

US Rates Watch

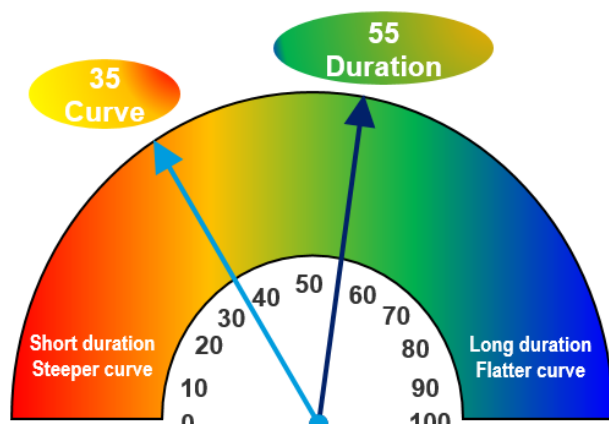
Fund inflows continue to moderate; CTAs show front-end long

Flow down

Flows into US fixed income funds cooled materially with outflows from short-term sovereign and agg funds. Consistent with this, asset managers pulled back futures longs, concentrated at the front end and belly of the curve. Discussions at last week's US Treasury Market Structure Conference showed a focus on the leveraged hedge fund basis trade. As we have highlighted the size is largely a function of strong asset manager demand given inflows and relative positioning. TIC data showed a modest foreign bid in September and MoF data evidence Japanese bank buying.

Exhibit 1: Curve-o-meter

CTAs and hedge funds remain more in steepeners, speculators excluding leveraged funds are long but futures positioning proxy shows more mixed bias



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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Bias for rates to rally

Open interest declined on the week with more longs destroyed than shorts. Longs were predominantly closed in the front end and belly and shorts were destroyed in the front end. There were also a significant number of longs created on the week, most notably in TY. Our futures positioning proxy (for construction details see report: Gauging positioning in Treasury Futures) points to a modest bias for rates to rally (Exhibit 12), with the net out of the money position concentrated in shorts (Exhibit 11).

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

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UST= Treasury security

CTA= Commodity trading advisor

OTM= out of the money

ITM=in the money

ED= Eurodollars

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

CTAs add longs at the front end

Our models point to more short covering from CTAs this week, with our cross-over momentum model continuing to trend towards neutral duration positioning (Exhibit 13). Our top-down model (see report: [CTA impact on the rates market](#)) also suggests a long position at the front end of the curve vs the back-end (Exhibit 14). While duration positioning overall has likely retreated, CTAs appear to remain in steepeners.

Asset managers moderate longs

CFTC data shows asset managers closed long positions with 10y equivalent position pulling back from the October 31 peak (Exhibit 7). Longs were closed to the greatest extent in FV and TU. Similarly leveraged fund shorts were covered largely in these contracts. Speculative positioning ex-leveraged funds was unchanged in 10y equivalents and remains around the 85th percentile over the past 5 years (Exhibit 8).

TIC data shows modest bid in September

On a market-value adjusted basis, TIC data for the month of September showed about \$40bn buying, split evenly between the foreign official and private sectors. China + Belgium continued to sell, with their holdings on net \$120bn lower year-to-date (Exhibit 32). Japan was also a modest \$8bn seller. UK and Canada though were the largest sellers over the month, retreating somewhat after a year of net buying. Lux, Cayman, and Germany were overall the largest buyers on the month (Exhibit 30).

Weekly custodial holdings and Japanese MoF data suggest little recent flow. However, we continue to see evidence of better bank buying in the monthly release; this shows that banks on net have bought \$100bn in foreign bonds from January through October, with lifers still flat given poor FX hedged pickup (Exhibit 33). While this may be driven by buying of assets outside of USTs, the MoF data as of September also suggests that Japanese private investors were adding to UST holdings.

Outflows from short-term and mixed-allocation funds

US fixed inflow fund inflows cooled materially to less than \$250bn this past week with outflows in short-term, mixed allocation, and inflation funds (Exhibit 35). Inflows to short-term funds have been cooling in recent weeks, but this was the largest outflow so far this year. Mixed allocation funds have similarly been observing a slower pace of inflows turning to net outflows over the past 4 weeks. We continue to think that fund flows are an important part of the demand backdrop and continue to monitor this closely.

On an AUM-weighted basis total return US funds underperformed benchmarks modestly alongside the rally and curve flattening (Exhibit 40). However, fund excess return correlation to the 10y has declined materially (Exhibit 44), which suggests a moderation in short positioning implied from Q3 allocations (Exhibit 43).

Exhibit 2: On deck next week

Calendar of upcoming events

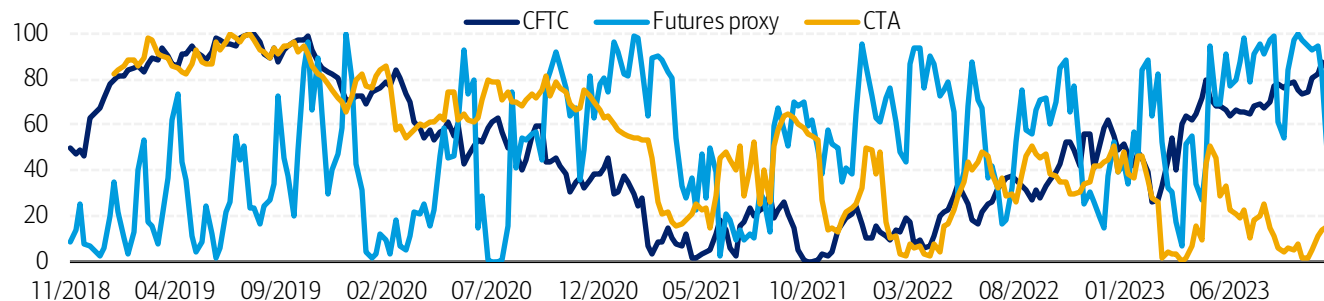
	US Data		Fed Speaker / Event	Treasury Auction			Treasury Settlements	
	Series	BofA BB Consensus		Security	Amount (\$bn)	Prior Δ	Security	Amount
M, Nov 20	Leading Index	- -0.60%	12:00 Fed's Barkin Speaks on Fox Business	13-week bills	75	0		
				26-week bills	68	0		
				20-year bonds	16	0		
Tu, Nov 21	Existing Home Sales	- 3.90M	14:00 FOMC Meeting Minutes	41-day bills	75	0	Bills	25
	FOMC Meeting Minutes	- -		9-year 8-month TIPS	15	0		
				1-year 11-month FRNs	26	0		
W, Nov 22	MBA Mortgage Applications	- -						
	Durable Goods Orders	- -3.20%						
	Durables Ex Transportation	- 0.20%						
	Core Capital Goods Orders	- 0.20%						
	Core Capital Goods Shipments	- -						
	Initial Jobless Claims	- -						
	U. of Michigan Sentiment	- 61						
Th, Nov 23								
F, Nov 24	S&P Global US services PMI	- 50.5					Bills	25
	S&P Global US manufacturing PMI	- 49.80%					Coupons	26

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 historically short

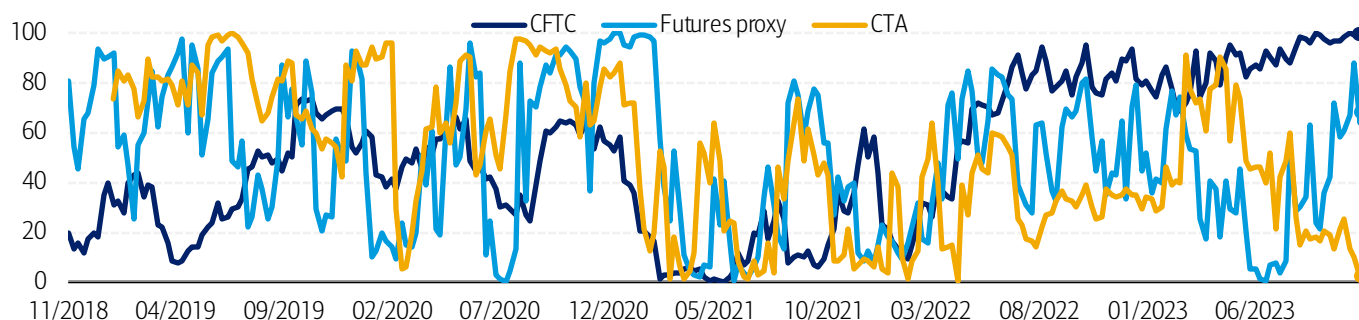


Source: BofA Global Research

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

CTAs are in steepener but futures positioning proxy shows bias for back-end to sell off more, CFTC AMs have longs further out curve



