

US Rates Watch

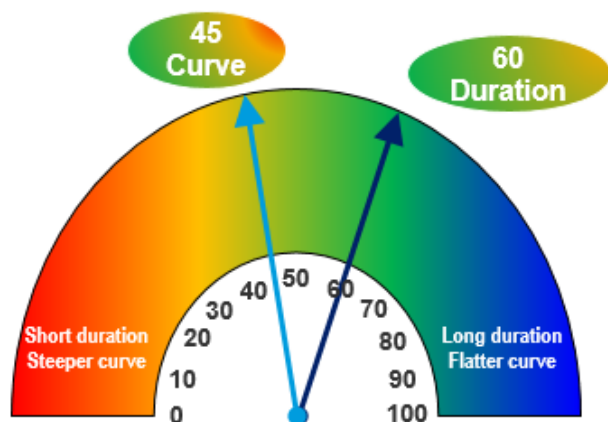
Longs under pressure

Longs prominent but challenged

While longs appear to have been the dominant trade in recent months according to our futures positioning proxy and momentum signal, many of these positions are now under pressure. Our cross-over momentum signal suggests that CTA buying has likely peaked, and US fixed income fund performance indicates that some of the short covering over Q4 may be reversing. Recent USD appreciation has supported selling from the foreign official sector while Japanese private investors showed notable buying of foreign bonds last week. Asset managers and speculative investors in USTs (excluding leveraged hedge funds) are still retaining their historic longs in futures.

Exhibit 1: Curve-o-meter

Positioning for curve and duration is mixed



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.

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Mixed signal from futures positioning bias

Our futures positioning proxy (for construction details see: Gauging positioning in Treasury Futures) shows no clear directional bias for rates (Exhibit 12). While longs remain the more prominent position, a larger portion is out of the money vs shorts, which are less popular but largely in the money (Exhibit 11). Through Thursday, there were more shorts vs longs created on the curve particularly at the front-end. The largest change in futures positions were longs destroyed, to the greatest extent in TY.

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Timestamp: 22 January 2024 05:00AM EST

12648456

22 January 2024

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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

Momentum is topping

While our top-down model continues to suggest that CTAs are adding duration, our bottoms-up momentum signal shows that long positioning should be peaking out (Exhibit 13). This divergence is likely because our top-down model is lagged due to construction see: CTA impact on the rates market. It also continues to show that CTAs are also growing more neutral on curve after having held notably longer front-end positions vs back-end in early December (Exhibit 14).

Futures positions largely unchanged on week

Futures positioning across asset managers, leveraged funds, and non-commercial investors was little changed in 10y equivalents on the week. Asset managers remain historically long (Exhibit 7) and on the week saw the largest increase in TY vs decline in WN. Leveraged hedge funds consistently saw the largest increase in short TY positions and longs were added across TU, WN, and UXY.

Funds likely pulled back longs

US fixed income fund inflows stayed elevated this past week with mixed allocation and IG funds leading (Exhibit 37). UST funds saw more modest inflows and inflation funds continue to see signs of a bottoming in AUM levels (see: [10 FAQs ahead of CPI](#)).

Alongside the rate selloff over the week ending Jan 18th, all but five of the 28 funds we monitor outperformed. This suggests that US fixed income funds may be pulling back on duration allocations, consistent with what we have observed in the latest FX and Rates Sentiment Survey (Exhibit 52, see: [FX and Rates Sentiment Survey: Hung Jury](#)). As discussed last week (see: [Lower rates, more diversified demand](#)), a retreat in overweight US duration positions and UST fund inflows as rates fall and the curve steepens is consistent with what we observe historically (Exhibit 42 and Exhibit 50).

Strong buying of from Japanese investors

Japanese investors bought \$11bn of foreign bonds the week ending January 12th. This was the strongest week of buying since mid-December and likely represents inflows from investors that are not buying for carry purposes. As shown in Exhibit 36, much of the Japanese buying of foreign bonds in recent months has stemmed from banks. FX hedging costs remain prohibitive for Japanese investors vs most major currencies (Exhibit 26).

Foreign official holdings declined for the second consecutive week, consistent with the recent USD appreciation (Exhibit 28). Foreign ON RRP holdings have also declined \$20bn over the last two weeks suggesting that officials are not re-allocating from bonds to cash (Exhibit 34), but are instead reducing USD holdings overall.

Exhibit 2: On deck next week

Calendar of upcoming events

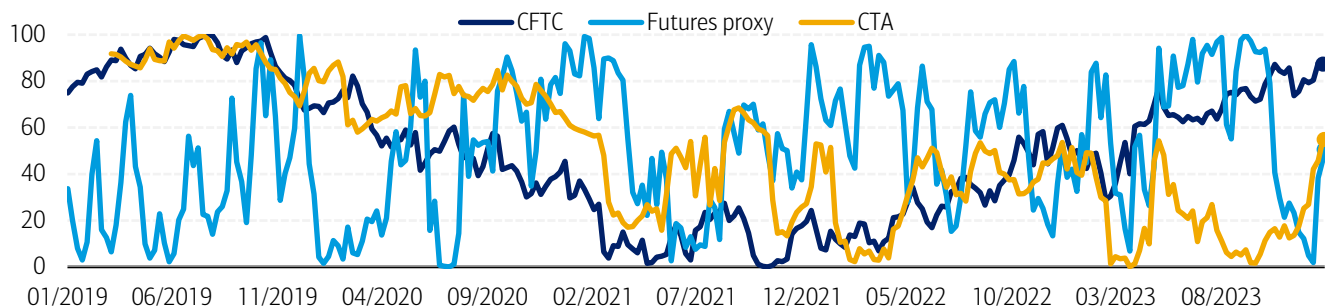
	US Data			Fed Speaker / Event	Treasury Auction			Treasury Settlements	
	Series	BofA	BB Consensus		Security	Amount (\$bn)	Prior Δ	Security	Amount
M, Jan 22				<i>Fed Blackout Period</i>	13-week bills	77	2		
					26-week bills	70	2		
Tu, Jan 23				<i>Fed Blackout Period</i>	52-week bills	46	2	Bills	18
					42-day bills	75	5		
					2-year notes	60	3		
W, Jan 24	MBA Mortgage Applications	-	-	<i>Fed Blackout Period</i>	17-week bills				
	S&P Global US manufacturing PMI	46.5	48		5-year notes	61	3		
	S&P Global US services PMI	50.5	51		2-year FRNs	28	2		
Th, Jan 25	Initial Jobless Claims	184k	-	<i>Fed Blackout Period</i>	4-week bills			Bills	31
	GDP (qoq saar)	1.50%	1.90%		8-week bills				
	Personal consumption (qoq saar)	2.00%	2.30%		7-year notes	41	1		
	GDP Price Index (qoq saar)	2.50%	2.30%						
	Core PCE (qoq saar)	2.00%	-						
	Durable Goods Orders	4.00%	1.00%						
	Durables Ex Transportation	0.20%	0.20%						
	Core Capital Goods Orders	0.30%	-						
	Core Capital Goods Shipments	0.20%	-						
	Wholesale Inventories	-	-0.20%						
	Advance Goods Trade Balance	-\$87.5bn	-\$88.4bn						
	New Home Sales	650k	650k						
F, Jan 26	Personal Income	0.30%	0.30%	<i>Fed Blackout Period</i>					
	Personal Spending	0.60%	0.40%						
	PCE Headline Prices (mom)	0.20%	0.20%						
	PCE Headline Prices (yoy)	2.60%	2.60%						
	PCE Core Prices (mom)	0.20%	0.20%						
	PCE Core Prices (yoy)	2.90%	3.00%						
	Personal saving rate	3.80%	-						
	Pending Home Sales	2.00%	1.50%						

Source: BofA Global Research, Bloomberg, US Treasury

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

Futures positioning proxy shows bias for rates to rally, CFTC data adjusted for LFs is long, top down CTA model shows positioning is more neutral

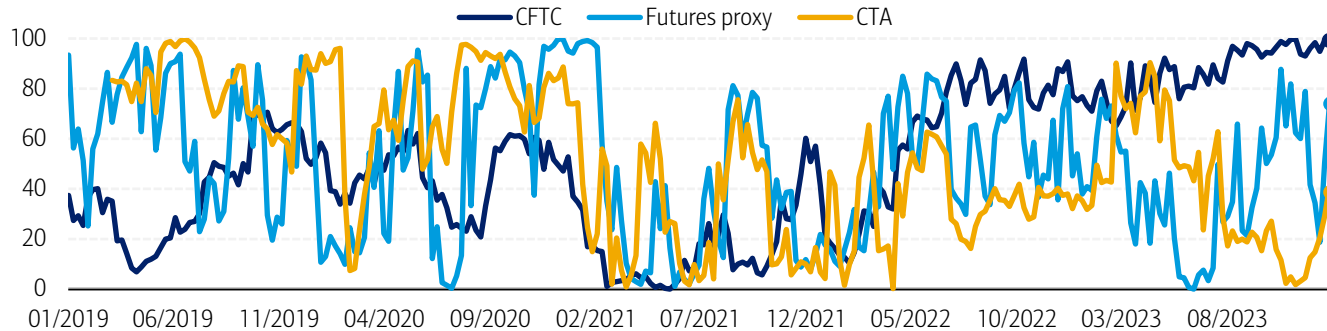


Source: BofA Global Research

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

CTAs are in steeper but futures positioning proxy shows bias for front-end to rally more, CFTC AMs have longs further out curve

