

US Rates Watch

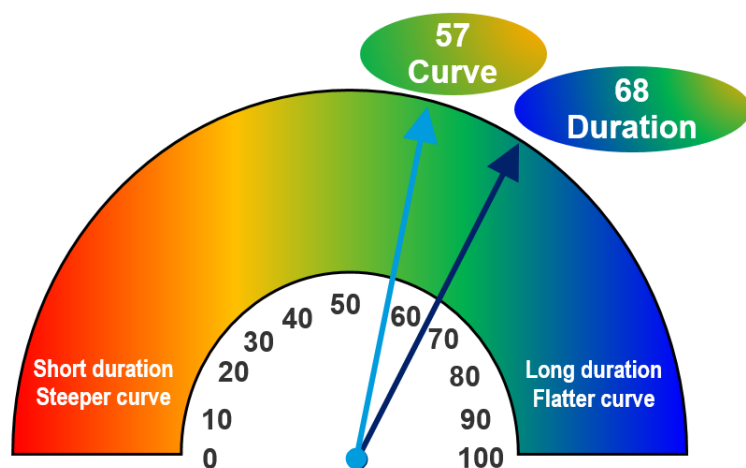
UST basis continues to retreat; buying moves out the curve

Moving out

US fixed income funds saw another strong week of inflows despite outflows from shorter-term funds. As flows move further out the curve, our model suggests that CTAs are similarly turning net sellers of the front end. The foreign official sector reduced their short-term UST holdings notably last week. As we have been expecting, the size of the basis trade continues to retreat as asset manager demand cools and follows yields lower with a lag. Primary dealer holdings continue to march higher, particularly at the front end but without straining funding.

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.

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Modest bias for higher rates

Our futures positioning proxy (for construction details see: Gauging positioning in Treasury Futures) shows a modest bias for rates to selloff across the curve (Exhibit 12). Much of the longs outstanding are concentrated further out the curve and are more mixed in moneyness vs last week (Exhibit 11). Longs are still the more dominant out of the money position as a share of open interest, but shorts created at the back end are turning more vulnerable.

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.

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Timestamp: 04 March 2024 07:00AM EST

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04 March 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

CTA model shows shift in curve positioning

Our bottoms-up CTA model (see: [CTA impact on the rates market](#)) reflects a meaningful shift in curve positioning over recent months. We continue to see that front-end betas are turning shorter while long-bond betas have been less volatile (Exhibit 14). Our model suggests that CTAs have moved from steepeners to now small flatteners implied from the shorter front-end vs back-end betas.

Basis position continues to moderate

Asset managers reduced futures longs across the curve and to the greatest extent in WN and TY. After this week's reduction, asset manager duration positioning in 10y equivalents sits at the 89th percentile over the past 5 years. This is still historically quite long, but a notable inflection from the peak at the start of the year.

Consistent with the moderation in asset manager longs, levered funds have covered shorts (Exhibit 7) to the greatest extent in WN and TY. They too have seen an inflection in positioning and are now at the 12th percentile after hitting a low in early Feb.

The moderation in size of the basis trade is something we have expected. As rates are off their peak, asset manager demand, which underpins the basis position, similarly retreats with a lag (Exhibit 43).

Unfavorable outlook for UST foreign carry trades

The foreign official sector reduced UST holdings by around \$12.5bn the week ending Feb 28th while foreign RRP usage was roughly flat (Exhibit 34). The move lower in holdings comes alongside little volatility in the USD. Recent auction statistics show foreign investor allocations remain low vs recent history (Exhibit 64). We continue to think it will require a more significant depreciation in the USD for the official sector to turn a net buyer.

Japanese investors were more modest net sellers (-\$2bn) the week ending Feb 23rd (Exhibit 27). Compared to the official sector, private buying was much stronger last year (Exhibit 32) which we think is likely a reflection of strong foreign fund demand.

Based on the forward FX and global curves, FX hedged pickup of USTs will remain relatively muted this year (Exhibit 20). Therefore, foreign demand will likely need to be driven by expectations for duration vs carry returns.

Blockbuster fund inflows continue

Strong fund inflows continued this week (Exhibit 37) particularly into US mixed allocation funds (mix of UST/MBS/IG allocations). We think this inflow has likely supported strong demand across both the UST and credit markets. While short-term UST funds have seen persistent outflows, intermediate and long-term fund inflows remain robust (Exhibit 39), likely reflecting investors extending out the curve.

Alongside the rate rally on the week, only 3 of 28 funds we track underperformed vs benchmark (Exhibit 44). Broad outperformance may have been driven by overweight allocations to MBS as many of these funds reported basis overweights as of Q4 (See: [Show me the money manager](#)).

Dealer holdings continue to climb

Primary dealer UST holdings continued to increase the week ending Feb 21 particularly across 2-6y tenors (Exhibit 58). The growth in cash positions at the front end is another sign of investors recently lightening up on shorter tenors. Over the past several months UST holdings have grown meaningfully, with the largest duration add at the 7-11y bucket (Exhibit 59). Dealer auction allotment share remains relatively low but larger auction sizes have grown total collateral holdings. Despite larger dealer collateral, funding markets remain stable and retraced pressures seen in late '23 (see: [Stable repo](#)).

Exhibit 2: On deck next week

Calendar of upcoming events

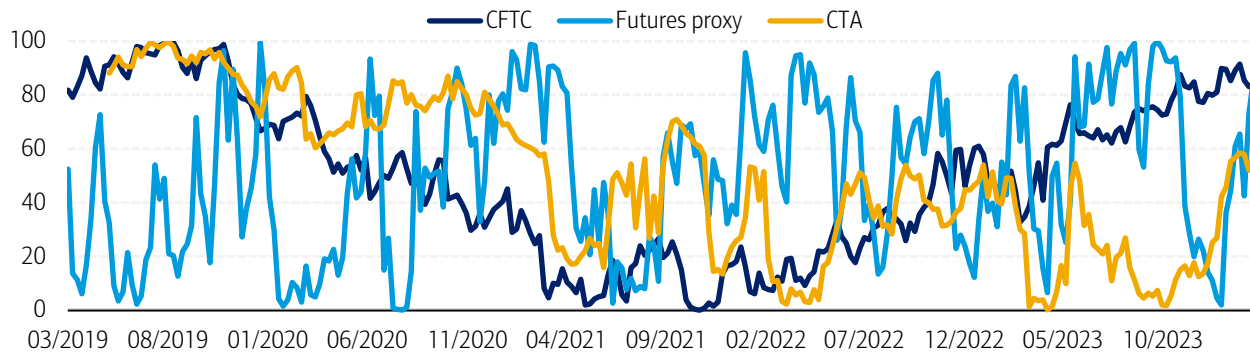
	US Data			Fed Speaker / Event	Treasury Auction			Treasury Settlements	
	Series	BofA	BB Consensus		Security	Amount (\$bn)	Prior Δ	Security	Amount (\$bn)
M, Mar 4				11:00 Fed's Harker remarks on economic impact of higher education	13-week bills	79	0		
					26-week bills	70	0		
Tu, Mar 5	S&P Global US services PMI	-	51.4	12:00 Fed's Barr (voter) speaks on panel about CRA modernization	42-day bills	80	0	Bills	14
	Factory Orders	-	-2.70%						
	ISM Services	53	52.9						
W, Mar 6	MBA Mortgage Applications	-	-	10:00 Chair Powell testifies before Congress	17-week bills				
	ADP Employment	-	150k	12:00 Fed's Daly (voter) to give keynote address					
	Wholesale Inventories	-	-	14:00 Federal Reserve Beige Book release					
	JOLTS Job Openings	-	-	16:15 Fed's Kashkari speaks at WSJ event					
Th, Mar 7	Initial Jobless Claims	220k	-	10:00 Chair Powell testifies before Congress	4-week bills			Bills	17
	Nonfarm Productivity	3.10%	3.10%	11:30 Fed's Mester (voter) speaks on economic outlook	8-week bills				
	Unit Labor Costs	0.60%	0.70%						
	Trade Balance	-\$64.2bn	-\$62.5bn						
	Consumer Credit	-	\$10bn						
F, Mar 8	Change in Nonfarm Payrolls	215k	193k	7:00 Fed's Williams (voter) participates in moderated discussion					
	Private Payrolls	185k	150k						
	Unemployment Rate	3.70%	3.70%						
	Average Hourly Earnings mom	0.30%	0.30%						
	Average Weekly Hours	34.3	34.3						
	Labor force participation rate	62.60%	-						

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 selloff, CFTC data adjusted for LFs is long, top down CTA model shows positioning is modestly long