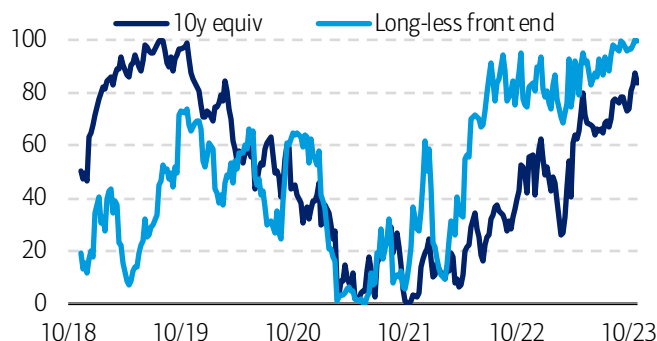
Source: BofA Global Research

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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

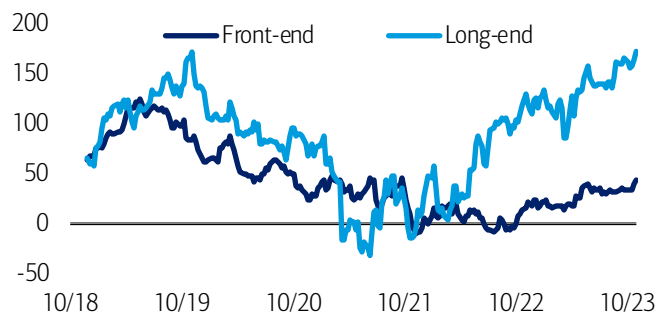


Source: BofA Global Research, Bloomberg

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

Longs are more concentrated in the back-end

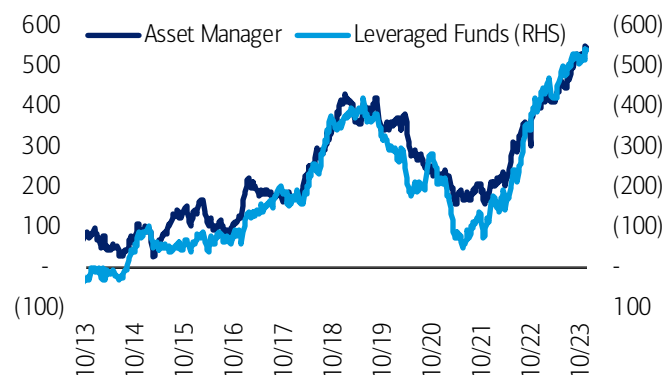


Source: BofA Global Research, Bloomberg

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

Asset manager longs correspond with leveraged fund shorts

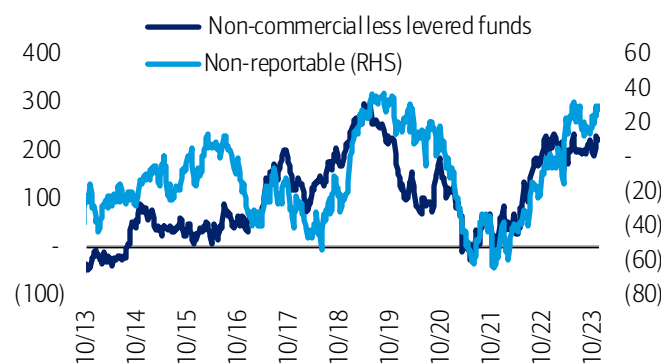


Source: BofA Global Research, Bloomberg

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

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

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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

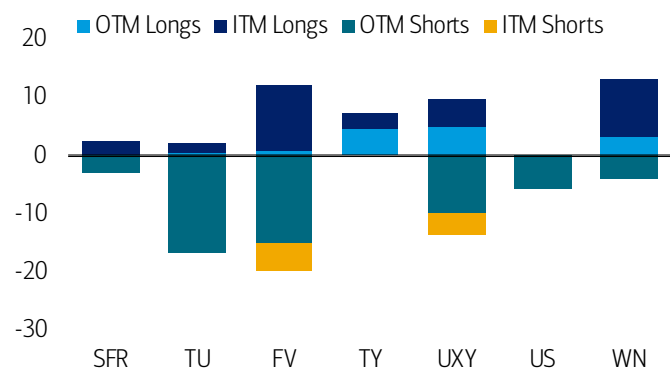
	0	1w	4w	8w	12w	16w
0 to 10	10	4	5	5	5	7
10 to 20	20	-2	-1	0	0	1
20 to 30	30	1	-3	-2	-3	-4
30 to 40	40	-6	-2	-4	-3	-5
40 to 50	50	-2	-2	-2	-2	-2
50 to 60	60	3	3	3	2	2
60 to 70	70	3	2	2	3	4
70 to 80	80	3	4	4	4	5
80 to 90	90	2	4	4	4	5
90 to 100	100	-1	-2	-1	0	0

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

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Exhibit 11: Proxies for futures positioning

On the week, shorts have turned OTM across contracts and minimal in TY

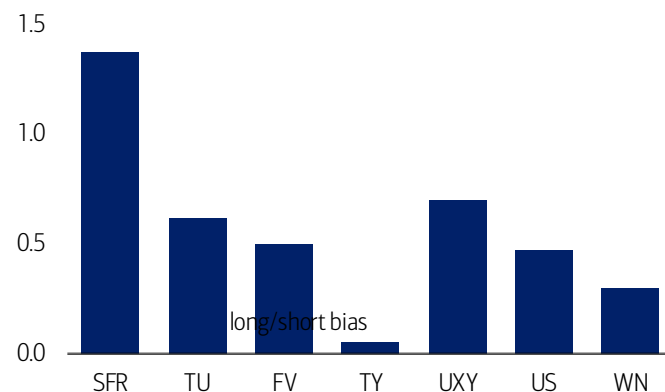


Source: BofA Global Research, Bloomberg

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Exhibit 12: Analysis of proxies for futures positioning

Bias for rates to rally in the front-end

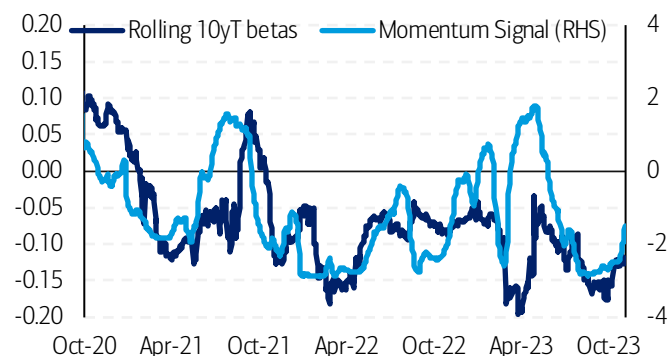


Source: BofA Global Research, Bloomberg. Note: reflects average positioning of futures stack over last 5 days

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Exhibit 13: CTA positioning in 10yT

On the week, momentum signal continued to increase, CTAs positioning little changed

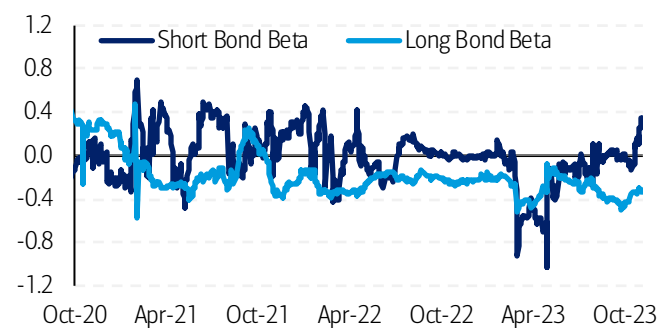


Source: BofA Global Research

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

Top-down model suggests CTAs positioning is long at the front-end and shows a steepening bias

