Restricted or may be Under Review or Extended Review. In each case, investors should consider any investment opinion relating to such issuer (or its security and/or financial instruments) to be suspended or withdrawn and should not rely on the analyses and investment opinion(s) pertaining to such issuer (or its securities and/or financial instruments) nor should the analyses or opinion(s) be considered a solicitation of any kind. Sales persons and financial advisors affiliated with BofAS or any of its affiliates may not solicit purchases of securities or financial instruments that are Restricted or Under Review and may only solicit securities under Extended Review in accordance with firm policies.

Neither BofA Securities nor any officer or employee of BofA Securities accepts any liability whatsoever for any direct, indirect or consequential damages or losses arising from any use of this information.

# Research Analysts

---

## US Rates Research

**Ralph Axel**  
Rates Strategist  
BofAS  
[ralph.axel@bofa.com](mailto:ralph.axel@bofa.com)

**Bruno Braizinha, CFA**  
Rates Strategist  
BofAS  
[bruno.braizinha@bofa.com](mailto:bruno.braizinha@bofa.com)

**Mark Cabana, CFA**  
Rates Strategist  
BofAS  
[mark.cabana@bofa.com](mailto:mark.cabana@bofa.com)

**Katie Craig**  
Rates Strategist  
BofAS  
[katie.craig@bofa.com](mailto:katie.craig@bofa.com)

Trading ideas and investment strategies discussed herein may give rise to significant risk and are not suitable for all investors. Investors should have experience in relevant markets and the financial resources to absorb any losses arising from applying these ideas or strategies.