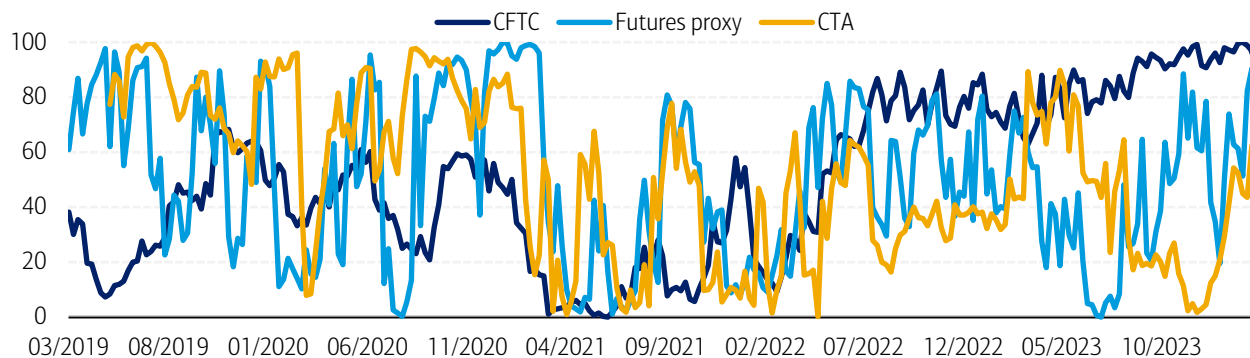
Source: BofA Global Research

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

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

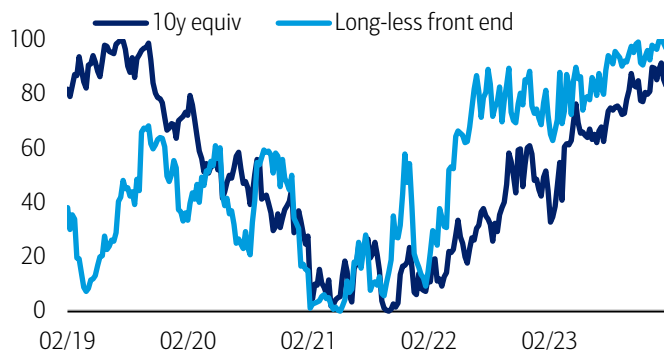


Source: BofA Global Research

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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

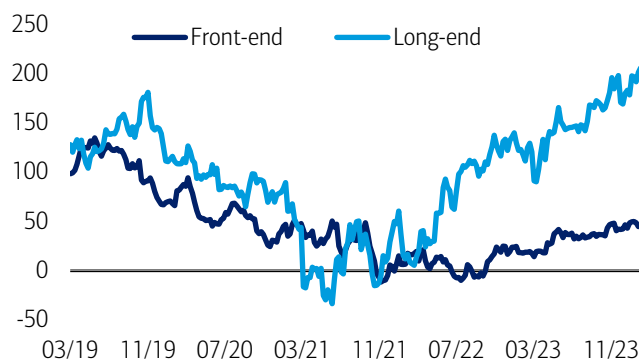


Source: BofA Global Research, Bloomberg

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

Longs are more concentrated in the back-end

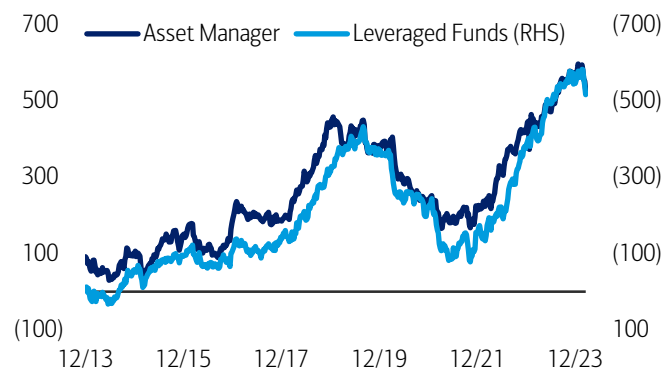


Source: BofA Global Research, Bloomberg

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

Asset manager longs correspond with leveraged fund shorts

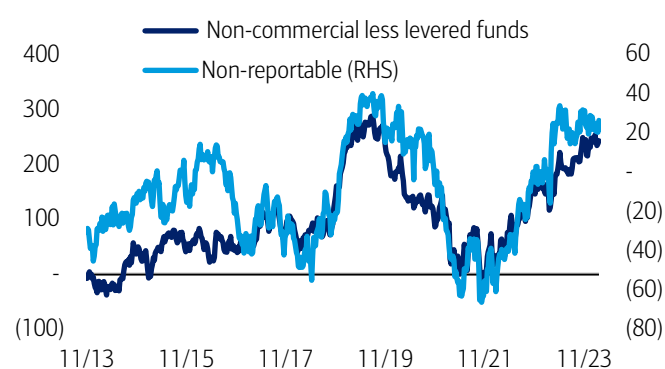


Source: BofA Global Research, Bloomberg

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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)

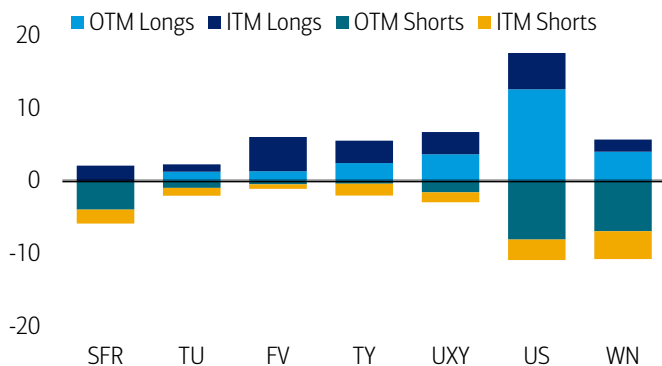
Positioning is a momentum signal: longer positioning is usually followed by stronger 10y performance

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

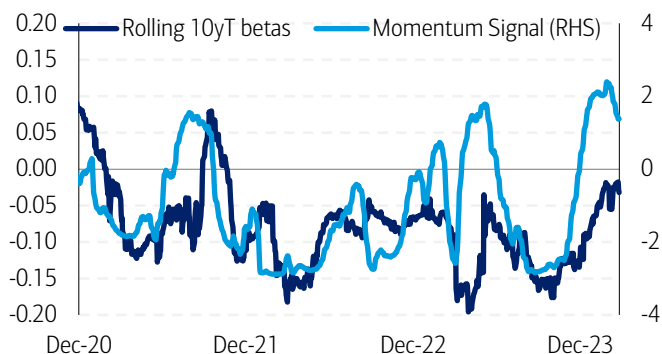
On the week, shorts & longs moneyness are mixed and positioning is more prominent at the back-end



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

Momentum signal declined further while CTAs added shorts



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

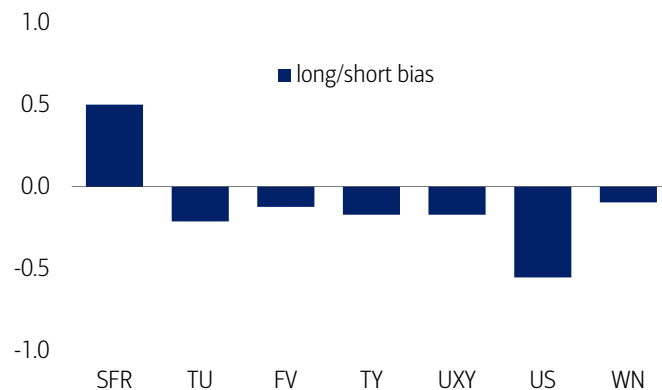
Positioning is contrarian signal: shorter positioning is usually followed by stronger 10y performance

	0	1w	4w	8w	12w	16w
0 to 10	10	-1	-1	-2	-3	-4
10 to 20	20	5	4	3	4	4
20 to 30	30	-4	-5	-2	-2	-1
30 to 40	40	-1	-2	-3	-3	-4
40 to 50	50	-4	-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

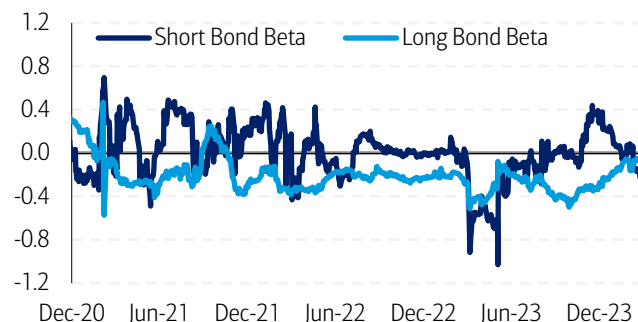
Bias is for rates to sell off except in SFR