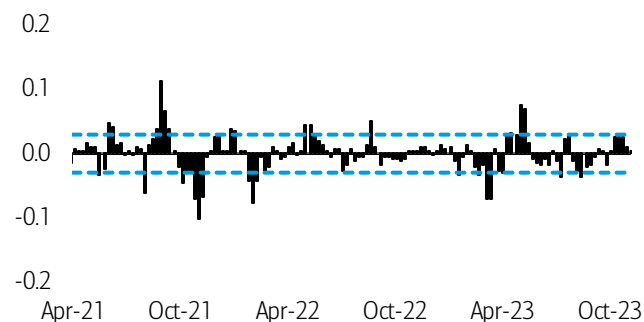


Source: BofA Global Research

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Exhibit 15: Changes in CTA 10yT beta

Change in 10y beta is modest on the week

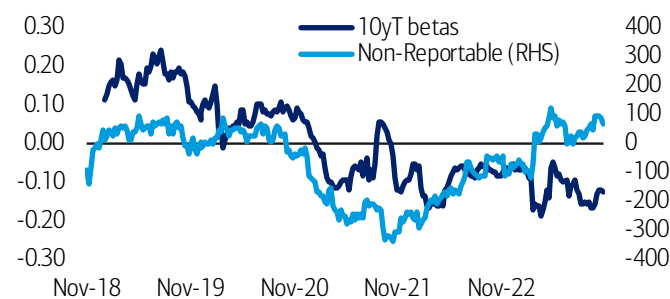


Source: BofA Global Research

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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



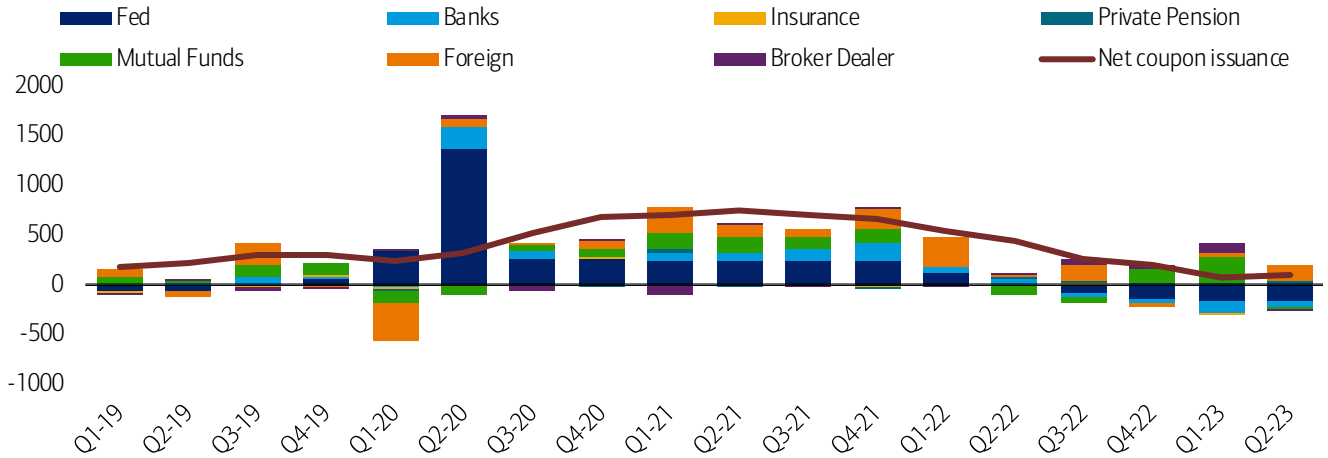
Source: BofA Global Research, Bloomberg

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Flow of funds

Exhibit 17: Changes in large holders of UST securities (\$bn)

In Q2 foreign investors were largest buyers while Fed and banks reduced UST holdings the most

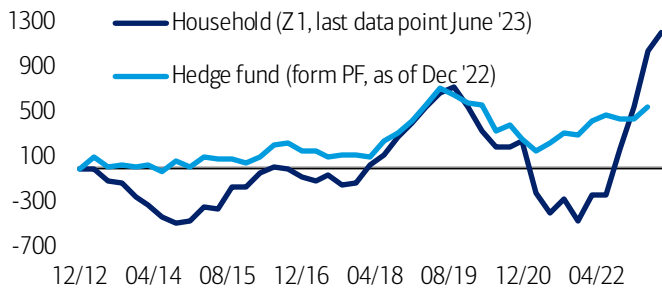


Source: BofA Global Research, Bloomberg. Note: change in levels adjusted for change in rates over the quarter

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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

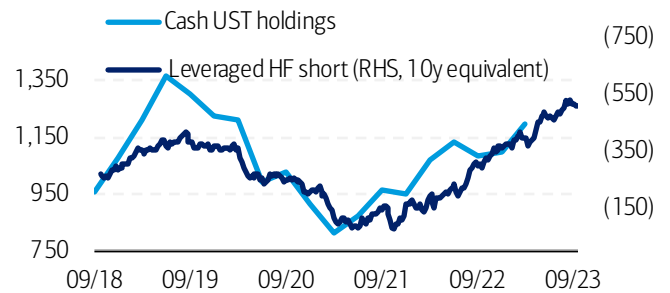


Source: BofA Global Research, Federal Reserve

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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



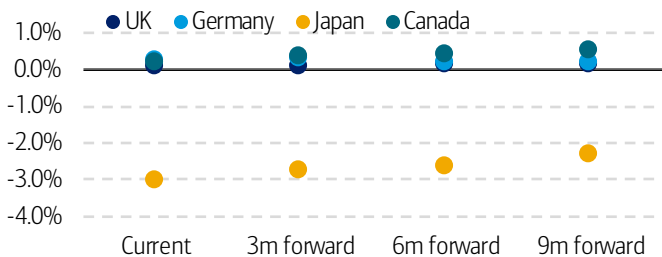
Source: BofA Global Research, Federal Reserve, Bloomberg

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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 does not reflect attractive environment for FX hedged carry trades in TSYs currently but forwards suggest improvement

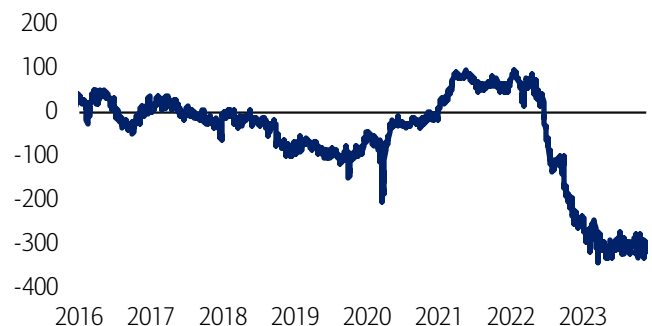


Source: BofA Global Research, Bloomberg. Note: pickup vs 10y local alternative except Japan which is relative to 20y JGB using 3m forward FX hedge

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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 20yJGBs

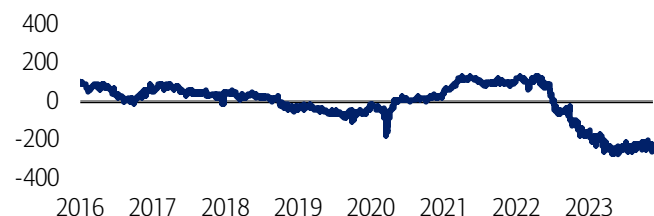


Source: BofA Global Research, Bloomberg

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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 10yJGBs