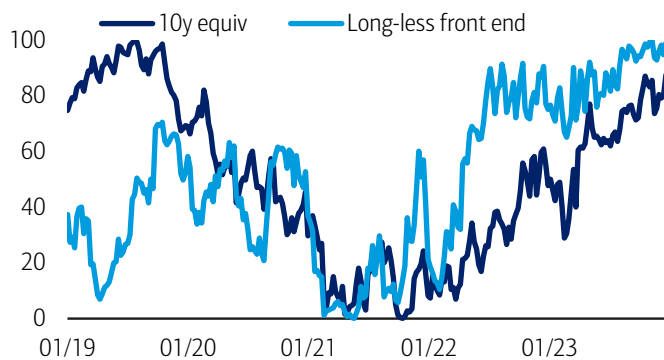


Source: BofA Global Research

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

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

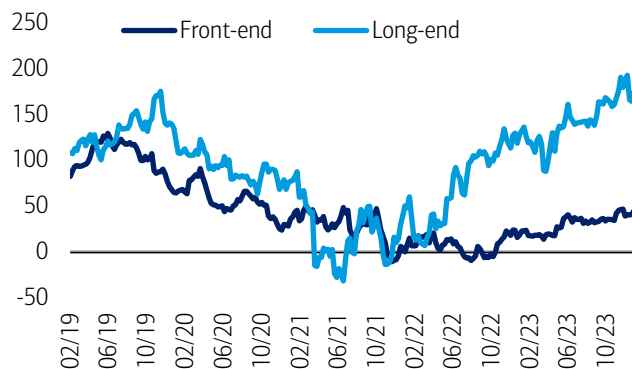


Source: BofA Global Research, Bloomberg

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

Longs are more concentrated in the back-end

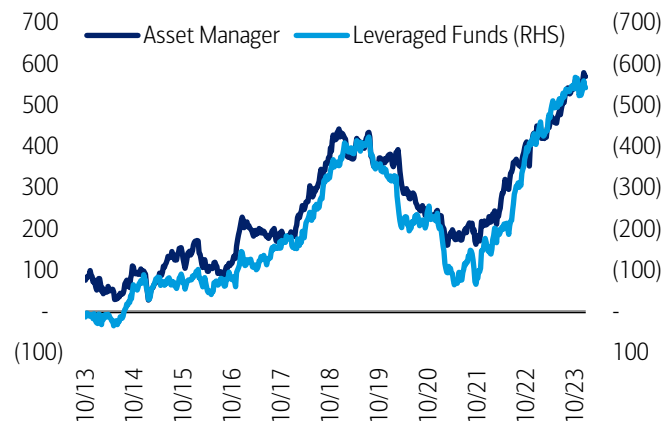


Source: BofA Global Research, Bloomberg

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

Asset manager longs correspond with leveraged fund shorts

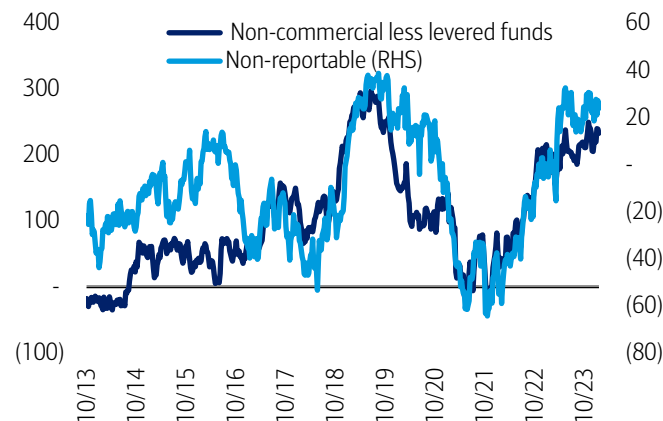


Source: BofA Global Research, Bloomberg

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

Directional positions trend together



Source: BofA Global Research, Bloomberg

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

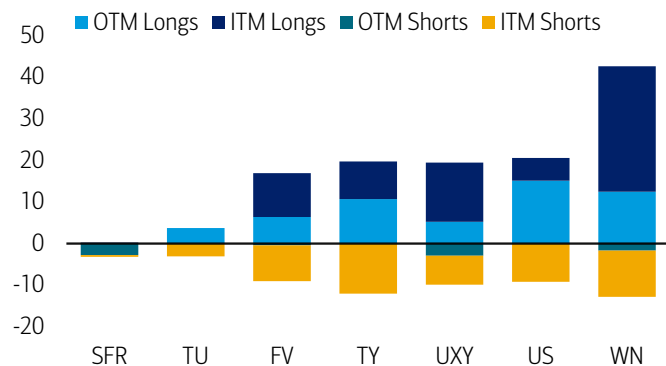
Positioning is a momentum signal: longer positioning is usually followed by stronger 10y performance

	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	-5	-4	-3	-3	-4
90 to 100	100	-2	-2	-2	-2	-2

Source: BofA Global Research, Bloomberg, average performance calculated over last 5y
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Exhibit 11: Proxies for futures positioning

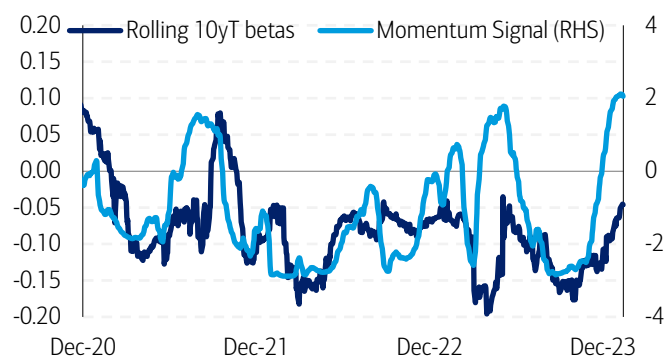
On the week, longs moneyness looked more mixed, shorts moved ITM across contracts



Source: BofA Global Research, Bloomberg
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Exhibit 13: CTA positioning in 10yT

On the week, momentum signal moderated, CTAs continued to cover shorts



Source: BofA Global Research
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Exhibit 10: 10y rate change for given percentile of leveraged fund positioning (higher percentile = longer)

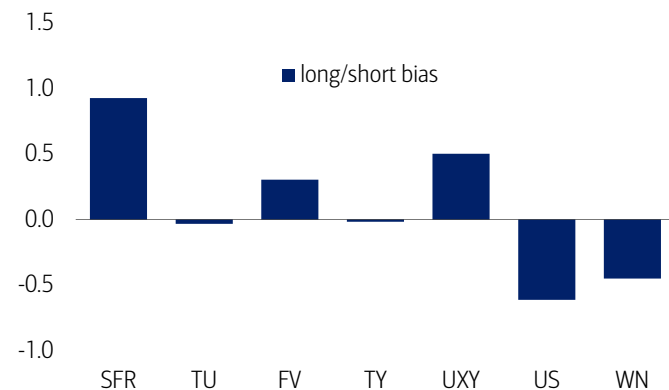
Positioning is contrarian signal: shorter positioning is usually followed by stronger 10y performance

	0	1w	4w	8w	12w	16w
0 to 10	10	1	0	0	0	1
10 to 20	20	0	2	2	3	4
20 to 30	30	0	-4	-2	-2	-2
30 to 40	40	-5	-2	-3	-4	-5
40 to 50	50	-3	-3	-3	-3	-4
50 to 60	60	4	4	4	2	2
60 to 70	70	3	2	2	3	4
70 to 80	80	3	4	4	4	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
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Exhibit 12: Analysis of proxies for futures positioning

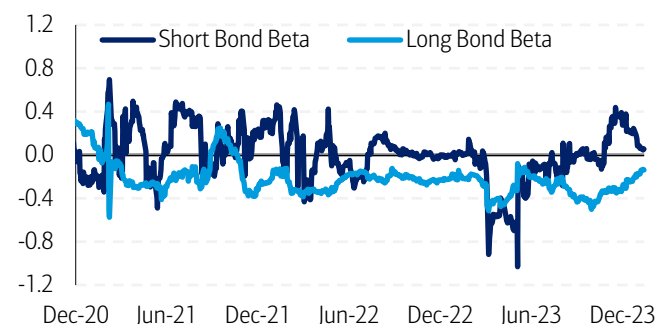
Bias for rates to rally in SFR and UXY



Source: BofA Global Research, Bloomberg, Note: reflects average positioning of futures stack over last 5 days
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Exhibit 14: CTA positioning in longer duration and shorter duration bonds

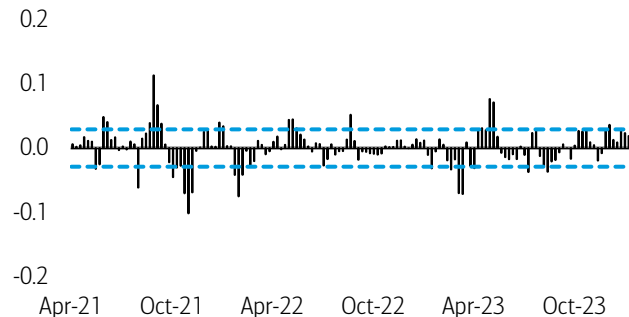
Top-down model suggests CTAs now near neutral at the front-end and covered shorts at the back-end