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

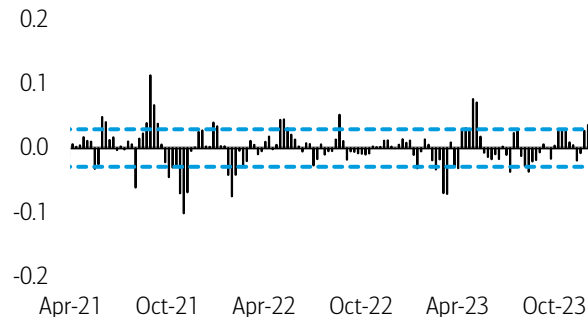
Top-down model suggests CTAs are short at the front-end and near neutral at the back-end



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

Change in 10y beta was positive on the week

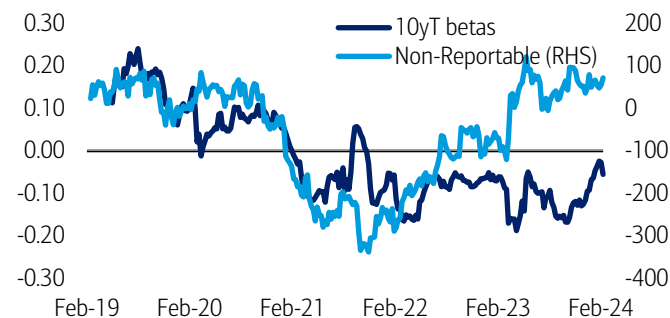


Source: BofA Global Research

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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



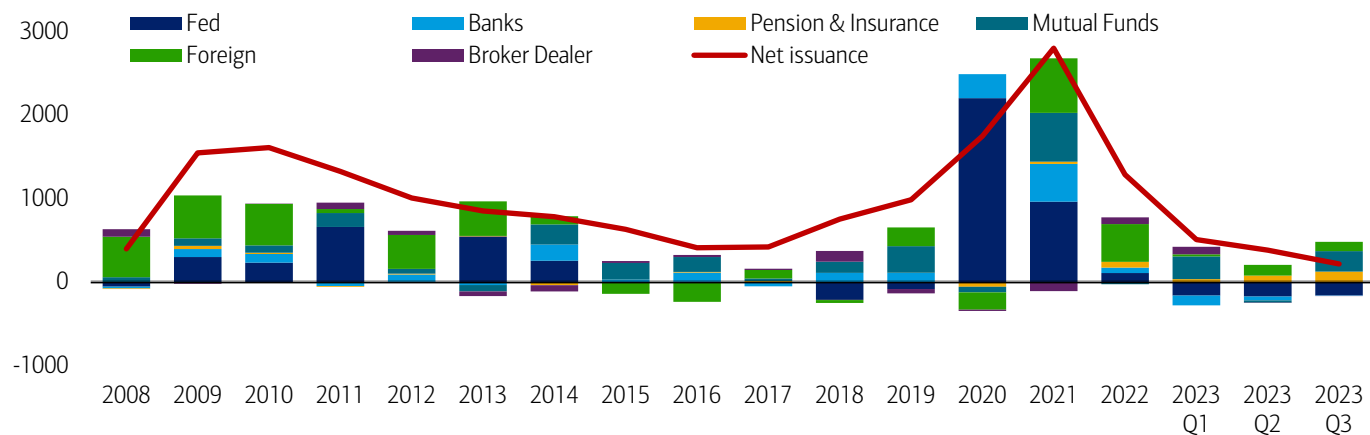
Source: BofA Global Research, Bloomberg

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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

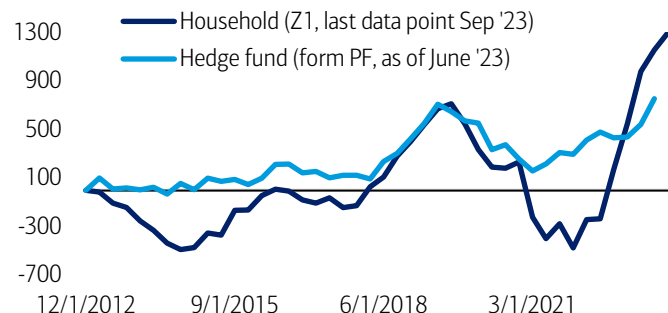


Source: BofA Global Research, Federal Reserve, Note: only reflects real money categories from flow of funds that generally invest in Treasury coupon securities, excludes households. Net issuance is coupon supply excluding Fed flows, which are shown as negative for periods where Fed is reducing size of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

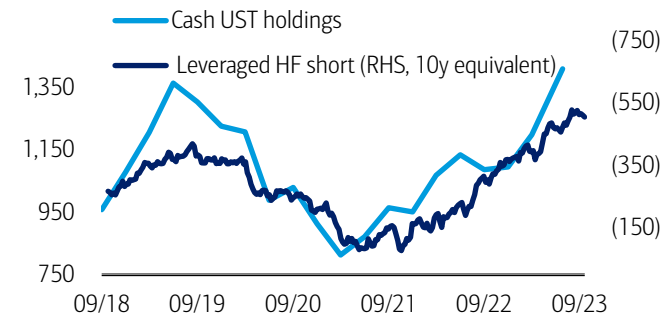


Source: BofA Global Research, Federal Reserve

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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



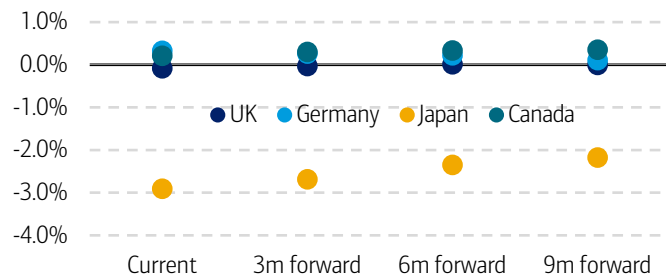
Source: BofA Global Research, Federal Reserve, Bloomberg

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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 modest pickup for UK, German, CAD investors

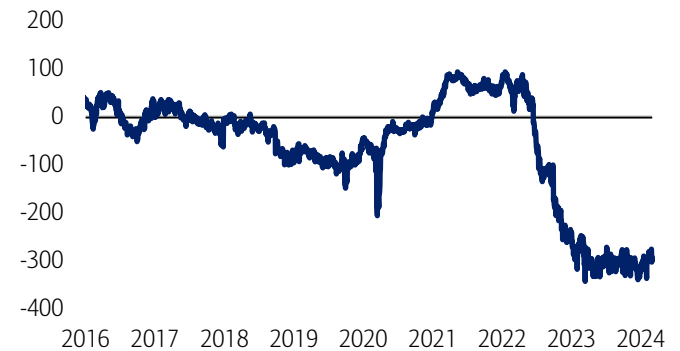


Source: BofA Global Research, Bloomberg. Note: pickup vs 10y local alternative except Japan which is relative to 20y JGB using 3m forward FX hedge

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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

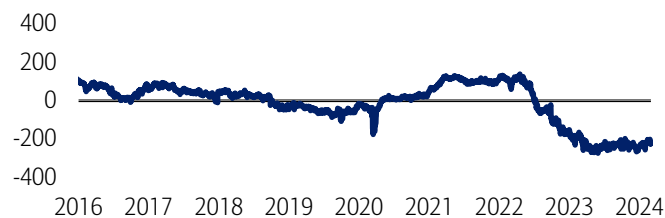


Source: BofA Global Research, Bloomberg

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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

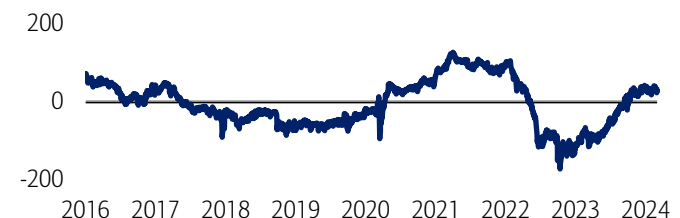


Source: BofA Global Research, Bloomberg

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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

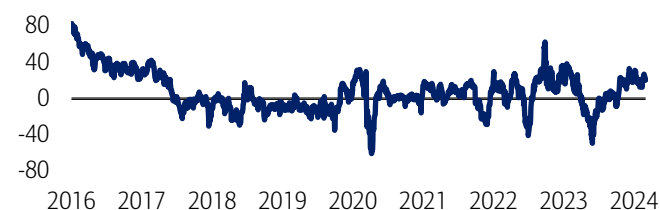


Source: BofA Global Research, Bloomberg

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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

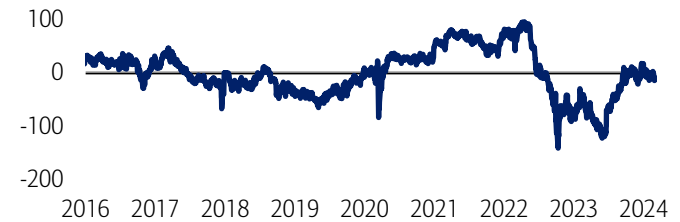


Source: BofA Global Research, Bloomberg

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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