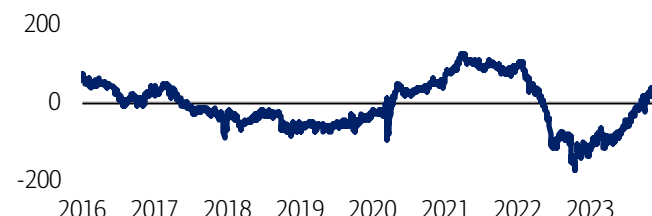


Source: BofA Global Research, Bloomberg

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

10y TSY offers near zero pickup vs 10y Bund

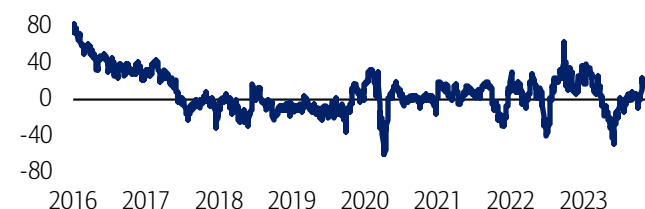


Source: BofA Global Research, Bloomberg

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

10y TSY erased previous modest hedged pickup to 10y CAD gov bond

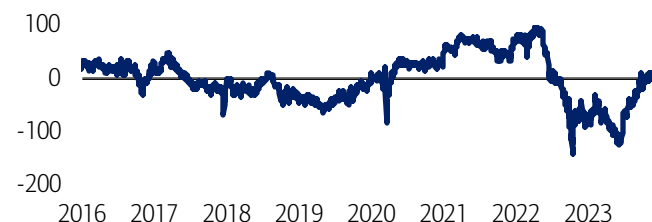


Source: BofA Global Research, Bloomberg

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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

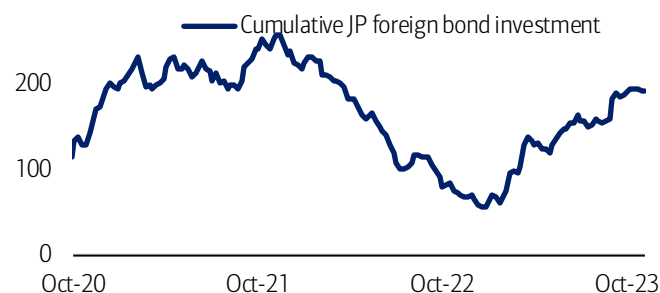
	11/16/2023		As of 1 wk ago		As of 1 mo ago		As of 1 yr ago	
	Pickup to 10y JGB	Pickup to 20Y JGB	Pickup to 10y JGB	Pickup to 20Y JGB	Pickup to 10y JGB	Pickup to 20Y JGB	Pickup to 10y JGB	Pickup to 20Y JGB
10y UST	-2.30%	-3.03%	-2.22%	-2.93%	-2.04%	-2.83%	-1.73%	-2.55%
10y GER	-2.51%	-3.24%	-2.48%	-3.18%	-2.31%	-3.10%	-0.35%	-1.17%
10y FRA	-1.96%	-2.68%	-1.90%	-2.61%	-1.69%	-2.48%	0.13%	-0.69%
10y BEL	-1.91%	-2.64%	-1.87%	-2.57%	-1.66%	-2.45%	0.20%	-0.62%
10y ITA	-0.77%	-1.50%	-0.64%	-1.34%	-0.30%	-1.09%	1.58%	0.76%
10y SPA	-1.52%	-2.25%	-1.43%	-2.14%	-1.21%	-2.00%	0.66%	-0.16%
10y UK	-2.33%	-3.06%	-2.28%	-2.98%	-2.02%	-2.81%	-1.09%	-1.91%
10y CAN	-2.48%	-3.20%	-2.40%	-3.11%	-2.26%	-3.05%	-1.80%	-2.62%

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 unchanged on the week

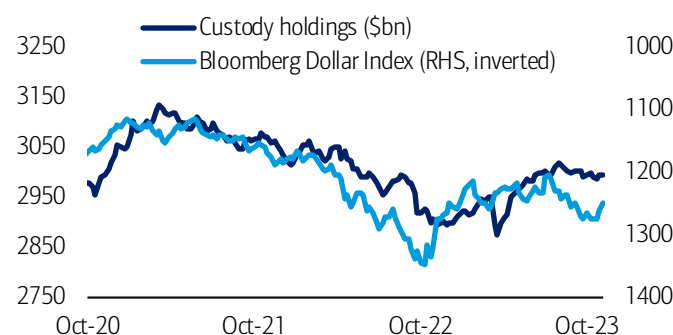


Source: BofA Global Research, Bloomberg

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

Custody holdings little changed on the week

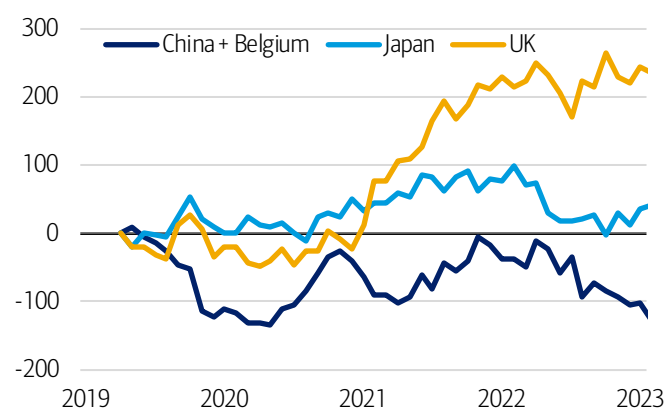


Source: BofA Global Research, NY Fed

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

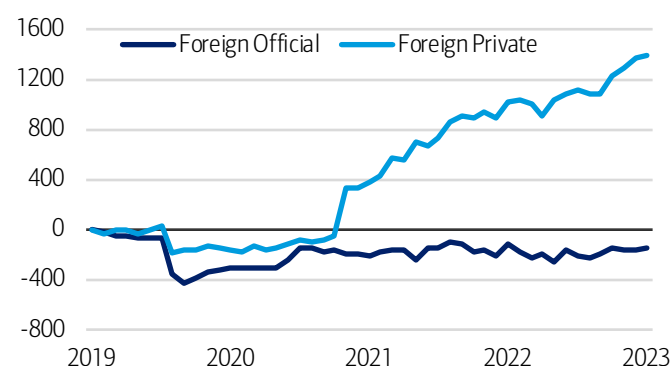
China + Belgium have turned to net sellers since end of '22, Japan roughly flat after selling last year



Source: BofA Global Research, Bloomberg, TIC, note: references the valuation-adjusted flow
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Exhibit 31: Cumulative UST flows from foreign investors (\$bn)

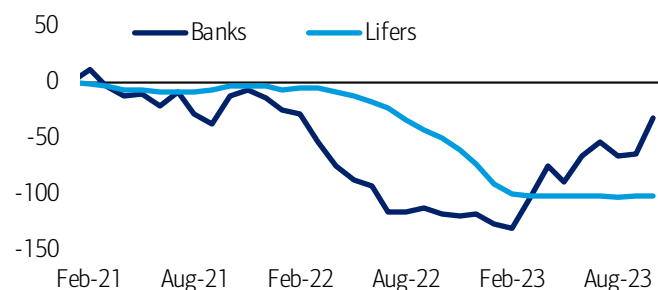
While official UST holdings have declined in recent years, foreign private investors have more than offset



Source: BofA Global Research, Bloomberg, TIC, note: references the valuation-adjusted flow
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Exhibit 33: Cumulative change in Japanese investor foreign bond holdings (\$bn)

While banks and lifers have reduced foreign bond holdings in the last year, banks have recently turned modest buyers while lifer demand has been flat

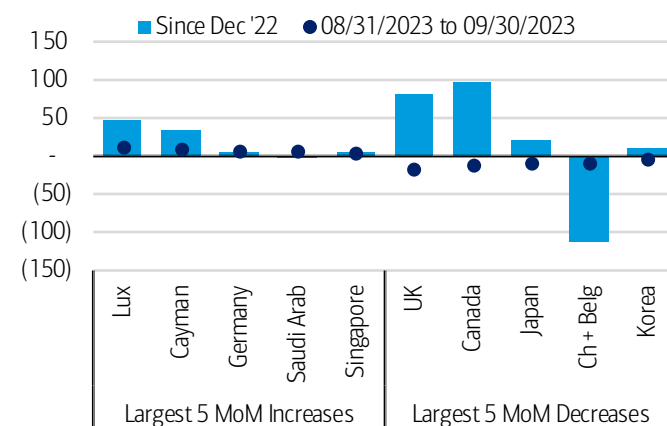


Source: Source: BofA Global Research, Bloomberg, Note: JPY flow converted to USD using end of month FX level, last data point is June '23