Source: BofA Global Research
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Exhibit 15: Changes in CTA 10yT beta

Change in 10y beta continued to increase

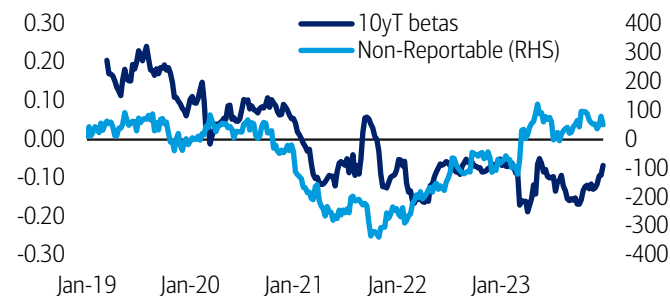


Source: BofA Global Research

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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



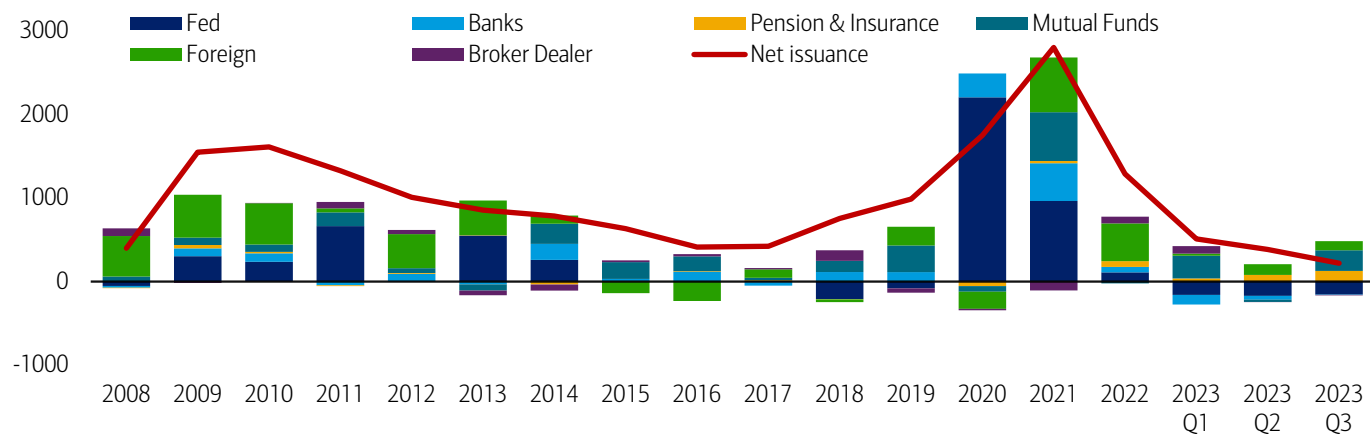
Source: BofA Global Research, Bloomberg

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Flow of funds

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

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

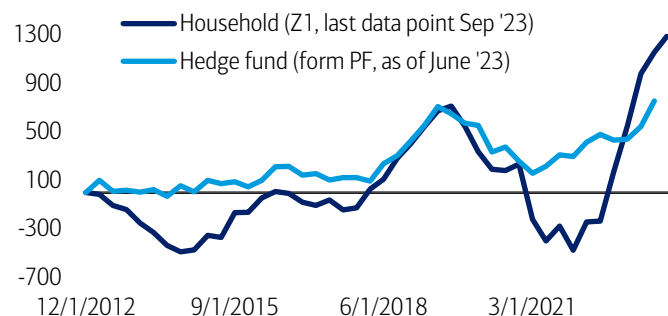


Source: BofA Global Research, Federal Reserve, Note: only reflects real money categories from flow of funds that generally invest in Treasury coupon securities, excludes households. Net issuance is coupon supply excluding Fed flows, which are shown as negative for periods where Fed is reducing size of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

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

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

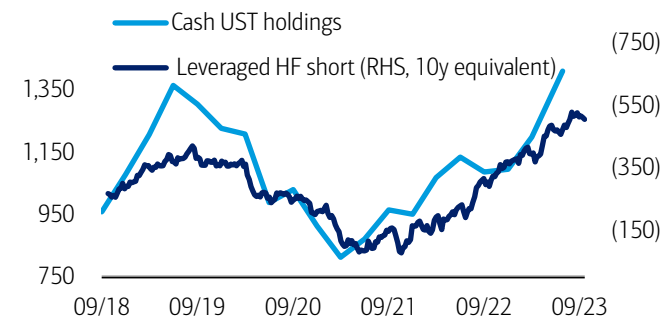


Source: BofA Global Research, Federal Reserve

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

Form PF confirms that cash long has grown alongside futures short



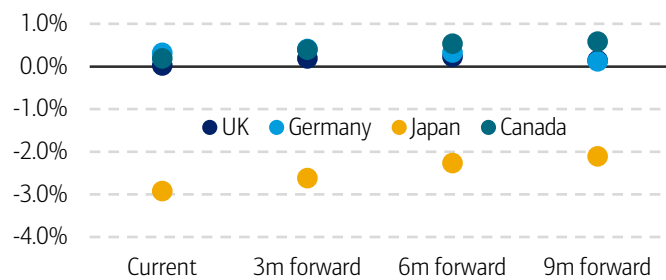
Source: BofA Global Research, Federal Reserve, Bloomberg

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FX hedged pickup and foreign flows

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

Market pricing suggests improved environment for FX hedged carry trades in TSYs

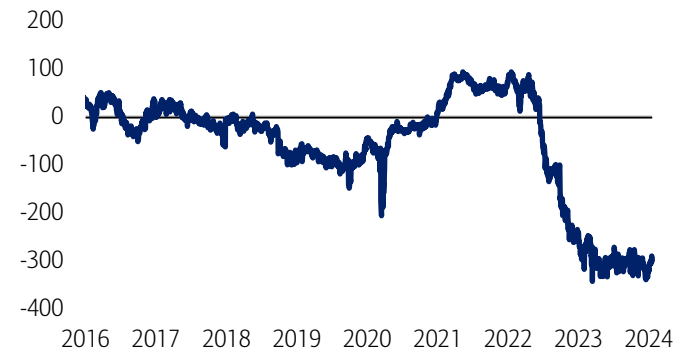


Source: BofA Global Research, Bloomberg. Note: pickup vs 10y local alternative except Japan which is relative to 20y JGB using 3m forward FX hedge

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

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

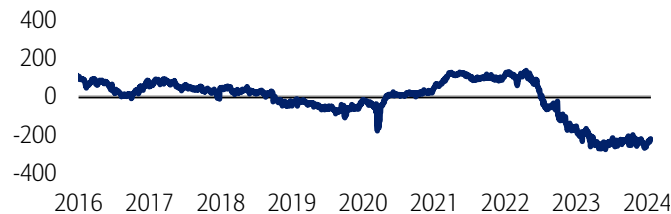


Source: BofA Global Research, Bloomberg

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

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

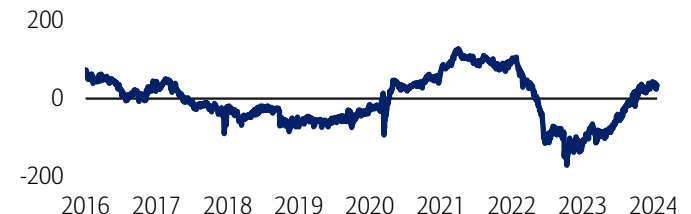


Source: BofA Global Research, Bloomberg

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

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

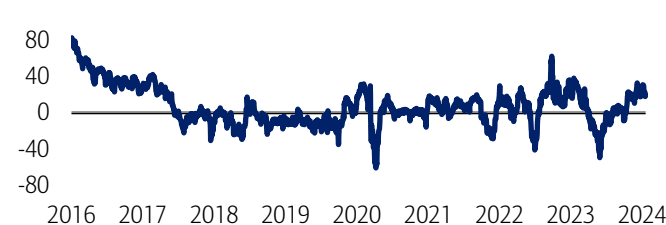


Source: BofA Global Research, Bloomberg

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

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

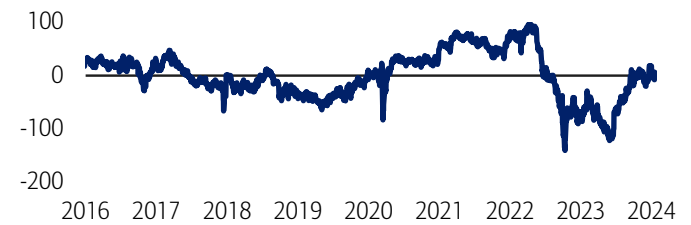


Source: BofA Global Research, Bloomberg

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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

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Exhibit 26: 3m rolling JPY currency hedge