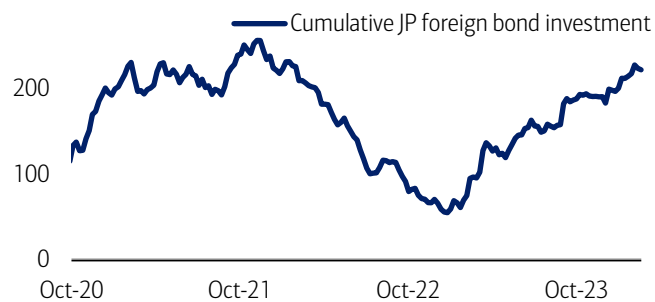
	2/29/2024		As of 1 wk ago		As of 1 mo ago		As of 1 yr ago	
	Pickup to 10y JGB	Pickup to 20y JGB	Pickup to 10y JGB	Pickup to 20y JGB	Pickup to 10y JGB	Pickup to 20y JGB	Pickup to 10y JGB	Pickup to 20y JGB
10y UST	-2.16%	-2.91%	-2.12%	-2.86%	-2.32%	-3.10%	-1.95%	-2.63%
10y GER	-2.48%	-3.23%	-2.48%	-3.21%	-2.55%	-3.34%	-1.07%	-1.76%
10y FRA	-2.01%	-2.76%	-2.02%	-2.75%	-2.05%	-2.84%	-0.60%	-1.28%
10y BEL	-1.92%	-2.67%	-1.93%	-2.67%	-1.92%	-2.71%	-0.49%	-1.18%
10y ITA	-1.07%	-1.82%	-1.06%	-1.79%	-0.99%	-1.78%	0.77%	0.08%
10y SPA	-1.62%	-2.36%	-1.60%	-2.33%	-1.63%	-2.42%	-0.12%	-0.81%
10y UK	-2.08%	-2.83%	-2.11%	-2.85%	-2.20%	-2.99%	-1.33%	-2.01%
10y CAN	-2.38%	-3.13%	-2.37%	-3.11%	-2.49%	-3.28%	-2.05%	-2.73%

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 modestly dropped on the week

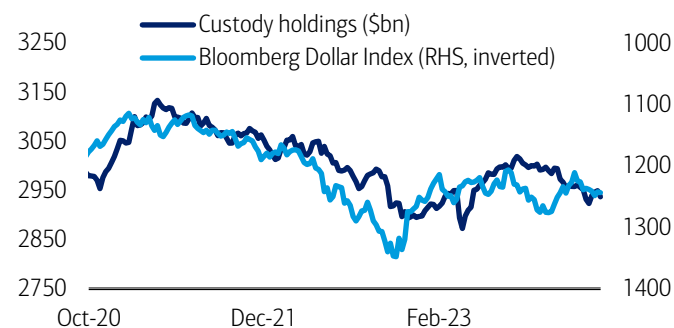


Source: BofA Global Research, Bloomberg

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Exhibit 28: Foreign custody holdings and USD

Custodial holdings reduced on the week

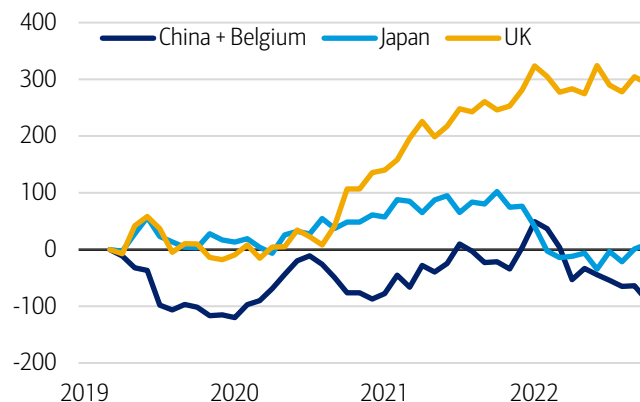


Source: BofA Global Research, Bloomberg

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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; UK largest buyer

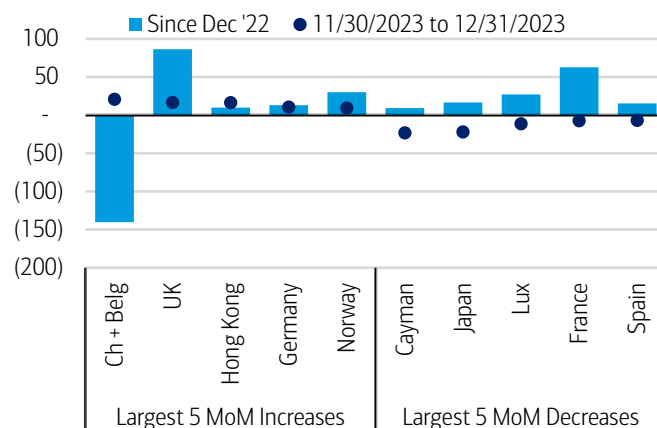


Source: BofA Global Research, Bloomberg, TIC, note: references the valuation-adjusted flow

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

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

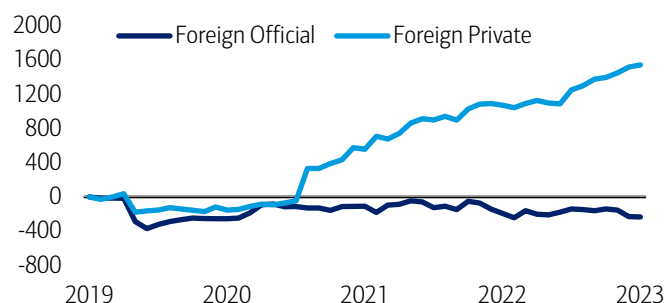


Source: BofA Global Research, TIC, Note: adjusted for level of rates

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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 Belgium were the largest regional sellers

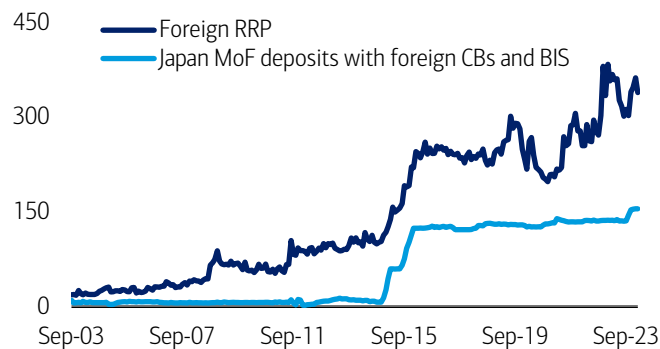


Source: BofA Global Research, Note: TIC data YTD through August adjusted for valuation

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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

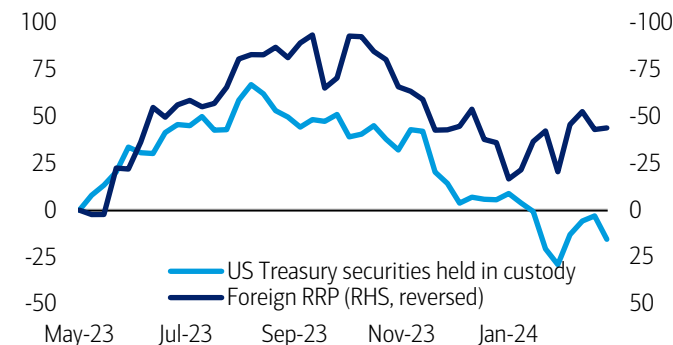


Source: Japan MoF, Federal Reserve, Bloomberg

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

Custody holdings dropped & RRP flat on the week



Source: BofA Global Research, Federal Reserve, Bloomberg

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

Banks were largest buyers in January

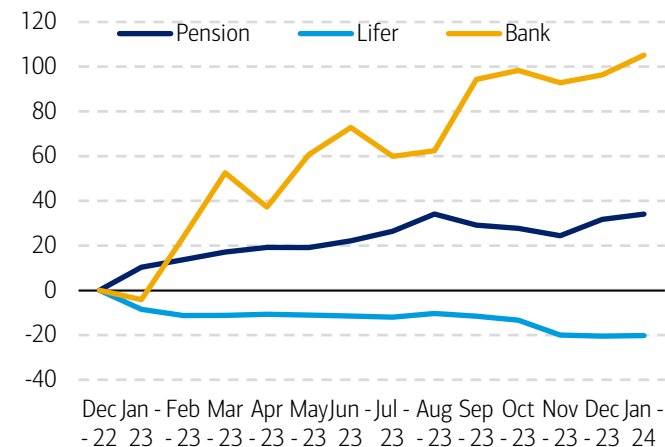
	Pension	Lifer	Bank	
Jan - 24	2.4	0.3	8.9	
Dec - 23	7.3	-0.5	3.5	
Nov - 23	-3.3	-6.6	-5.5	
Oct - 23	-1.4	-1.8	4	
Sep - 23	-5	-1.2	31.9	
Aug - 23	7.7	1.6	2.5	
Jul - 23	4.3	-0.5	-12.9	
Jun - 23	3	-0.4	12.1	
May - 23	-0.1	-0.4	23.5	
Apr - 23	2.1	0.5	-15.3	
Mar - 23	3.4	0.1	28.8	
Feb - 23	3.4	-2.8	27.9	
Jan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