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

Luxembourg was largest buyer, UK largest seller in September

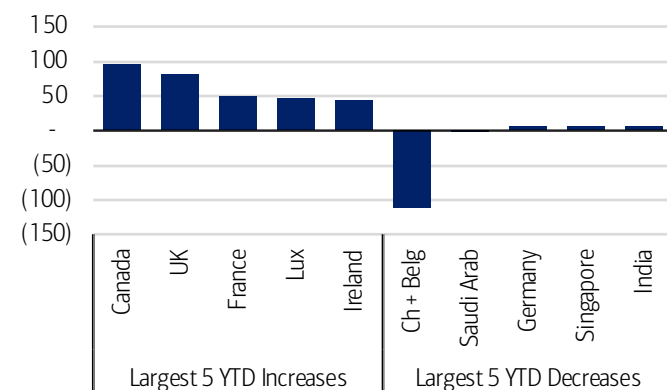


Source: BofA Global Research, TIC, Note: adjusted for level of rates

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Exhibit 32: Largest YTD change in UST holdings

Canada & UK largest buyer, China + Belg largest seller

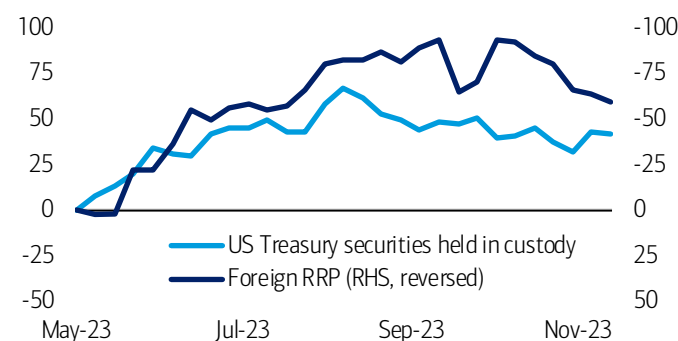


Source: BofA Global Research, Bloomberg, TIC, note: references the valuation-adjusted flow

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

Custody holdings held flat while foreign RRP declined



Source: BofA Global Research, Federal Reserve, Bloomberg

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Fund flows and returns

Exhibit 35: US fixed income fund flows (\$million)

US FI funds saw notable inflows on the week primarily in govt long, corp HY & IG funds, modest outflows in govt short funds

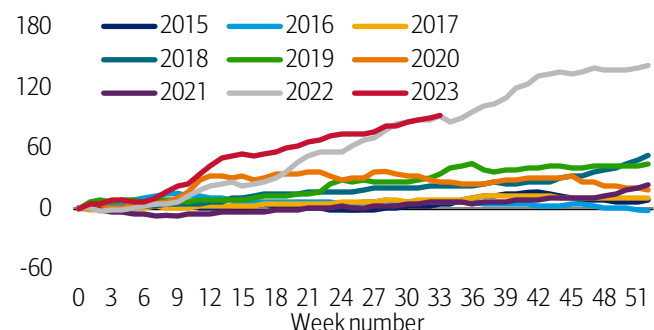
	11/15/2023	Rolling 4w average	Rolling 8w average	Rolling 12w average	Rolling 52w average
Gov: short	(3,047)	807	1,623	1,433	1,124
Gov: intermediate	(1)	324	422	353	322
Gov: long	1,367	2,509	2,032	1,543	1,295
Corp: IG	1,046	394	(611)	(438)	152
Corp:HY	3,031	2,333	82	234	(217)
Corp: all quality	83	20	27	36	32
MBS	114	353	305	249	246
Inflation	(474)	(463)	(361)	(364)	(439)
Muni	298	11	(279)	(230)	(159)
Mixed allocation	(1,987)	(52)	959	943	1,738
All US FI	248	6,153	3,945	3,708	3,649

Source: BofA Global Research, EPFR

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Exhibit 36: Sovereign fund inflows by year (\$bn)

Flows YTD are on track with highs of last year

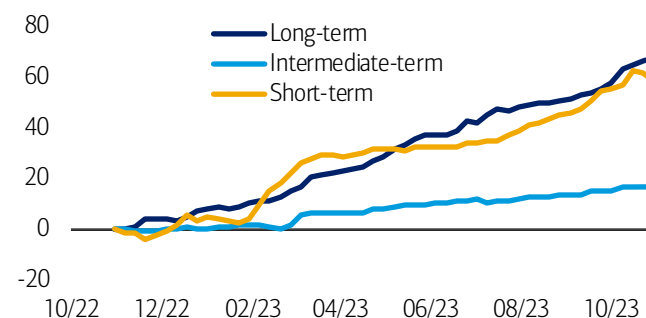


Source: BofA Global Research, EPFR

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Exhibit 37: Sovereign inflows by tenor (\$bn)

Inflows have been concentrated in long-term and short-term funds, inflows in long-term funds dropped recently

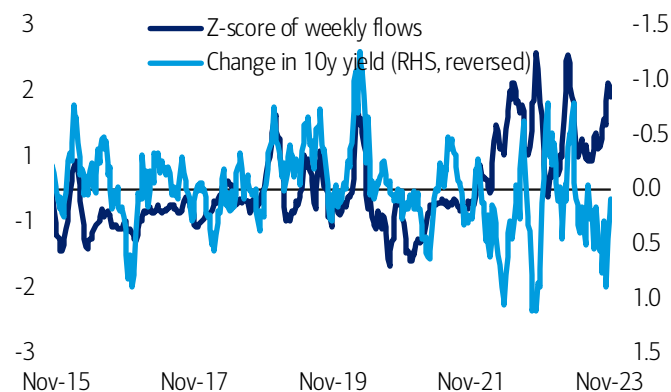


Source: BofA Global Research, EPFR

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Exhibit 38: Fund flows and rate change (Z-score)

Fund flows recently have been historically strong alongside rates rally

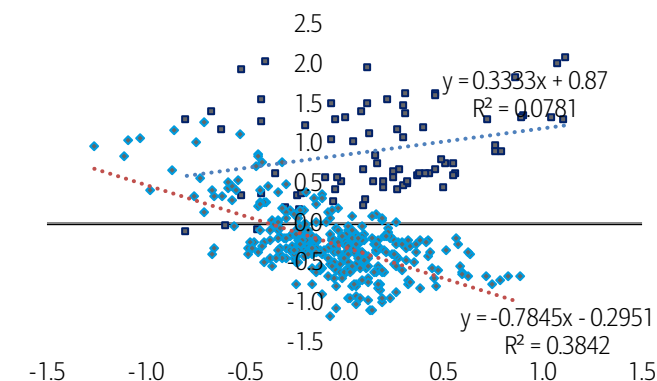


Source: BofA Global Research, EPFR

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Exhibit 39: 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, z-score of weekly rates change = x-axis, z-score of weekly fund flow = y-axis

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Exhibit 40: Total return FI fund performance vs benchmark