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

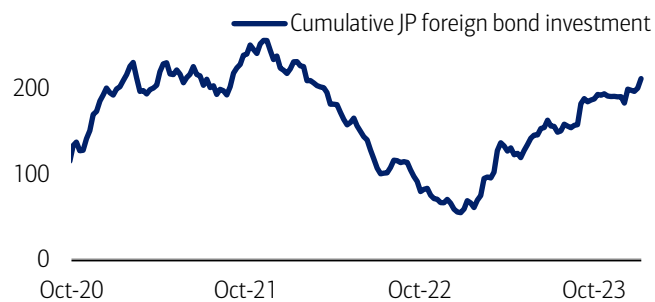
	1/18/2024		As of 1 wk ago		As of 1 mo ago		As of 1 yr ago	
	Pickup to 10y JGB	Pickup to 20y JGB	Pickup to 10y JGB	Pickup to 20y JGB	Pickup to 10y JGB	Pickup to 20y JGB	Pickup to 10y JGB	Pickup to 20y JGB
10y UST	-2.18%	-2.92%	-2.35%	-3.06%	-2.59%	-3.34%	-2.04%	-2.95%
10y GER	-2.49%	-3.24%	-2.62%	-3.33%	-2.92%	-3.67%	-1.05%	-1.96%
10y FRA	-2.00%	-2.74%	-2.13%	-2.84%	-2.42%	-3.17%	-0.63%	-1.54%
10y BEL	-1.86%	-2.60%	-2.09%	-2.80%	-2.37%	-3.12%	-0.54%	-1.45%
10y ITA	-0.93%	-1.68%	-1.09%	-1.79%	-1.36%	-2.11%	0.68%	-0.23%
10y SPA	-1.58%	-2.33%	-1.72%	-2.43%	-2.01%	-2.76%	-0.11%	-1.03%
10y UK	-2.20%	-2.95%	-2.31%	-3.01%	-2.75%	-3.50%	-1.32%	-2.23%
10y CAN	-2.36%	-3.11%	-2.57%	-3.27%	-2.77%	-3.51%	-2.36%	-3.28%

Source: BofA Global Research, Bloomberg

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

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

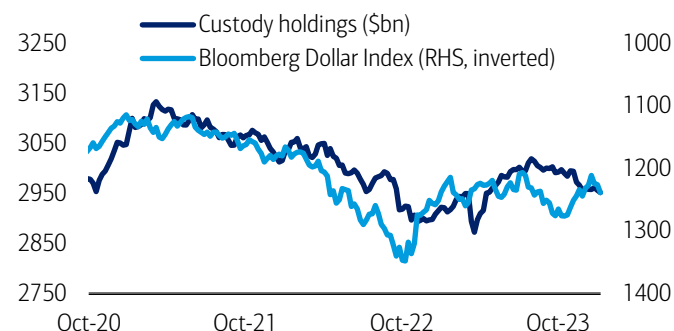


Source: BofA Global Research, Bloomberg

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Exhibit 28: Weekly UST custody holdings, foreign official (\$bn)

Custody holdings dropped on the week

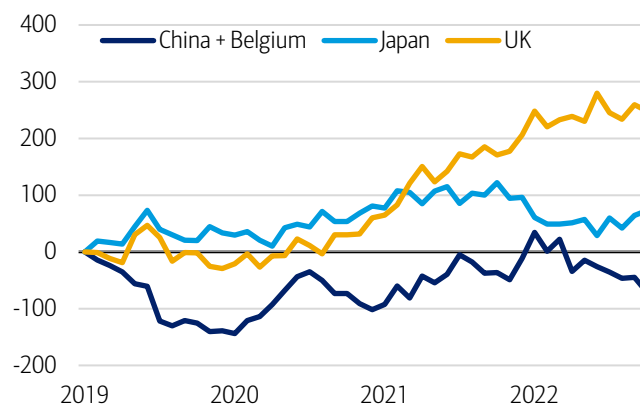


Source: BofA Global Research, NY Fed

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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

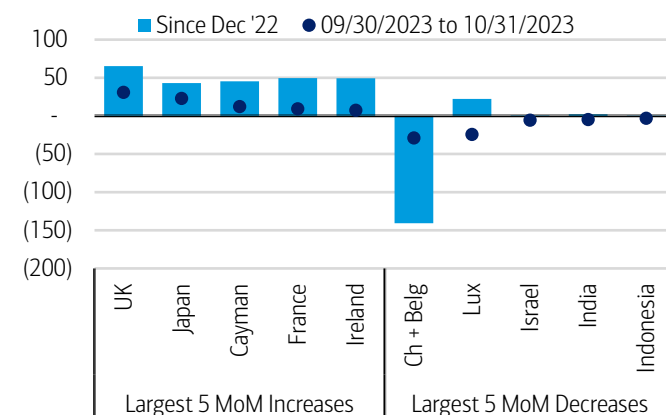


Source: BofA Global Research, Bloomberg, TIC, note: references the valuation-adjusted flow

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

UK was the largest buyer, China+Belgium the largest seller in October

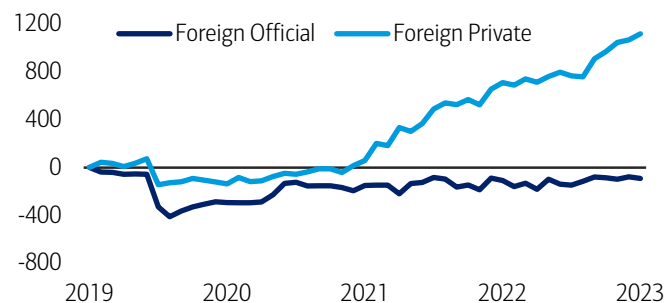


Source: BofA Global Research, TIC, Note: adjusted for level of rates

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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

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

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

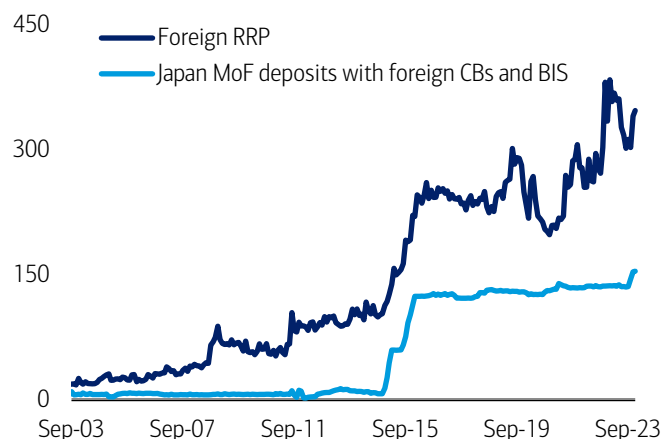


Source: BofA Global Research, Note: TIC data YTD through August adjusted for valuation

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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

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

Pensions showed strong demand in December

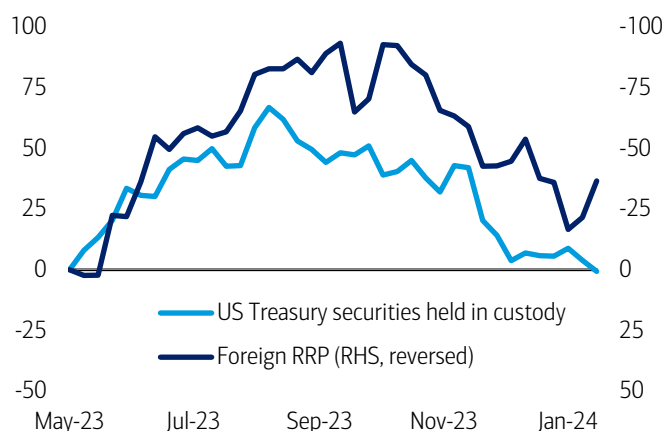
	Pension	Lifer	Bank	
Dec - 23	7.3	-0.5	3.5	
Nov - 23	-3.3	-6.6	-5.5	
Oct - 23	-1.4	-1.8	4	
Sep - 23	-5	-1.2	31.9	
Aug - 23	7.7	1.6	2.5	
Jul - 23	4.3	-0.5	-12.9	
Jun - 23	3	-0.4	12.1	
May - 23	-0.1	-0.4	23.5	
Apr - 23	2.1	0.5	-15.3	
Mar - 23	3.4	0.1	28.8	
Feb - 23	3.4	-2.8	27.9	
Jan - 23	10.3	-8.5	-4.2	

Source: BofA Global Research, Japanese MoF

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

Custody holdings dropped & foreign RRP picked up

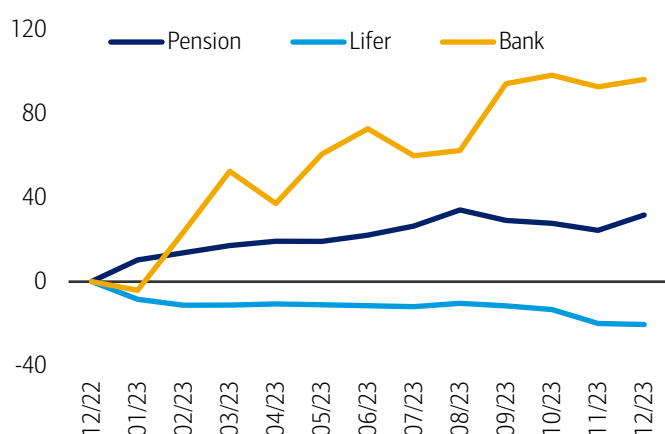


Source: BofA Global Research, Federal Reserve, Bloomberg

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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

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Fund flows and returns

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

US FI funds saw continued inflows on the week driven by mixed allocation, corp IG, & muni funds