Source: BofA Global Research, Japanese MoF

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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)**

Large inflows driven by mixed allocation, gov intermediate & long, and corp IG funds

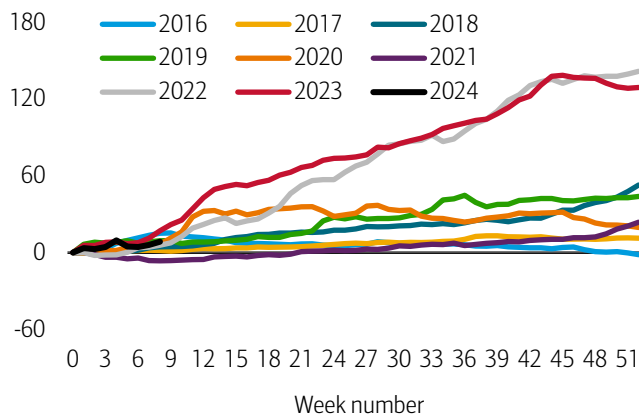
	2/28/2024	Rolling 4w average	Rolling 8w average	Rolling 12w average	Rolling 52w average
Gov: short	(838)	(446)	(871)	(665)	561
Gov: intermediate	2,010	1,003	708	481	410
Gov: long	1,907	1,154	1,178	870	1,315
Corp: IG	1,926	765	1,605	1,575	430
Corp:HY	(722)	88	608	528	260
Corp: all quality	93	75	87	82	50
MBS	543	296	367	215	277
Inflation	65	(83)	(98)	(314)	(392)
Muni	223	303	457	266	6
Mixed allocation	5,099	5,741	4,675	3,546	2,140
All US FI	10,367	8,875	8,549	6,551	4,752

Source: BofA Global Research, EPFR

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

Flows on the week picked up

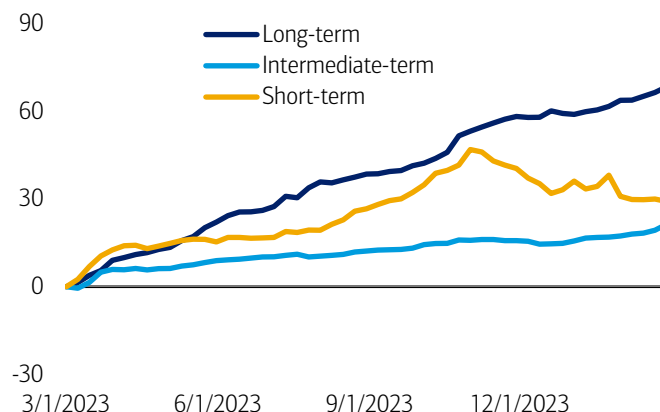


Source: BofA Global Research, EPFR

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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 has declined since Nov last year

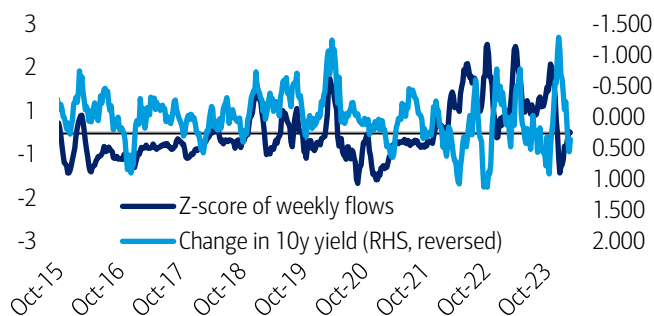


Source: BofA Global Research, EPFR

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

Fund flows recently have been historically strong alongside rates rally

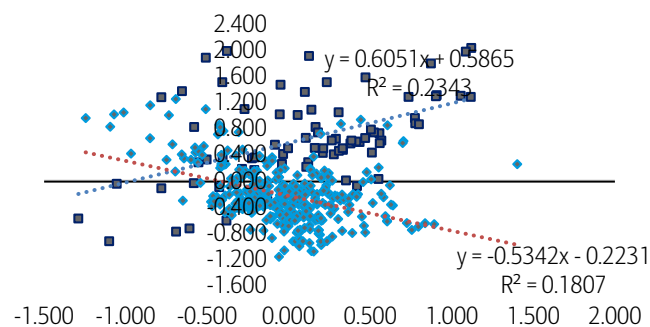


Source: BofA Global Research, EPFR

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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

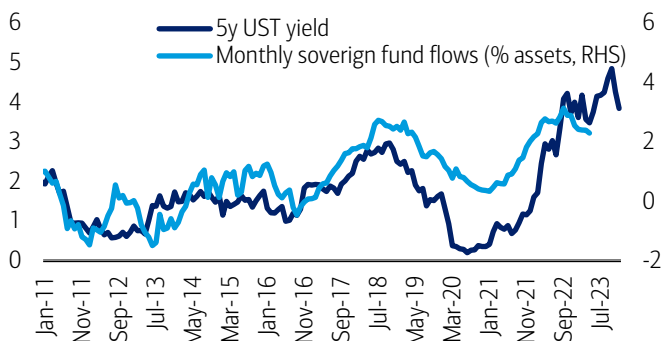


Source: BofA Global Research, EPFR, Bloomberg, Note: dark = post '22, light = '15-'22

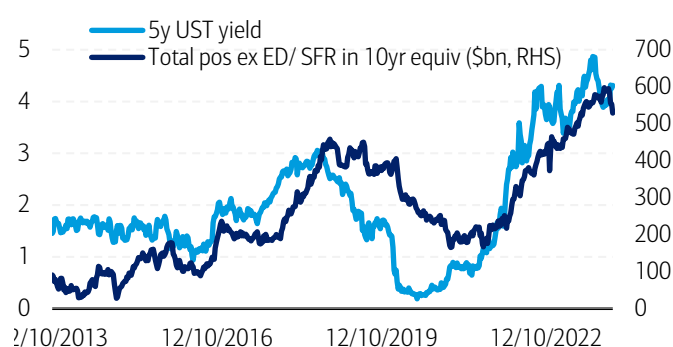
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Exhibit 42: Sovereign fund flows and UST yield

Inflows higher when yields are higher

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

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Exhibit 44: Total return FI fund performance vs benchmark

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

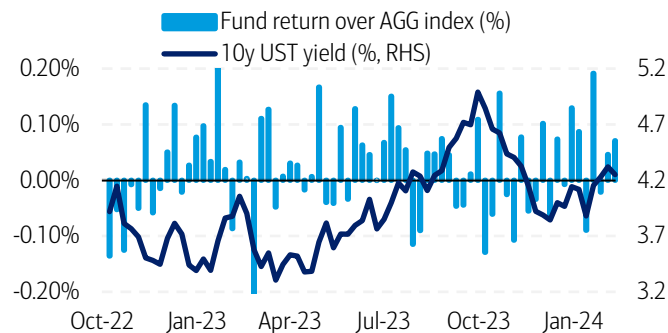
	AUM (\$Bn)	2/29/2024	Vs. Agg	Last 4w	Vs. Agg
Vanguard Total Bond Market II Index Fund	275	0.39%	0.01%	-1.93%	0.11%
Vanguard Total Bond Market Index Fund	211	0.49%	0.11%	-1.90%	0.13%
PIMCO Income fund	141	0.41%	0.03%	-0.81%	1.22%
The Bond Fund of America	81	0.44%	0.06%	-2.04%	-0.01%
MetWest Total Return Bond Fund	52	0.64%	0.25%	-2.19%	-0.16%
PIMCO Total Return Fund	54	0.55%	0.17%	-1.74%	0.29%
Dodge & Cox Income Fund	72	0.40%	0.02%	-1.81%	0.22%
PGIM Total Return Bond Fund	44	0.51%	0.13%	-1.64%	0.40%
BlackRock Strategic Income Opportunities Fund	36	0.30%	-0.08%	-0.72%	1.32%
Baird Aggregate Bond Fund	44	0.50%	0.12%	-1.84%	0.19%
JPMorgan Core Bond Fund	45	0.48%	0.10%	-1.85%	0.18%
DoubleLine Total Return Bond Fund	31	0.63%	0.25%	-1.64%	0.39%
Fidelity Series Investment Grade Bond Fund	36	0.39%	0.00%	-1.95%	0.08%
Fidelity Total Bond Fund	35	0.51%	0.13%	-1.66%	0.37%
Western Asset Core Plus Bond Portfolio	21	0.52%	0.14%	-2.27%	-0.24%
Baird Core Plus Bond Fund	28	0.41%	0.03%	-1.66%	0.37%
John Hancock Bond Fund	23	0.39%	0.01%	-1.85%	0.18%
TIAA-CREF Bond Index Fund	23	0.49%	0.11%	-1.91%	0.12%
BlackRock Total Return Fund	19	0.50%	0.12%	-1.85%	0.19%
JPMorgan Core Plus Bond Fund	19	0.37%	-0.01%	-1.84%	0.20%
Bridge Builder Core Bond Fund	17	0.42%	0.04%	-1.89%	0.14%
T Rowe Price New Income Fund	16	0.46%	0.08%	-1.79%	0.25%
Western Asset Core Bond Fund	14	0.46%	0.08%	-2.19%	-0.16%
CREF Bond Market Account	11	0.46%	0.08%	-1.75%	0.28%
Fidelity Investment Grade Bond Fund	9	0.50%	0.12%	-1.91%	0.12%
DoubleLine Core Fixed Income Fund	7	0.32%	-0.06%	-1.82%	0.21%
TCW Total Return Bond Fund	2	0.90%	0.51%	-2.23%	-0.20%
Janus Henderson Flexible Bond Fund	3	0.42%	0.04%	-2.15%	-0.12%
Weighted avg	1367	0.45%	0.07%	-1.75%	0.28%
Agg		0.38%		-2.03%	
10y return		0.71%		-3.70%	