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

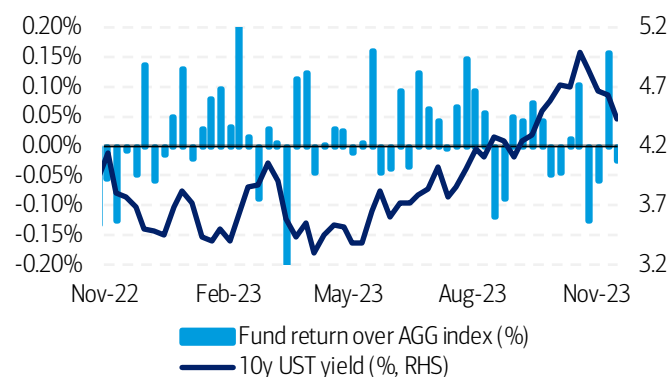
	AUM (\$Bn)	11/16/2023	Vs. Agg	Last 4w	Vs. Agg
Vanguard Total Bond Market II Index Fund	246	1.39%	-0.02%	3.89%	-0.12%
Vanguard Total Bond Market Index Fund	193	1.38%	-0.03%	3.84%	-0.17%
PIMCO Income fund	126	1.31%	-0.10%	3.53%	-0.47%
The Bond Fund of America	76	1.46%	0.06%	4.01%	0.00%
MetWest Total Return Bond Fund	55	1.48%	0.07%	4.55%	0.54%
PIMCO Total Return Fund	51	1.42%	0.01%	4.34%	0.33%
Dodge & Cox Income Fund	55	1.43%	0.02%	4.22%	0.22%
PGIM Total Return Bond Fund	41	1.42%	0.01%	4.00%	-0.01%
BlackRock Strategic Income Opportunities Fund	36	0.98%	-0.43%	2.61%	-1.40%
Baird Aggregate Bond Fund	41	1.40%	-0.01%	4.08%	0.08%
JPMorgan Core Bond Fund	41	1.33%	-0.08%	3.64%	-0.36%
DoubleLine Total Return Bond Fund	32	1.19%	-0.21%	3.84%	-0.17%
Fidelity Series Investment Grade Bond Fund	33	1.45%	0.04%	4.11%	0.10%
Fidelity Total Bond Fund	31	1.30%	-0.11%	3.98%	-0.03%
Western Asset Core Plus Bond Portfolio	22	1.91%	0.50%	5.78%	1.78%
Baird Core Plus Bond Fund	25	1.35%	-0.05%	3.97%	-0.03%
John Hancock Bond Fund	21	1.50%	0.09%	4.38%	0.37%
TIAA-CREF Bond Index Fund	21	1.38%	-0.03%	4.07%	0.06%
BlackRock Total Return Fund	18	1.36%	-0.05%	4.26%	0.25%
JPMorgan Core Plus Bond Fund	17	1.31%	-0.10%	3.78%	-0.22%
Bridge Builder Core Bond Fund	16	1.37%	-0.04%	4.06%	0.06%
T Rowe Price New Income Fund	16	1.39%	-0.02%	3.67%	-0.34%
Western Asset Core Bond Fund	14	1.57%	0.16%	5.06%	1.05%
CREF Bond Market Account	10	1.32%	-0.09%	3.93%	-0.08%
Fidelity Investment Grade Bond Fund	8	1.39%	-0.01%	4.06%	0.05%
DoubleLine Core Fixed Income Fund	7	1.25%	-0.16%	3.80%	-0.20%
TCW Total Return Bond Fund	3	1.59%	0.18%	4.66%	0.66%
Janus Henderson Flexible Bond Fund	3	1.67%	0.26%	4.54%	0.53%
Weighted avg	1255	1.38%	-0.03%	3.95%	-0.05%
Agg		1.41%		4.01%	
10y return		1.89%		5.54%	

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

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Exhibit 41: Total return funds, excess return vs. 10y rate

Weekly asset-weighted total returns for total return funds. Funds performance was below benchmark on the week

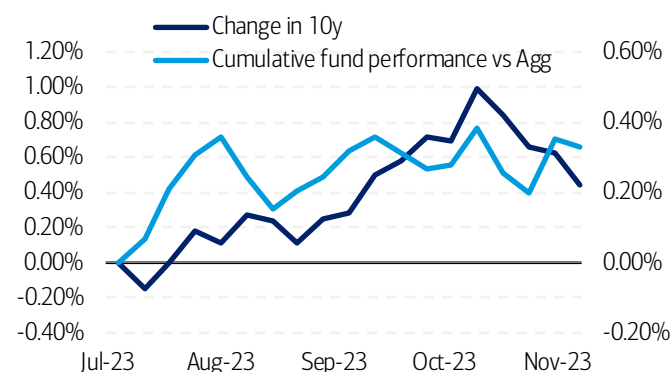


Source: BofA Global Research, Bloomberg. Note: Excess returns are fund total returns over Bloomberg Barclays Agg index

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Exhibit 42: 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 43: Total return funds' published UST allocations vs benchmark from Q1 and Q2 '23

Funds increased underweight position from Q2 to Q3

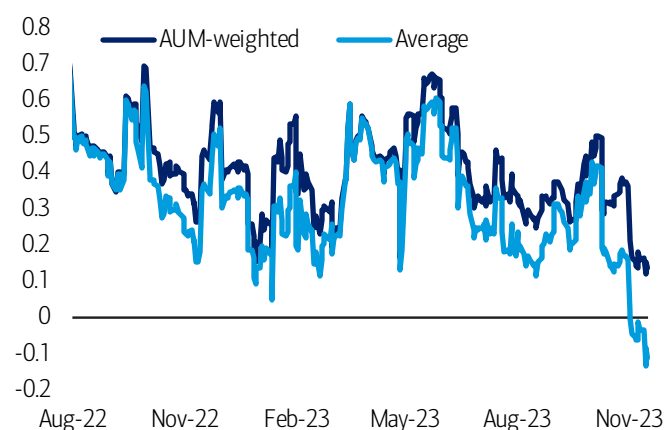
		AUM (\$bn)	Q2 '23 (%)	Q3 '23 (%)	Change (PPTS)
VTBIX	Vanguard Total Bond Market II Index Fund	246.3	2.1	2.2	0.1
VBMFX	Vanguard Total Bond Market Index Fund	193.2	1.4	1.3	-0.1
PIMIX	PIMCO Income fund	125.5	-34.1	-34.8	-0.6
ABNDX	The Bond Fund of America	75.9	-14.0	-22.4	-8.4
MWTIX	MetWest Total Return Bond Fund	55.2	-18.7	-17.4	1.3
DODIX	Dodge & Cox Income Fund	55.0	-32.7	-29.8	2.9
PTTRX	PIMCO Total Return Fund	51.1	-18.6	-23.9	-5.3
PGBOX	JPMorgan Core Bond Fund	41.0	-2.2	-3.9	-1.7
PDBAX	PGIM Total Return Bond Fund	40.9	-34.2	-34.9	-0.7
BAGIX	Baird Aggregate Bond Fund	40.7	-17.7	-18.8	-1.1
BSIIX	BlackRock Strategic Income Opportunities Fund	35.6	-23.4	-24.0	-0.7
FSIGX	Fidelity Series Investment Grade Bond Fund	32.5	-10.1	-6.4	3.7
DBLTX	DoubleLine Total Return Bond Fund	31.7	-32.8	-34.6	-1.8
FTBFX	Fidelity Total Bond Fund	30.7	-12.5	-11.6	0.9
BCOIX	Baird Core Plus Bond Fund	25.4	-18.4	-19.1	-0.7
WACPX	Western Asset Core Plus Bond Portfolio	21.7	-38.0	-38.6	-0.6
JHBIX	John Hancock Bond Fund	21.1	-22.5	-21.6	0.9
TBIIX	TIAA-CREF Bond Index Fund	20.5	0.3	0.0	-0.3
MAHQX	BlackRock Total Return Fund	17.6	88.0	-1.9	-89.9
ONIAx	JPMorgan Core Plus Bond Fund	16.8	-2.9	-3.1	-0.2
BBTBX	Bridge Builder Core Bond Fund	16.5	-23.0	-24.6	-1.6
PRCIX	T Rowe Price New Income Fund	15.9	-11.8	-8.6	3.2
WATFX	Western Asset Core Bond Fund	14.0	-31.1	-32.1	-1.0
QCBMIX	CREF Bond Market Account	10.0	-22.6	-23.0	-0.4
FBNDX	Fidelity Investment Grade Bond Fund	7.7	-0.3	3.5	3.8
DBLFX	DoubleLine Core Fixed Income Fund	6.7	-17.9	-18.5	-0.6
JFLEX	Janus Henderson Flexible Bond Fund	2.6	-17.9	-26.0	-8.0
TGLMX	TCW Total Return Bond Fund	2.5	-39.6	-39.9	-0.3
AUM weighted		1254.5	-11.9	-13.8	-1.9

Source: BofA Global Research, funds' publicly available reports

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Exhibit 44: 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