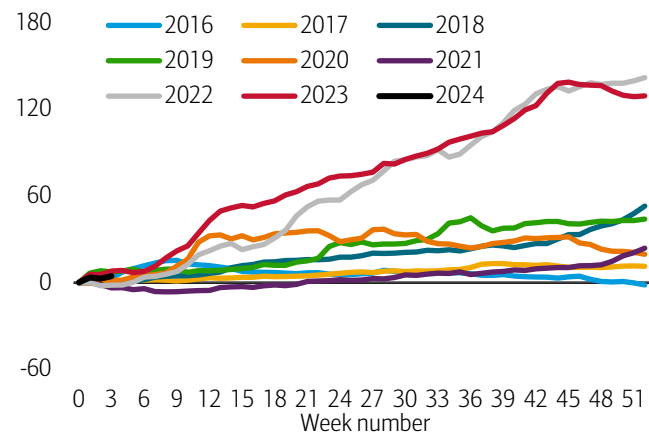
	1/17/2024	Rolling 4w average	Rolling 8w average	Rolling 12w average	Rolling 52w average
Gov: short	876	603	(905)	(603)	861
Gov: intermediate	222	550	135	75	332
Gov: long	623	85	393	737	1,224
Corp: IG	2,638	3,462	1,956	1,794	371
Corp: HY	476	336	697	1,380	(53)
Corp: all quality	212	91	92	74	46
MBS	353	214	131	112	273
Inflation	207	(193)	(640)	(589)	(462)
Muni	1,125	101	10	89	(60)
Mixed allocation	2,395	2,798	1,773	1,144	2,054
All US FI	8,962	8,015	3,682	4,315	4,223

Source: BofA Global Research, EPFR

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

Flows near year-end '23 are lower but on track with highs of last year

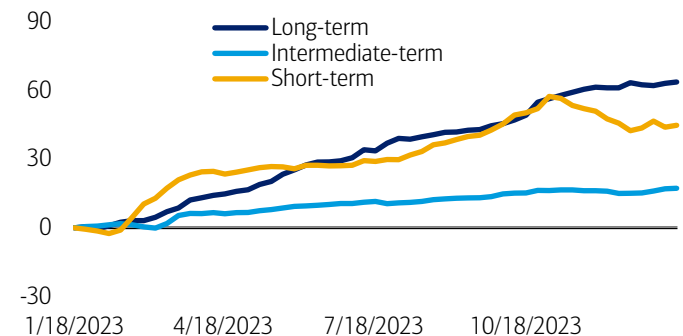


Source: BofA Global Research, EPFR

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

Inflows have been concentrated in long-term and short-term funds, inflows in short-term funds saw a declining trend

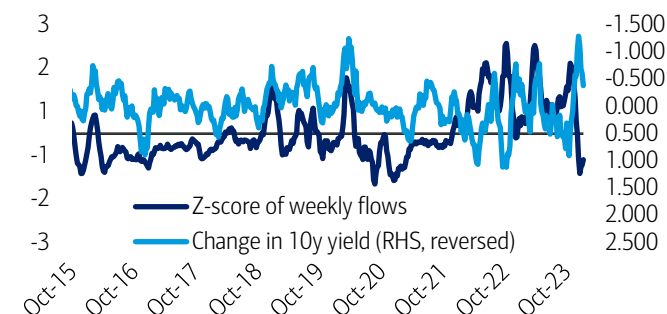


Source: BofA Global Research, EPFR

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

Fund flows recently have been historically strong alongside rates rally

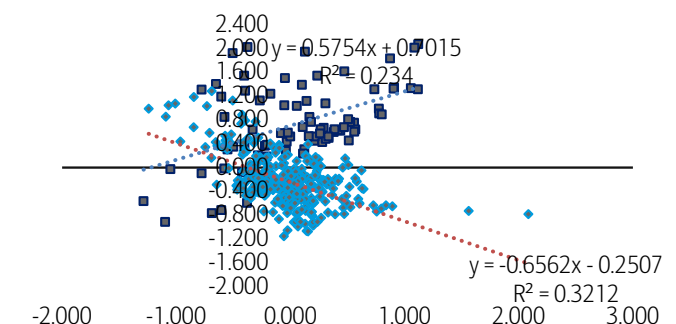


Source: BofA Global Research, EPFR

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Exhibit 41: Fund flows and rate change

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

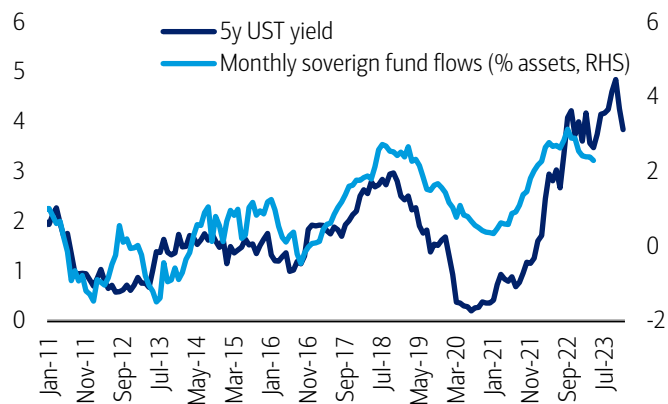


Source: BofA Global Research, EPFR, Bloomberg. Note: dark = post '22, light = '15-'22

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Exhibit 42: Sovereign fund flows and UST yield

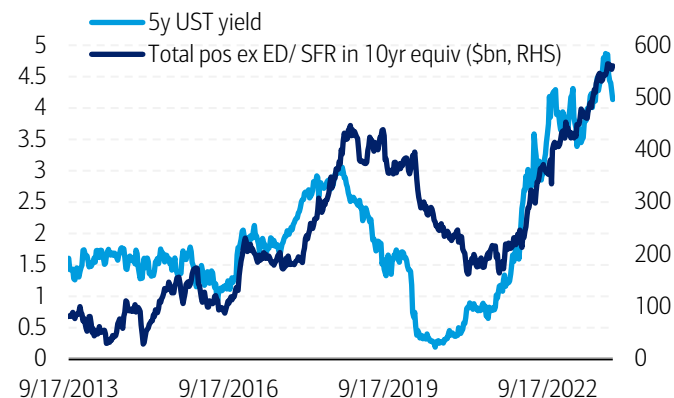
Inflows higher when yields are higher



Source: BofA Global Research, EPFR, Note: sovereign fund flows is midpoint of 12mo average
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Exhibit 43: Asset manager futures positioning and UST yield

Asset manager futures positioning trends with yield levels



Source: BofA Global Research, Bloomberg

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Exhibit 44: Total return FI fund performance vs benchmark

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

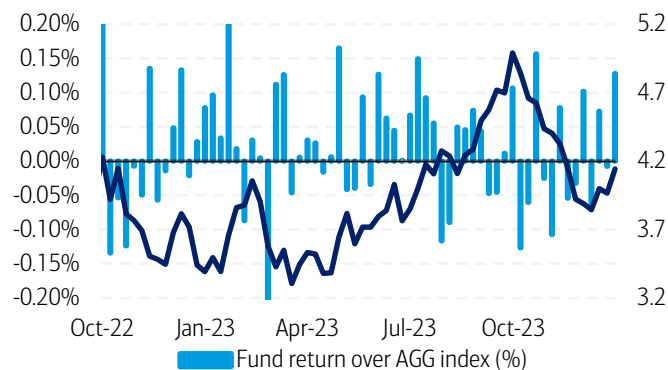
	AUM (\$Bn)	1/18/2024	Vs. Agg	Last 4w	Vs. Agg
Vanguard Total Bond Market II Index Fund	272	-0.77%	0.16%	-0.90%	0.07%
Vanguard Total Bond Market Index Fund	210	-0.87%	0.06%	-0.99%	-0.02%
PIMCO Income fund	137	-0.44%	0.49%	-0.09%	0.88%
The Bond Fund of America	80	-0.89%	0.04%	-0.84%	0.13%
MetWest Total Return Bond Fund	55	-1.02%	-0.09%	-1.20%	-0.23%
PIMCO Total Return Fund	55	-0.85%	0.08%	-0.75%	0.22%
Dodge & Cox Income Fund	70	-0.88%	0.05%	-0.95%	0.02%
PGIM Total Return Bond Fund	43	-0.83%	0.10%	-0.82%	0.15%
BlackRock Strategic Income Opportunities Fund	36	-0.45%	0.48%	-0.52%	0.45%
Baird Aggregate Bond Fund	42	-0.82%	0.11%	-0.87%	0.10%
JPMorgan Core Bond Fund	43	-0.78%	0.15%	-0.87%	0.10%
DoubleLine Total Return Bond Fund	31	-0.91%	0.02%	-1.03%	-0.06%
Fidelity Series Investment Grade Bond Fund	36	-0.92%	0.01%	-0.89%	0.08%
Fidelity Total Bond Fund	34	-0.76%	0.17%	-0.83%	0.14%
Western Asset Core Plus Bond Portfolio	22	-1.39%	-0.46%	-1.66%	-0.69%
Baird Core Plus Bond Fund	28	-0.79%	0.14%	-0.74%	0.23%
John Hancock Bond Fund	23	-0.89%	0.04%	-0.96%	0.01%
TIAA-CREF Bond Index Fund	23	-0.87%	0.06%	-1.00%	-0.03%
BlackRock Total Return Fund	18	-0.92%	0.01%	-0.97%	0.00%
JPMorgan Core Plus Bond Fund	18	-0.83%	0.10%	-0.90%	0.07%
Bridge Builder Core Bond Fund	17	-0.82%	0.11%	-0.88%	0.09%
T Rowe Price New Income Fund	17	-0.80%	0.13%	-0.82%	0.15%
Western Asset Core Bond Fund	14	-0.95%	-0.02%	-1.19%	-0.22%
CREF Bond Market Account	11	-0.78%	0.15%	-0.79%	0.18%
Fidelity Investment Grade Bond Fund	9	-0.90%	0.03%	-1.09%	-0.12%
DoubleLine Core Fixed Income Fund	7	-0.75%	0.18%	-0.68%	0.30%
TCW Total Return Bond Fund	2	-1.12%	-0.19%	-1.41%	-0.44%
Janus Henderson Flexible Bond Fund	3	-0.96%	-0.03%	-0.91%	0.06%
Weighted avg	1356	-0.80%	0.13%	-0.84%	0.13%
Agg		-0.93%		-0.97%	
10y return		-1.76%		-2.54%	