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 in line with benchmark on the week

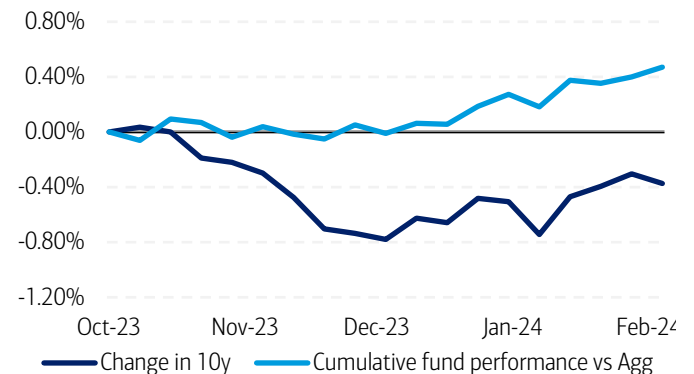


Source: BofA Global Research, Bloomberg. Note: Excess returns are fund total returns over Bloomberg Barclays Agg index

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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 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

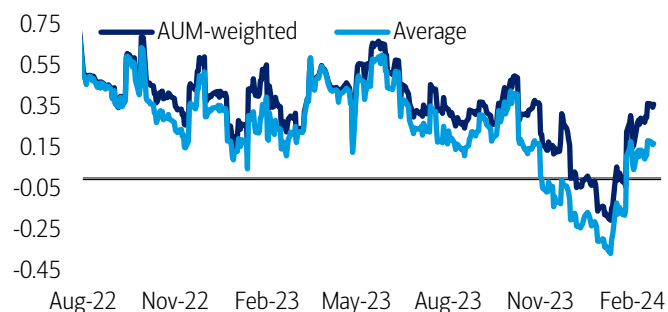
		Q3 '23 (%)	Q4 '23 (%)	Change (PPTS)
VTBIX	Vanguard Total Bond Market II Index Fund	2.2	2.3	0.0
VBMFX	Vanguard Total Bond Market Index Fund	1.3	1.0	-0.3
PIMIX	PIMCO Income fund	-34.8	-35.0	-0.2
ABNDX	The Bond Fund of America	-22.4	-23.6	-1.1
DODIX	Dodge & Cox Income Fund	-29.8	-29.1	0.7
PTTRX	PIMCO Total 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
ONIAH	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
AUM weighted		-13.7	-13.9	-0.2

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

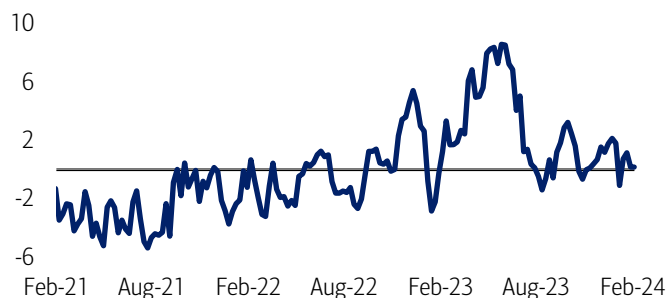


Source: BofA Global research, Bloomberg

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

Primary dealer holdings flat so far in Feb

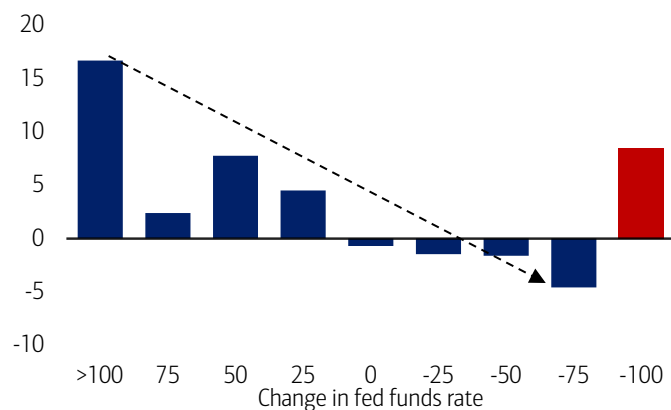


Source: BofA Global research, Note: cumulative change since 2021 reflects adjustment for change in market value

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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

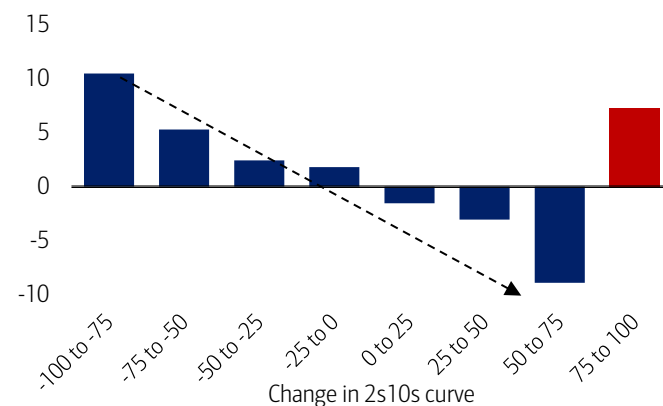


Source: BofA Global Research, Bloomberg

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Exhibit 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

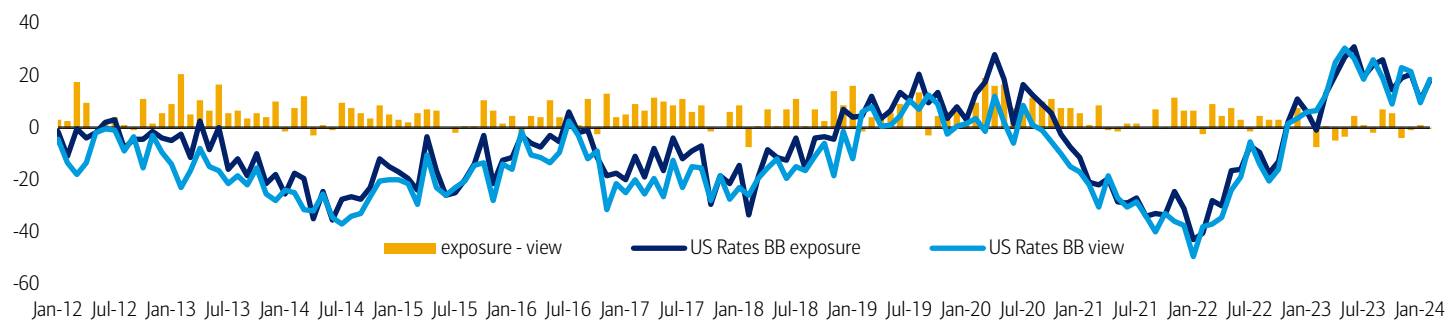


Source: BofA Global Research, Bloomberg

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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.