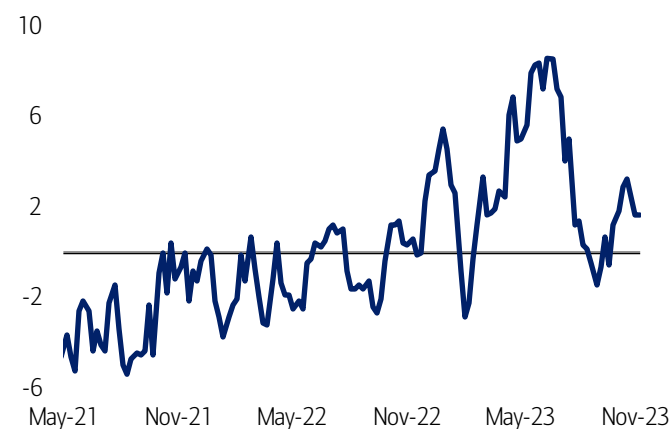


Source: BofA Global research, Bloomberg

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Exhibit 45: Primary dealer 2-6y holdings of TIPS (\$bn)

Primary dealer holdings declined in November



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

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Bank balance sheets

Exhibit 46: Changes to bank balance sheet assets (\$bn)

Domestic bank balance saw decrease in assets driven by cash and loans while securities increased modestly

		Current	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	22976	-13	-1	8	12	3
	Cash	3442	37	6	5	12	6
	UST & Agency	1547	6	6	6	4	-3
	MBS	2520	2	1	-6	-4	-5
	Loans and Leases	12221	-20	0	6	7	7
	Other	3247	-39	-15	-2	-6	-2
Large Domestic (\$bn, NSA)	Total Assets	13339	-60	-13	5	8	0
	Cash	1638	-37	-13	3	7	5
	UST & Agency	1145	6	7	5	4	-2
	MBS	1922	2	3	-2	-1	-1
	Loans and Leases	6750	-21	-2	1	2	1
	Other	1885	-11	-8	-1	-4	-3
Small Domestic (\$bn, NSA)	Total Assets	6531	0	-1	-1	0	2
	Cash	445	4	-1	-1	0	1
	UST & Agency	295	1	0	1	0	-1
	MBS	572	0	-2	-4	-3	-4
	Loans and leases	4431	-4	2	3	3	5
	Other	788	-1	-1	-1	-1	0
All Domestic (\$bn, NSA)	Total Assets	19870	-60	-14	4	8	2
	Cash	2083	-33	-14	2	8	6
	UST & Agency	1440	7	7	6	4	-3
	MBS	2493	2	1	-6	-4	-5
	Loans and leases	11181	-24	1	4	5	6
	Other	2673	-12	-9	-2	-5	-3
Foreign (\$bn, NSA)	Total Assets	3106	47	13	4	4	2
	Cash	1359	71	20	2	4	0
	UST & Agency	107	-1	-1	0	0	0
	MBS	27	0	0	0	0	0
	Loans and leases	1039	4	0	2	1	1
	Other	574	-27	-6	0	-1	1

Source: BofA Global Research, Federal Reserve, Bloomberg

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Exhibit 47: Select bank balance sheet liabilities (\$bn, NSA)

Domestic liability decrease in deposits and other borrowing

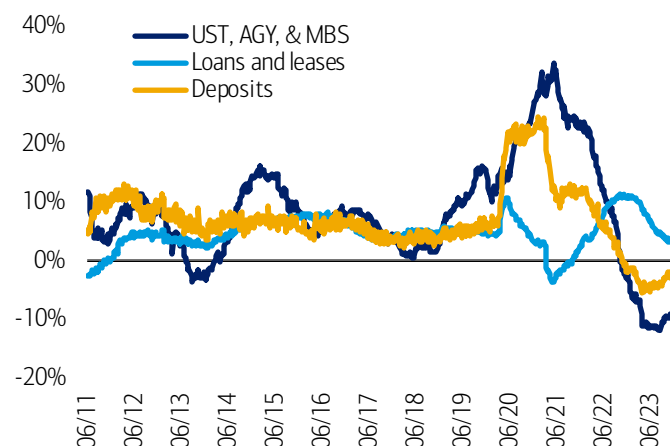
		Current	1w change	Rolling 4w avg wkly chg	Rolling 8w avg wkly chg	Rolling 12w avg wkly chg	Rolling 52w avg wkly chg
Deposits (\$bn, NSA)	All	17317	-41	-9	-1	1	-8
	Domestic	16042	-57	-9	0	1	-7
	Large Domestic	10742	-63	-13	-2	-2	-7
	Small Domestic	5300	5	3	2	3	-1
	Foreign	1275	16	0	-1	0	-1
Other borrowing (\$bn, NSA)	All	2328	-1	-11	5	8	10
	Domestic	1338	-28	-3	5	7	8
	Large Domestic	926	-16	1	8	10	6
	Small Domestic	412	-12	-4	-3	-3	2
	Foreign	990	27	-8	0	2	2

Source: BofA Global Research, Federal Reserve, Bloomberg

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Exhibit 48: YoY change in securities, loans, and deposits

Securities growth usually only positive when deposit growth is positive

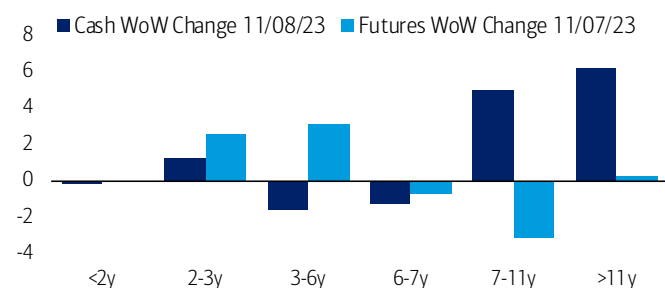


Source: BofA Global Research, Bloomberg, Federal Reserve

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Primary dealer balance sheet**Exhibit 49: Dealers WoW change in positions**

10y equivalent, \$bn, futures positions higher in the front-end while higher cash positions concentrated in the back-end

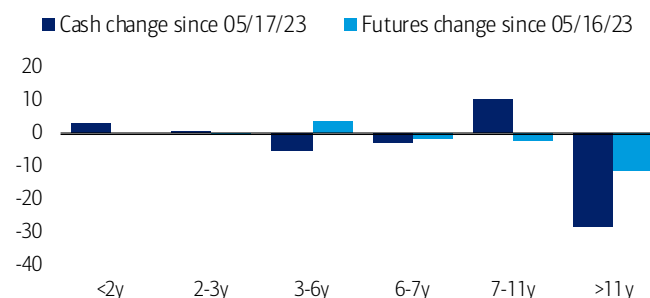


Source: BofA Global Research, NY Fed, CFTC

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Exhibit 50: Dealers change in positions over last 6mo

10y equivalent, \$bn, cash & futures positions both lower at back-end

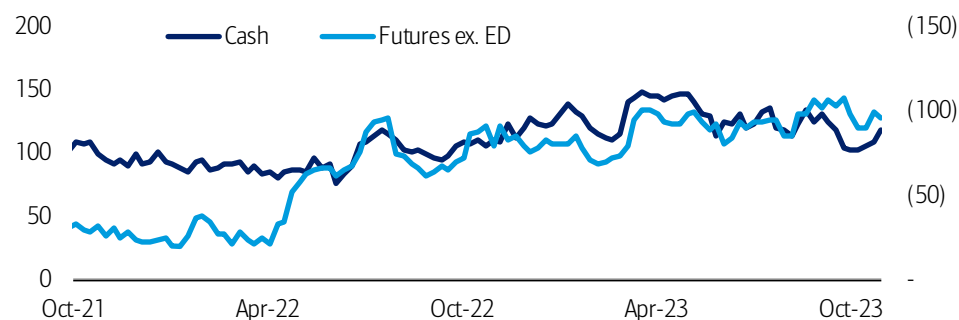


Source: BofA Global Research, NY Fed, CFTC

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Exhibit 51: Dealers total sector positions