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

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

Weekly asset-weighted total returns for total return funds. Funds return outperformed benchmark on the week

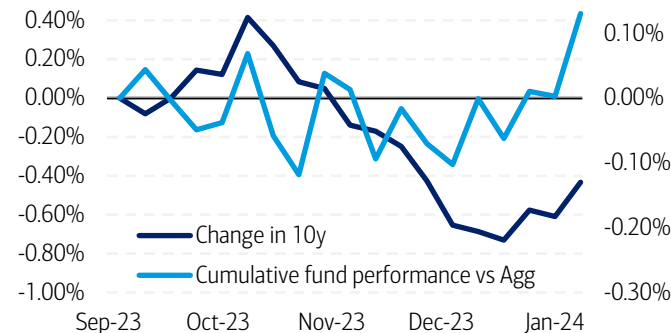


Source: BofA Global Research, Bloomberg. Note: Excess returns are fund total returns over Bloomberg Barclays Agg index

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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

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Exhibit 47: Total return funds' published UST allocations vs benchmark from Q2 and Q3 '23

Funds increased underweight position from Q2 to Q3

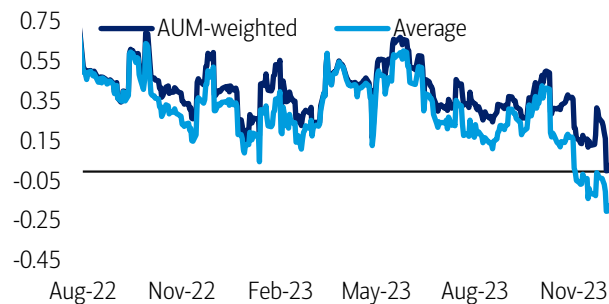
		AUM (\$bn)	Q2 '23 (%)	Q3 '23 (%)	Change (PPTS)
VTBIX	Vanguard Total Bond Market II Index Fund	272.2	2.1	2.2	0.1
VBMFX	Vanguard Total Bond Market Index Fund	210.2	1.4	1.3	-0.1
PIMIX	PIMCO Income fund	137.5	-34.1	-34.8	-0.6
ABNDX	The Bond Fund of America	80.0	-14.0	-22.4	-8.4
DODIX	Dodge & Cox Income Fund	70.2	-32.7	-29.8	2.9
MWTIX	MetWest Total Return Bond Fund	54.8	-18.7	-17.4	1.3
PTTRX	PIMCO Total Return Fund	54.8	-18.6	-23.9	-5.3
PDBAX	PGIM Total Return Bond Fund	43.1	-34.2	-34.9	-0.7
PGBOX	JPMorgan Core Bond Fund	42.9	-2.2	-3.9	-1.7
BAGIX	Baird Aggregate Bond Fund	42.4	-17.7	-18.8	-1.1
BSIIX	BlackRock Strategic Income Opportunities Fund	36.1	-23.4	-24.0	-0.7
FSIGX	Fidelity Series Investment Grade Bond Fund	35.6	-10.1	-6.4	3.7
FTBFX	Fidelity Total Bond Fund	34.1	-12.5	-11.6	0.9
DBLTX	DoubleLine Total Return Bond Fund	31.1	-32.8	-34.6	-1.8
BCOIX	Baird Core Plus Bond Fund	27.7	-18.4	-19.1	-0.7
JHBIX	John Hancock Bond Fund	23.1	-22.5	-21.6	0.9
TBIIX	TIAA-CREF Bond Index Fund	22.6	0.3	0.0	-0.3
WACPX	Western Asset Core Plus Bond Portfolio	21.6	-38.0	-38.6	-0.6
MAHQX	BlackRock Total Return Fund	18.5	88.0	-1.9	-89.9
ONIAx	JPMorgan Core Plus Bond Fund	17.8	-2.9	-3.1	-0.2
BBTBX	Bridge Builder Core Bond Fund	17.2	-23.0	-24.6	-1.6
PRCIX	T Rowe Price New Income Fund	16.6	-11.8	-8.6	3.2
WATFX	Western Asset Core Bond Fund	14.2	-31.1	-32.1	-1.0
QCBMIX	CREF Bond Market Account	10.8	-22.6	-23.0	-0.4
FBNDX	Fidelity Investment Grade Bond Fund	8.7	-0.3	3.5	3.8
DBLFX	DoubleLine Core Fixed Income Fund	7.0	-17.9	-18.5	-0.6
JFLEX	Janus Henderson Flexible Bond Fund	2.7	-17.9	-26.0	-8.0
TGLMX	TCW Total Return Bond Fund	2.4	-39.6	-39.9	-0.3
AUM weighted		1355.9	-11.9	-13.7	-1.8

Source: BofA Global Research, funds' publicly available reports

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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

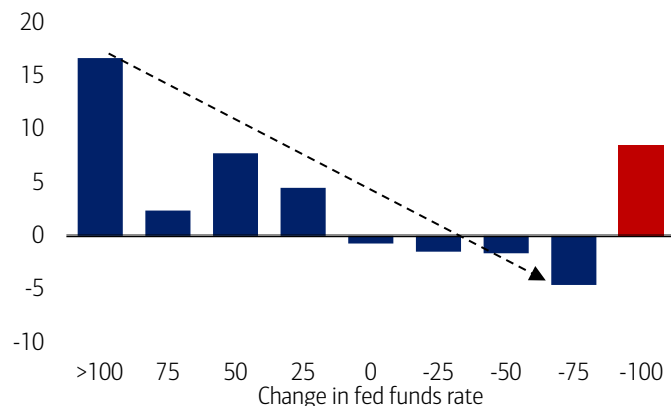


Source: BofA Global research, Bloomberg

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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

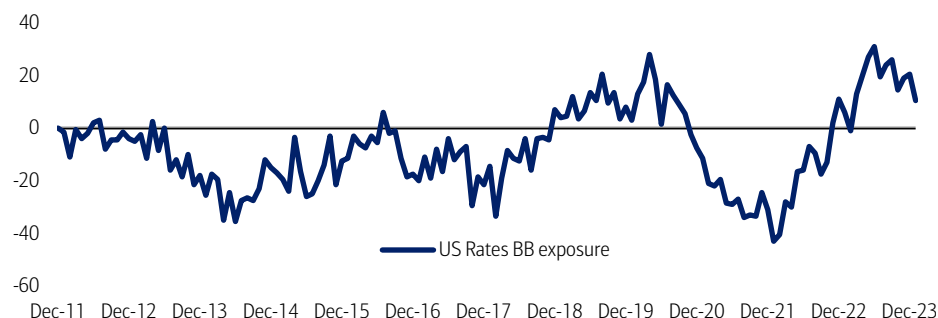


Source: BofA Global Research, Bloomberg

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Exhibit 52: Duration exposure: USD

Duration longs somewhat pared back, catching up with sentiment



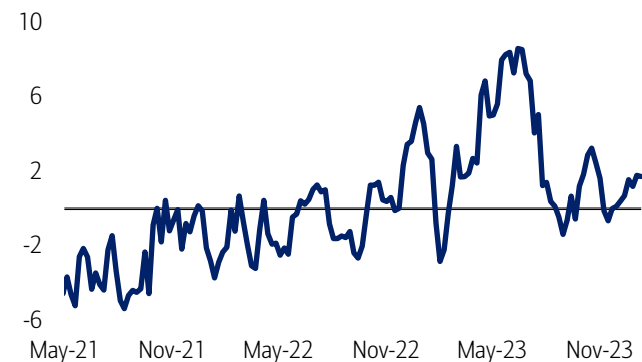
Source: BofA Global Research FX and Rates Sentiment Survey

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.