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Bank balance sheets

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

US banks saw a decrease in assets driven by cash

		Current (02/21/2024)	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	23289	-38	11	-10	8	6
	Cash	3555	-14	7	9	5	9
	UST & Agency	1558	-6	-5	-5	3	-2
	MBS	2540	-2	0	3	3	-3
	Loans and Leases	12289	-8	6	-10	-2	5
	Other	3347	-8	3	-8	-1	-2
Large Domestic (\$bn, NSA)	Total Assets	13393	-97	-3	-36	-6	3
	Cash	1635	-66	-7	-20	-6	6
	UST & Agency	1153	-9	-1	-4	3	-1
	MBS	1928	-1	0	2	1	0
	Loans and Leases	6733	-8	2	-9	-4	0
	Other	1944	-13	2	-5	1	-2
Small Domestic (\$bn, NSA)	Total Assets	6596	1	1	-2	3	0
	Cash	471	4	2	-1	2	2
	UST & Agency	293	-1	-1	0	0	-1
	MBS	582	-1	0	1	1	-3
	Loans and leases	4467	1	0	-1	1	3
	Other	782	-2	-1	-1	-2	-1
All Domestic (\$bn, NSA)	Total Assets	19988	-96	-3	-38	-3	3
	Cash	2107	-61	-4	-21	-4	8
	UST & Agency	1446	-10	-2	-5	3	-1
	MBS	2510	-3	0	3	2	-4
	Loans and leases	11199	-7	2	-10	-3	4
	Other	2726	-15	1	-7	0	-3
Foreign (\$bn, NSA)	Total Assets	3301	58	14	28	11	3
	Cash	1449	47	11	29	9	1
	UST & Agency	112	4	-3	0	0	0
	MBS	30	0	1	0	0	0
	Loans and leases	1090	0	4	0	1	1
	Other	621	7	2	-1	0	0

Source: BofA Global Research, Federal Reserve, Bloomberg

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

Deposits and other borrowing declined

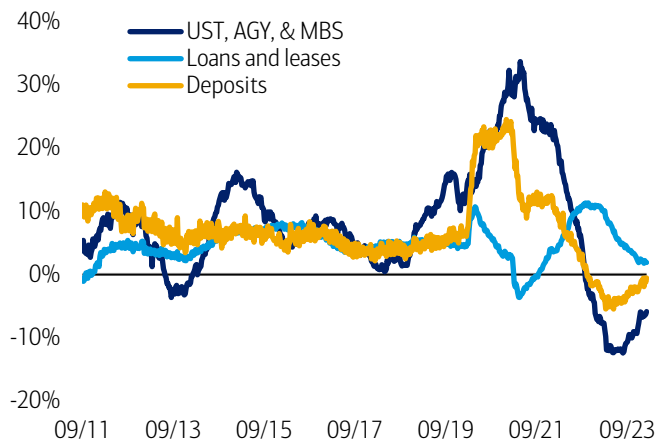
		Current (02/21/2024)	1w change	Rolling 4w avg wkly chg	Rolling 8w avg wkly chg	Rolling 12w avg wkly chg	Rolling 52w avg wkly chg
Deposits (\$bn, NSA)	All	17406	-74	17	-26	1	-4
	Domestic	16074	-69	11	-34	-3	-3
	Large Domestic	10764	-63	7	-30	-3	-3
	Small Domestic	5310	-7	4	-5	1	-1
	Foreign	1332	-5	6	9	4	-1
Other borrowing (\$bn, NSA)	All	2439	-18	-7	14	9	9
	Domestic	1384	-19	-5	5	3	6
	Large Domestic	967	-17	-2	6	3	6
	Small Domestic	417	-2	-4	0	0	0
	Foreign	1055	1	-2	9	6	2

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

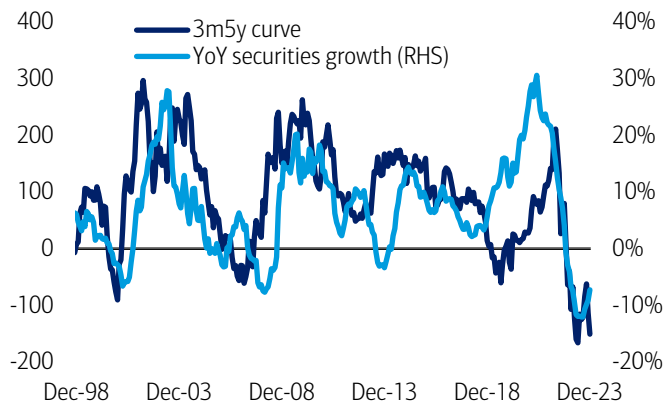


Source: BofA Global Research, Bloomberg, Federal Reserve

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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

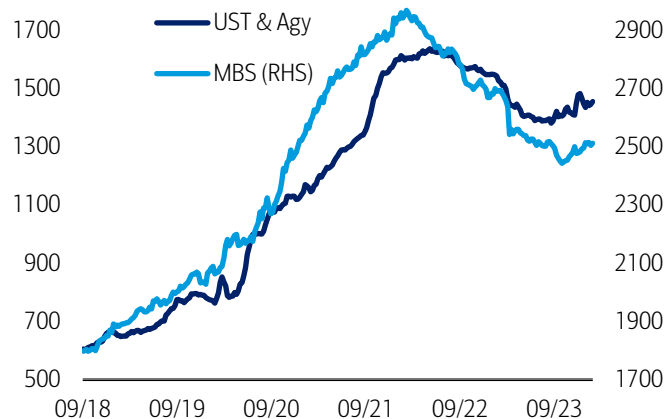


Source: BofA Global Research, Bloomberg

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

Holdings have stabilized after declining since start of '22



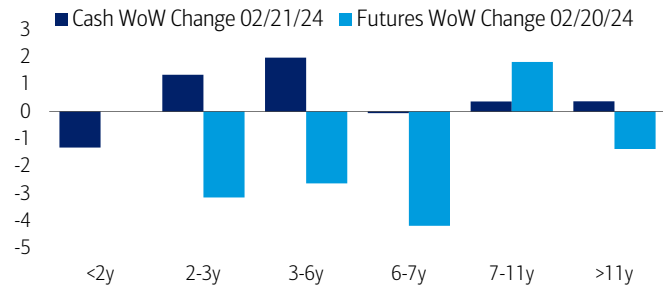
Source: BofA Global Research, Bloomberg, Federal Reserve

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Primary dealer balance sheet

Exhibit 58: Dealers WoW change in positions

10y equivalent, \$bn, futures position lower across the curve except in 7-11y

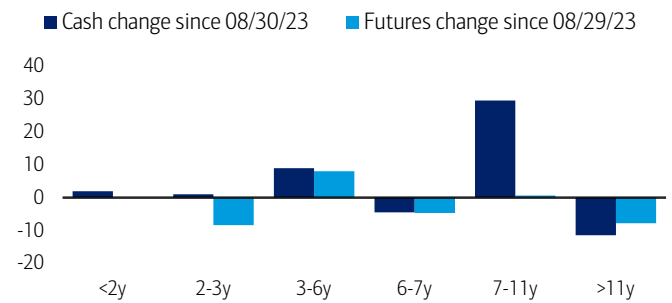


Source: BofA Global Research, NY Fed, CFTC

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Exhibit 59: Dealers change in positions over last 6mo

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

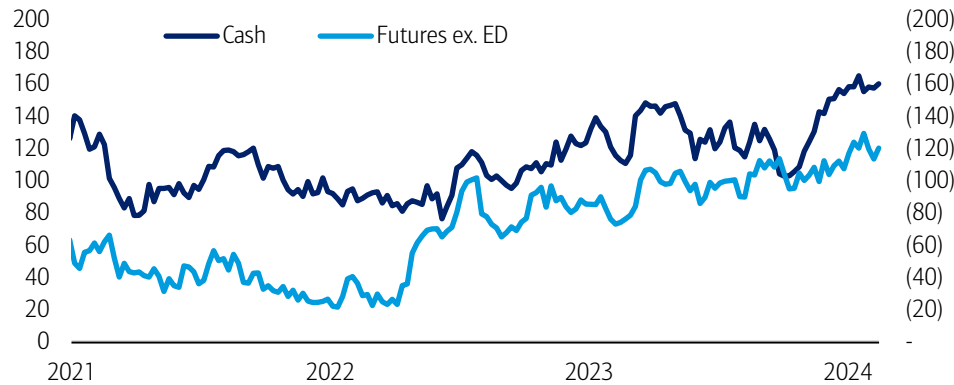


Source: BofA Global Research, NY Fed, CFTC

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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