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



Source: BofA Global Research, NY Fed, CFTC

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Auction statistics

Exhibit 52: Auction summary statistics

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

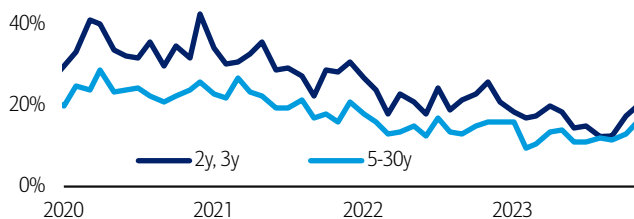
		Primary Dealer	Indirect Bidder	Direct Bidder	Investment Fund	Foreign	Depository Institution
2y	10/31/2023	17.6%	62.0%	20.3%	66.4%	12.8%	0.0%
	MoM Change	3.6%	-3.0%	-0.7%	-2.4%	-1.1%	0.0%
	1Y Z-score	0.0	0.0	-0.1	0.5	-0.6	-0.6
3y	10/16/2023	22.1%	56.0%	21.9%	62.8%	13.1%	0.0%
	MoM Change	1.8%	-1.7%	-0.2%	-0.7%	-0.4%	0.0%
	1Y Z-score	0.9	-1.1	0.9	-0.2	-0.8	0.1
5y	10/31/2023	19.4%	19.1%	61.5%	68.0%	10.8%	0.0%
	MoM Change	8.2%	1.5%	-9.6%	-5.8%	-2.6%	-0.1%
	1Y Z-score	2.0	0.5	-1.8	-0.9	-0.8	-0.7
7y	10/31/2023	11.0%	70.6%	18.4%	75.0%	11.6%	0.0%
	MoM Change	-3.6%	5.1%	-1.5%	4.3%	-1.4%	0.0%
	1Y Z-score	-0.5	0.4	0.0	0.5	-0.3	-0.2
10y	10/16/2023	18.7%	60.3%	20.9%	66.1%	11.6%	0.0%
	MoM Change	4.9%	-6.0%	1.0%	-1.5%	-4.6%	0.0%
	1Y Z-score	0.5	-0.7	0.8	-0.1	-0.4	-0.6
20y	10/31/2023	11.9%	72.9%	15.2%	71.0%	13.9%	0.0%
	MoM Change	2.7%	7.5%	-10.2%	-1.8%	-1.5%	0.0%
	1Y Z-score	0.6	0.5	-1.3	-0.5	-0.1	#DIV/0!
30y	10/16/2023	18.2%	65.1%	16.7%	69.0%	10.6%	0.0%
	MoM Change	2.4%	0.6%	-3.0%	2.1%	-4.2%	0.0%
	1Y Z-score	1.9	-0.9	-1.4	-0.4	-0.9	1.1

Source: BofA Global Research, Treasury

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Exhibit 53: Primary dealer – average auction allotment

Dealer participation has picked up

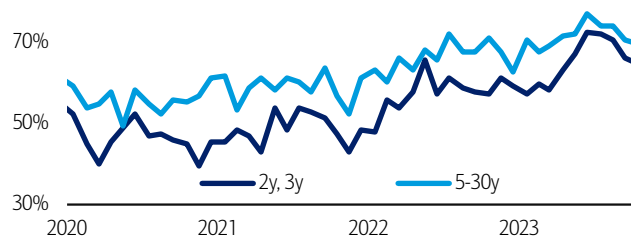


Source: BofA Global Research, Treasury

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Exhibit 54: Investment fund – average auction allotment

Fund participation still elevated but shows sign of decline

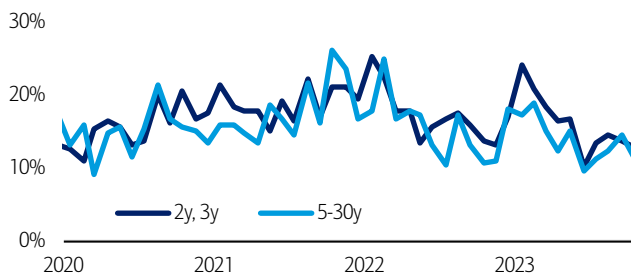


Source: BofA Global Research, Treasury

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Exhibit 55: Foreign investment – average auction allotment

Foreign participation still below average despite modest uptick in recent weeks

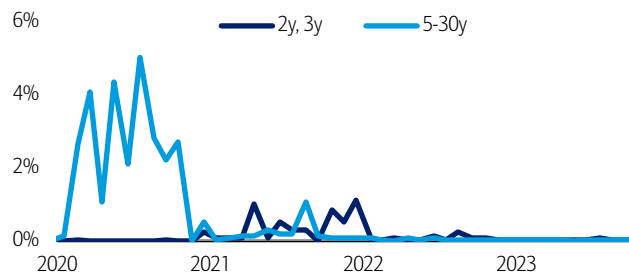


Source: BofA Global Research, Treasury

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Exhibit 56: Depository institutions – average auction allotment

Participation is minimal



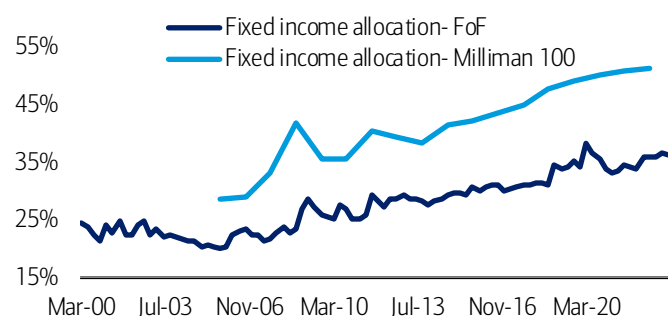
Source: BofA Global Research, Treasury

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Pensions

Exhibit 57: 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

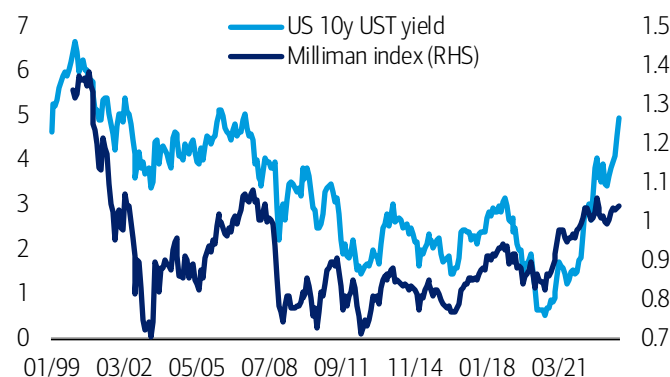


Source: BofA Global Research, Milliman, Federal Reserve

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Exhibit 58: 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 59: Milliman index and 12mo increase in USTs held in stripped form

Higher pension funded status aligns with higher stripping activity

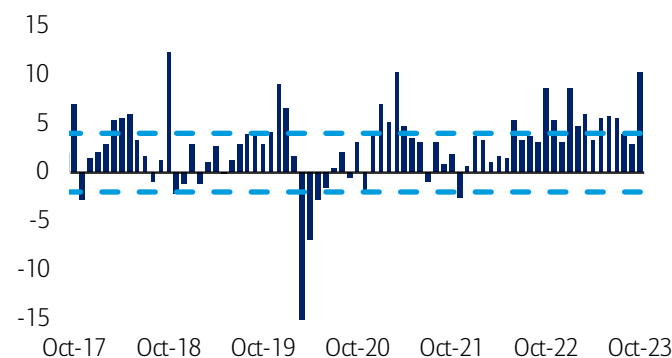


Source: BofA Global Research, Bloomberg

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Exhibit 60: Change in USTs held in stripped form (\$bn)

Stripping activity were notably higher in October

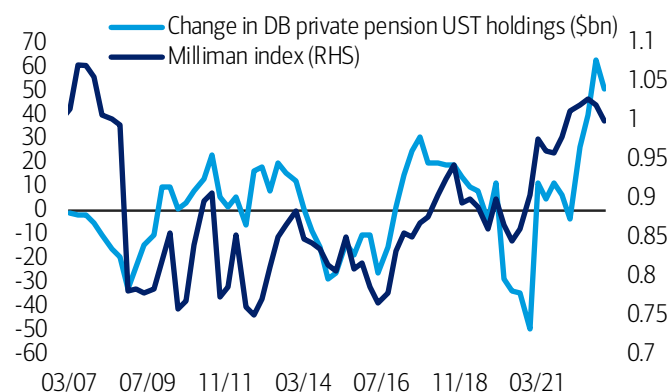


Source: BofA Global Research, Note: dashed line is 1st dev

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Exhibit 61: 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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