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

Primary dealer holdings recovered in December

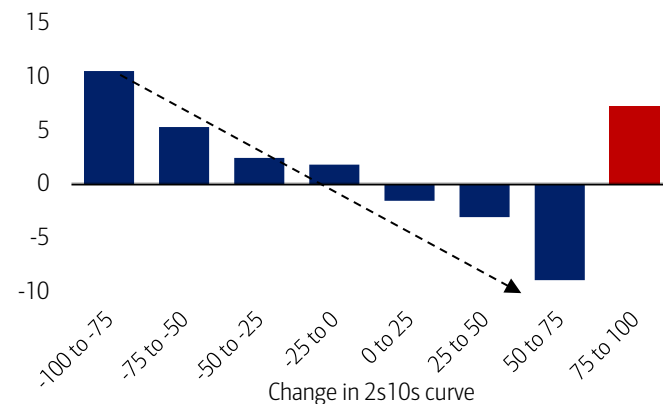


Source: BofA Global research, Note: cumulative change since 2021 reflects adjustment for change in market value

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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

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Bank balance sheets

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

US banks saw decline in balance sheet driven by loans and other assets

		Current (01/10/2024)	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	23259	-1	-17	21	34	4
	Cash	3545	47	-17	2	20	6
	UST & Agency	1569	-7	2	6	5	-2
	MBS	2526	2	4	4	5	-3
	Loans and Leases	12308	-35	-2	9	7	5
	Other	3311	-8	-3	1	-2	-2
Large Domestic (\$bn, NSA)	Total Assets	13507	-65	-23	8	19	3
	Cash	1767	2	-14	5	15	6
	UST & Agency	1155	-19	0	4	3	-1
	MBS	1912	3	2	1	3	0
	Loans and Leases	6757	-18	-7	1	1	1
	Other	1917	-33	-4	-3	-3	-3
Small Domestic (\$bn, NSA)	Total Assets	6601	-23	5	7	6	1
	Cash	467	-23	1	2	3	2
	UST & Agency	297	1	1	1	0	-1
	MBS	586	1	3	3	1	-3
	Loans and leases	4467	-4	3	3	3	4
	Other	784	3	-2	-2	-2	-1
All Domestic (\$bn, NSA)	Total Assets	20108	-88	-19	15	25	4
	Cash	2234	-21	-13	7	18	8
	UST & Agency	1452	-18	0	4	4	-2
	MBS	2497	4	5	4	4	-3
	Loans and leases	11224	-23	-4	4	4	5
	Other	2701	-30	-6	-4	-5	-4
Foreign (\$bn, NSA)	Total Assets	3151	86	2	6	10	1
	Cash	1311	68	-3	-5	3	-2
	UST & Agency	117	10	1	2	1	0
	MBS	28	-1	-1	0	0	0
	Loans and leases	1084	-13	2	4	3	1
	Other	611	22	3	5	3	2

Source: BofA Global Research, Federal Reserve, Bloomberg

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

US banks saw increase in other borrowing and decline in deposits

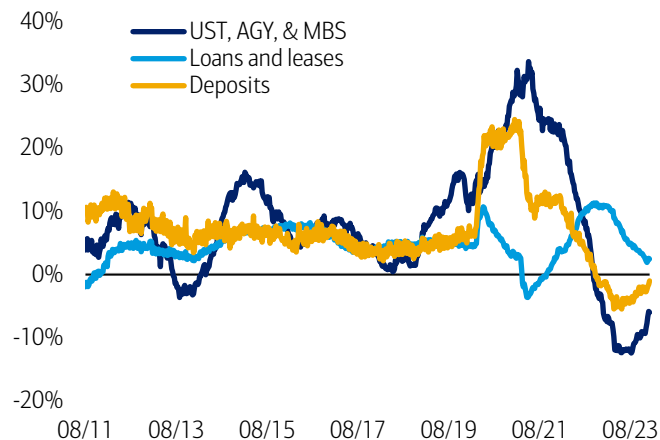
		Current (01/10/2024)	1w change	Rolling 4w avg wkly chg	Rolling 8w avg wkly chg	Rolling 12w avg wkly chg	Rolling 52w avg wkly chg
Deposits (\$bn, NSA)	All	17500	-78	-7	12	24	-6
	Domestic	16199	-108	-12	9	20	-5
	Large Domestic	10873	-87	-11	7	15	-4
	Small Domestic	5327	-20	0	2	5	-1
	Foreign	1301	29	4	3	4	0
Other borrowing (\$bn, NSA)	All	2420	67	23	12	6	10
	Domestic	1374	26	10	3	2	7
	Large Domestic	952	27	10	2	3	6
	Small Domestic	421	-1	1	1	-1	1
	Foreign	1046	41	13	9	4	3

Source: BofA Global Research, Federal Reserve, Bloomberg

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

Securities growth usually only positive when deposit growth is positive

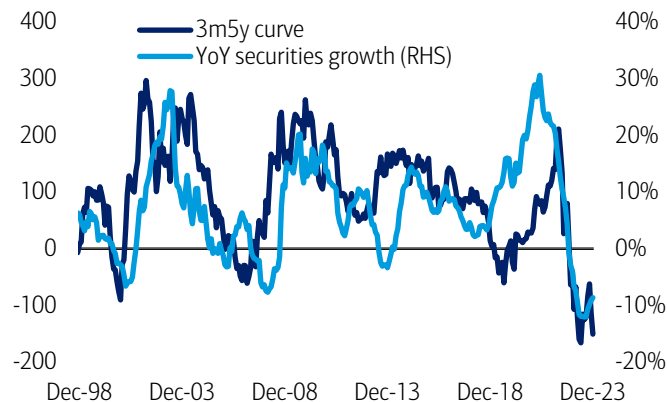


Source: BofA Global Research, Bloomberg, Federal Reserve

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

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

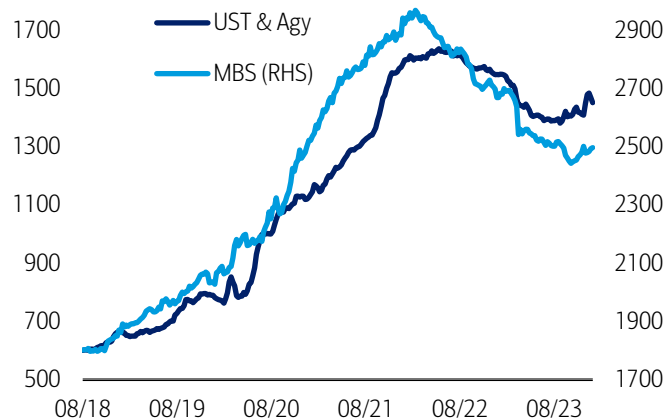


Source: BofA Global Research, Bloomberg

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

UST & Agency shows signs of pickup



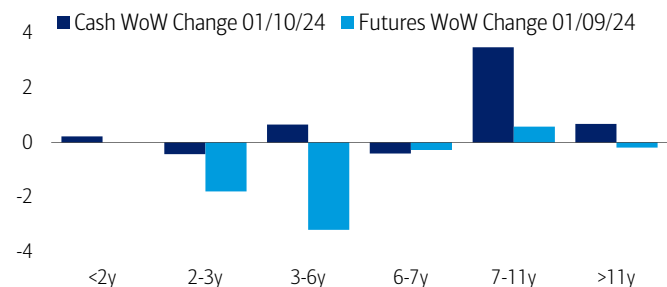
Source: BofA Global Research, Bloomberg, Federal Reserve

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Primary dealer balance sheet

Exhibit 58: Dealers WoW change in positions

10y equivalent, \$bn, futures positions lower in the belly, cash positions higher in 7-11y

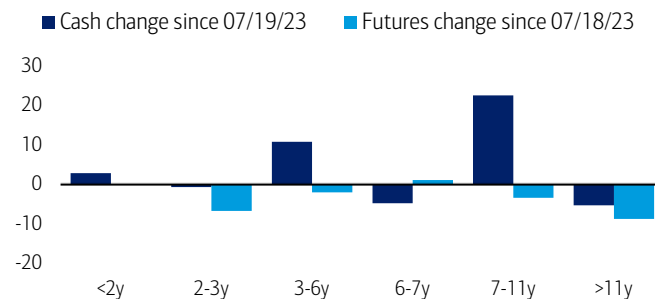


Source: BofA Global Research, NY Fed, CFTC

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Exhibit 59: Dealers change in positions over last 6mo

10y equivalent, \$bn, cash positions higher in the 7-11y bucket

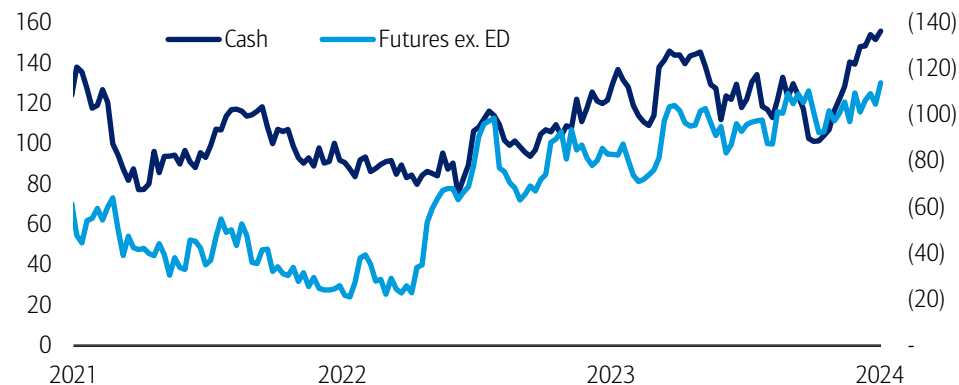


Source: BofA Global Research, NY Fed, CFTC

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Exhibit 60: Dealers total sector positions

10y equivalent, \$bn, long cash & short futures position increased on the week



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

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Auction statistics

Exhibit 61: Auction summary statistics

Z-score calculated on levels, Investment fund participation in auctions remains robust but has moderated from peak