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Auction statistics

Exhibit 61: Auction summary statistics

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

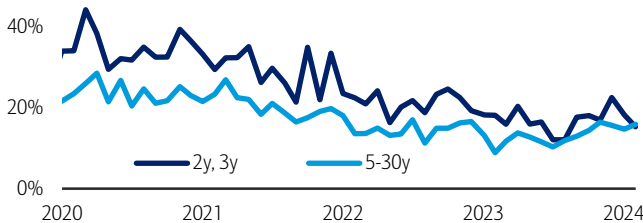
		Primary Dealer	Indirect Bidder	Direct Bidder	Investment Fund	Foreign	Depository Institution
2y	1/31/2024	14.8%	65.3%	19.9%	68.2%	14.6%	0.0%
	MoM Change	-3.8%	3.4%	0.4%	0.5%	3.3%	0.0%
	1Y Z-score	-0.6	0.5	-0.2	0.5	-0.2	-0.2
3y	2/15/2024	15.7%	66.0%	18.3%	66.6%	15.3%	0.0%
	MoM Change	-2.1%	0.7%	1.5%	-1.7%	3.0%	0.0%
	1Y Z-score	-0.3	0.4	-0.5	0.2	0.0	-0.7
5y	1/31/2024	20.4%	18.7%	60.9%	68.6%	8.8%	0.0%
	MoM Change	6.4%	3.3%	-9.7%	-6.4%	0.3%	0.0%
	1Y Z-score	1.9	0.3	-1.7	-1.2	-1.1	-0.5
7y	1/31/2024	13.9%	69.1%	17.0%	69.8%	13.8%	0.0%
	MoM Change	-3.0%	5.4%	-2.4%	0.8%	2.4%	0.0%
	1Y Z-score	0.2	0.0	-0.5	-0.4	0.4	-0.5
10y	2/15/2024	13.0%	71.0%	16.1%	60.5%	23.4%	0.0%
	MoM Change	-2.1%	4.9%	-2.6%	-7.1%	10.4%	0.0%
	1Y Z-score	-0.3	0.8	-1.3	-0.8	0.8	-0.5
20y	1/31/2024	17.3%	62.2%	20.5%	69.1%	10.8%	0.0%
	MoM Change	4.4%	-4.2%	-0.2%	0.1%	-4.4%	0.0%
	1Y Z-score	2.4	-1.8	0.5	-1.3	-1.3	#DIV/0!
30y	2/15/2024	14.8%	70.7%	14.5%	65.2%	17.2%	0.0%
	MoM Change	0.3%	2.9%	-3.2%	-10.9%	10.5%	0.0%
	1Y Z-score	0.2	0.8	-2.0	-0.8	1.1	-0.7

Source: BofA Global Research, Treasury

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Exhibit 62: Primary dealer – average auction allotment

Dealer participation declined

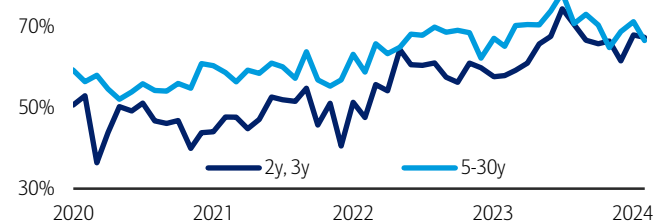


Source: BofA Global Research, Treasury

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Exhibit 63: Investment fund – average auction allotment

Fund participation still elevated

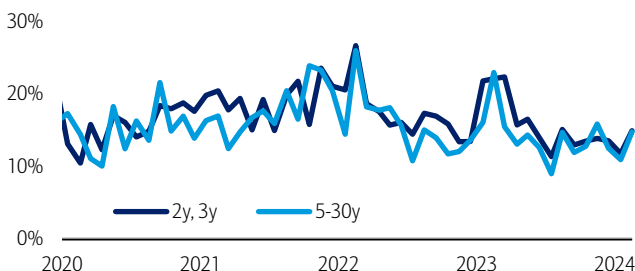


Source: BofA Global Research, Treasury

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Exhibit 64: Foreign investment – average auction allotment

Foreign participation still below average but picked up recently

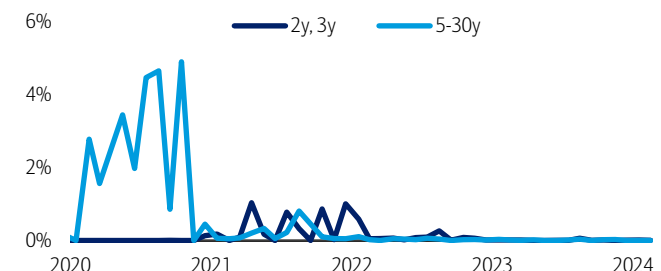


Source: BofA Global Research, Treasury

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Exhibit 65: Depository institutions – average auction allotment

Participation is minimal



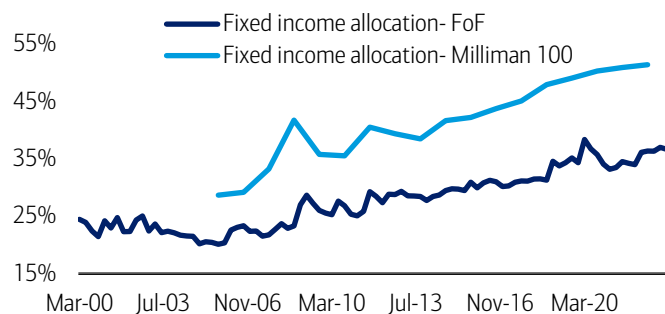
Source: BofA Global Research, Treasury

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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

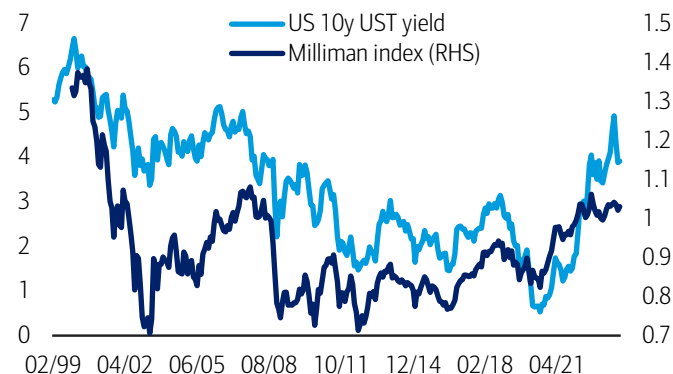


Source: BofA Global Research, Milliman, Federal Reserve

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

Funded status historically improves with an increase in interest rates

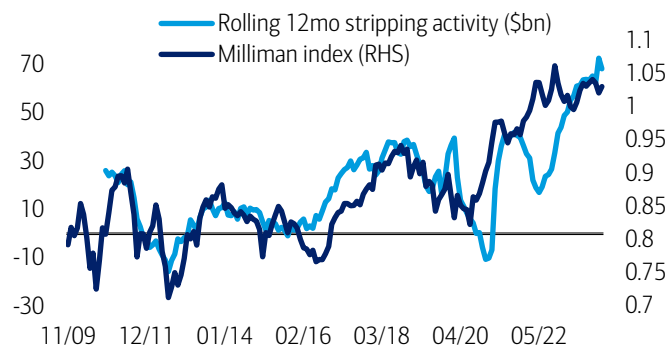


Source: BofA Global Research, Bloomberg

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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

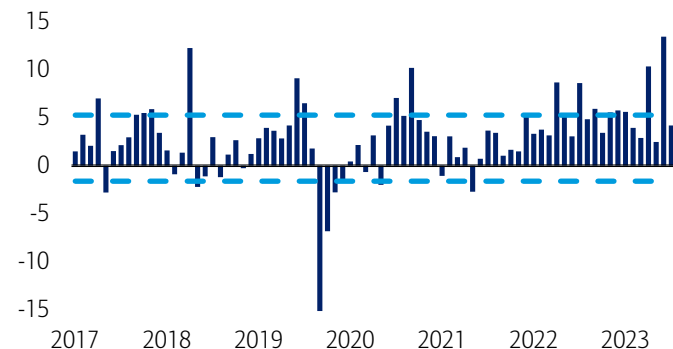


Source: BofA Global Research, Bloomberg

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

USTs held in stripped form declined from December record high

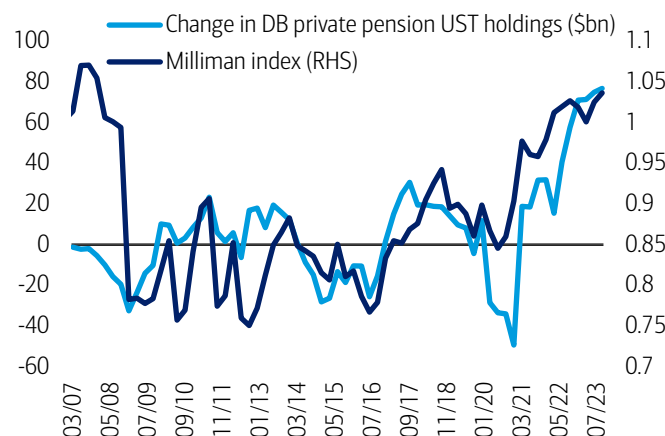


Source: BofA Global Research, Note: dashed line is 1stdev

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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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