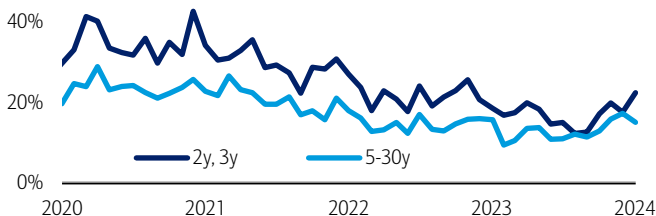
		Primary Dealer	Indirect Bidder	Direct Bidder	Investment Fund	Foreign	Depository Institution
2y	1/2/2024	17.6%	62.0%	20.3%	67.7%	11.2%	0.0%
	MoM Change	0.0%	0.0%	0.0%	4.6%	-4.3%	0.0%
	1Y Z-score	0.3	-0.3	0.1	0.5	-1.0	0.0
3y	12/15/2023	22.1%	56.0%	21.9%	60.0%	11.5%	0.0%
	MoM Change	0.0%	0.0%	0.0%	-6.6%	-3.4%	0.0%
	1Y Z-score	1.1	-1.1	0.7	-0.9	-1.1	0.7
5y	1/2/2024	19.4%	19.1%	61.5%	75.0%	8.5%	0.0%
	MoM Change	0.0%	0.0%	0.0%	4.4%	-2.8%	0.0%
	1Y Z-score	1.5	0.3	-1.3	1.1	-1.3	-0.7
7y	1/2/2024	11.0%	70.6%	18.4%	69.0%	11.4%	0.0%
	MoM Change	0.0%	0.0%	0.0%	7.0%	-2.7%	0.0%
	1Y Z-score	-0.3	0.2	0.1	-0.4	-0.5	-0.5
10y	12/15/2023	18.7%	60.3%	20.9%	67.8%	11.4%	0.0%
	MoM Change	0.0%	0.0%	0.0%	14.9%	-17.3%	-0.1%
	1Y Z-score	0.7	-0.9	1.0	0.3	-0.6	-0.5
20y	1/2/2024	11.9%	72.9%	15.2%	68.9%	15.2%	0.0%
	MoM Change	0.0%	0.0%	0.0%	-5.0%	1.9%	0.0%
	1Y Z-score	0.9	0.5	-1.1	-1.1	0.1	#DIV/0!
30y	12/15/2023	18.2%	65.1%	16.7%	69.8%	12.4%	0.0%
	MoM Change	0.0%	0.0%	0.0%	12.3%	-1.9%	0.0%
	1Y Z-score	1.3	-0.7	-1.0	0.0	-0.5	-0.8

Source: BofA Global Research, Treasury

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Exhibit 62: Primary dealer – average auction allotment

Dealer participation has picked up

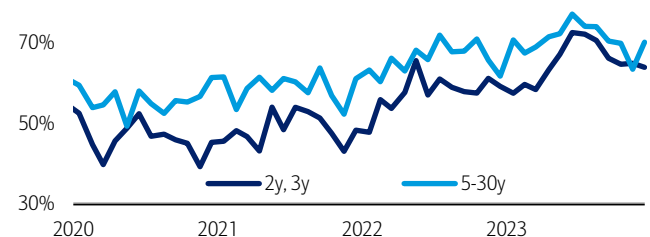


Source: BofA Global Research, Treasury

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Exhibit 63: Investment fund – average auction allotment

Fund participation still elevated but shows sign of decline at front-end

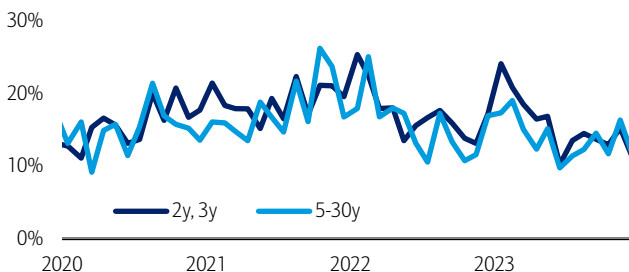


Source: BofA Global Research, Treasury

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Exhibit 64: Foreign investment – average auction allotment

Foreign participation still below average and declined recently

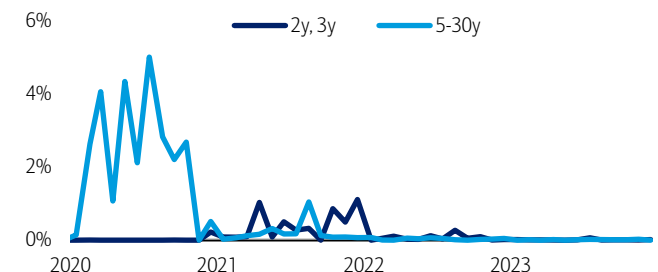


Source: BofA Global Research, Treasury

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Exhibit 65: Depository institutions – average auction allotment

Participation is minimal



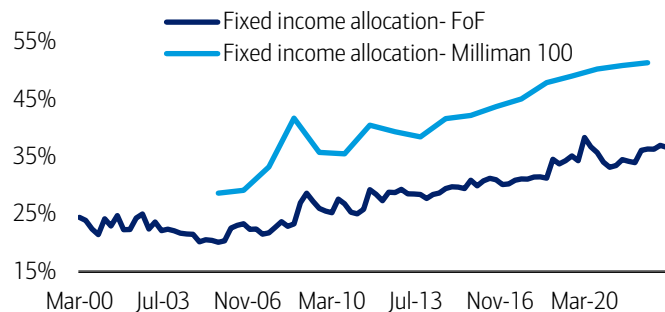
Source: BofA Global Research, Treasury

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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

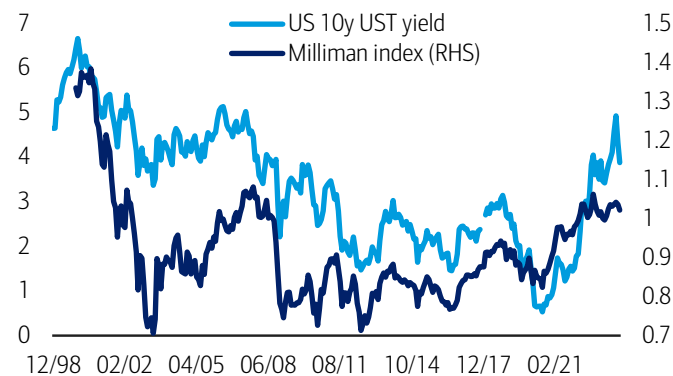


Source: BofA Global Research, Milliman, Federal Reserve

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

Funded status historically improves with an increase in interest rates

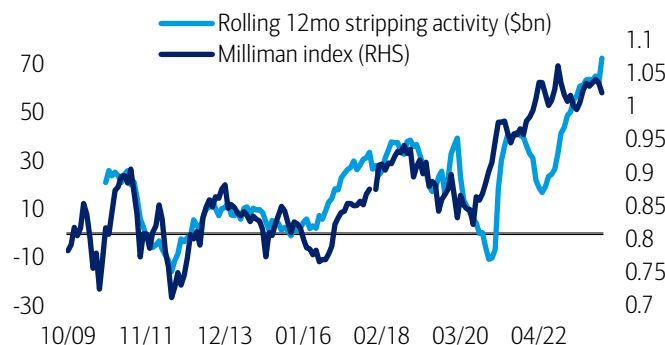


Source: BofA Global Research, Bloomberg

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

Higher pension funded status aligns with higher stripping activity

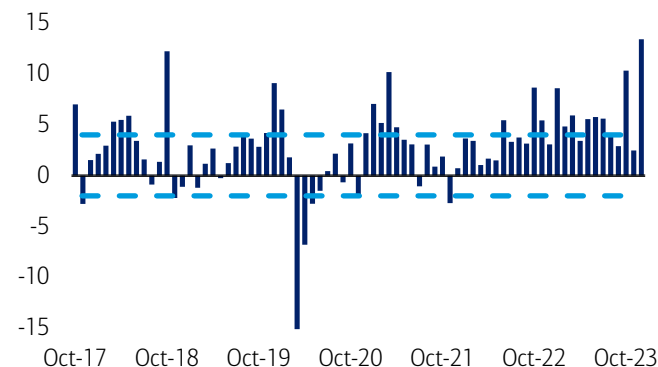


Source: BofA Global Research, Bloomberg

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

USTs held in stripped form saw a historic increase in December

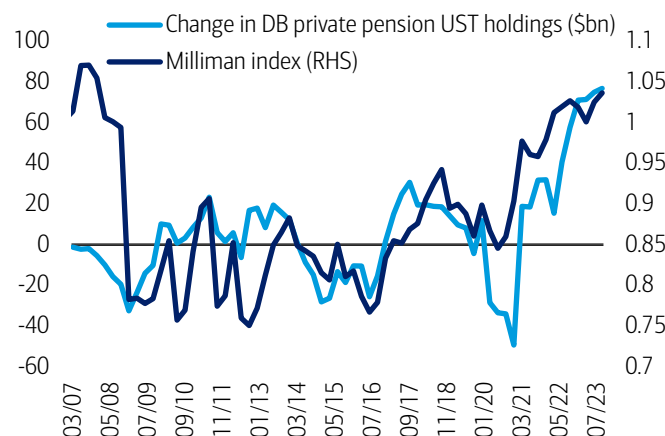


Source: BofA Global Research, Note: dashed line is 1stdev

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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

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