

US Rates Watch

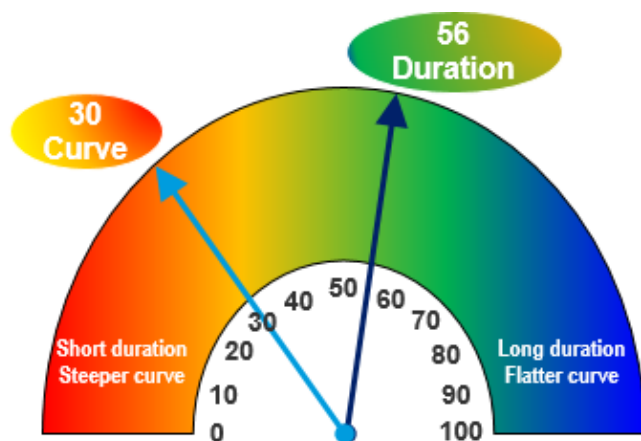
Basis position growth stalls alongside slowing fund inflows

Slower inflows but covered shorts

Flows into US fixed income funds, particularly UST funds, continued to cool over recent weeks. This may have supported the pullback in fund participation at auctions and a moderation in asset manager futures demand. While that source of duration demand is cooling, we see positioning adjustments from CTAs and US Agg benchmark funds which appear to be covering shorts. Despite the USD selloff, the official sector continues to reduce UST holdings. We generally expect the official sector to be an important part of the demand landscape if USD depreciation continues.

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 to rally remains intact

Our futures positioning proxy (for construction details see: Gauging positioning in Treasury Futures) continues to point to a bias for rates to rally across the curve (Exhibit 12). Longs are the more dominant portion of open interest across belly and longer-dated tenors, but shorts at the front end are out of the money and vulnerable to covering (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 cover shorts & turn long front end

Our bottoms up momentum signal suggests that CTAs should be close to neutral duration after historic shorts in September (Exhibit 13). Our top down model which is lagged due to construction (see: [CTA impact on the rates market](#)), shows more limited covering at longer tenors but does indicate a meaningful build in positions at the front-end. This suggests that CTAs remain in steepeners.

Basis trade retreats

While asset manager 10y equivalent long positioning was unchanged on the week, it is modestly lower from the peak observed at the end of October (Exhibit 7). The decline was largely observed in 2-10y sector, where we have observed a slowing of inflows/increase in outflows from UST funds. In November, leveraged hedge funds have also moderated their short, to the greatest extent at the front end and back end of the curve. Non-commercial ex-leveraged fund positioning remains historically long (Exhibit 8).

Official selling despite USD weakness

Despite recent USD depreciation, custodial holdings have dropped meaningfully in recent weeks (Exhibit 28). Since Nov 15th, custodial holdings declined \$28bn; some of this was moved to repo which increased \$16bn, but on net data indicates a \$12bn decline in foreign official USD assets held at the Fed (Exhibit 34). We continue to think that a weaker dollar on net should support foreign official bid in 5y and under tenors. Japan MoF data shows very limited flows into foreign bonds over the past several weeks (Exhibit 27).

Inflows moderate; domestic funds cover shorts

US fixed income fund inflows continue to cool vs the pace over the last year (Exhibit 35). While long-term UST funds saw lighter inflows, short and intermediate term funds observed outflows. Inflation funds saw an acceleration in outflows over the past week which likely supported the fall in front-end and belly breakevens.

Moderating fund flows may also be driving weaker investment fund demand at auctions. Fund participation in longer-dated tenor auctions has fallen in recent weeks, offset by stronger primary dealer takedown (Exhibit 52). On the week ending Nov 22, dealers also saw an increase in cash holdings across most tenors besides the front-end (Exhibit 50). As dealers have more inventory to finance especially alongside large settlement dates, this should support higher funding rates over time (see: [Follow the money](#)).

Domestic fund performance also reflects short covering. The week ending November 30th, 24 out of the 28 funds we track outperformed alongside the rate rally (Exhibit 40). We also continue to see a deterioration in the positive correlation observed between fund excess returns and change in the 10y rate (Exhibit 44), indicating some covering of underweights held at the start of Q4 (Exhibit 43).

Exhibit 2: On deck next week

Calendar of upcoming events

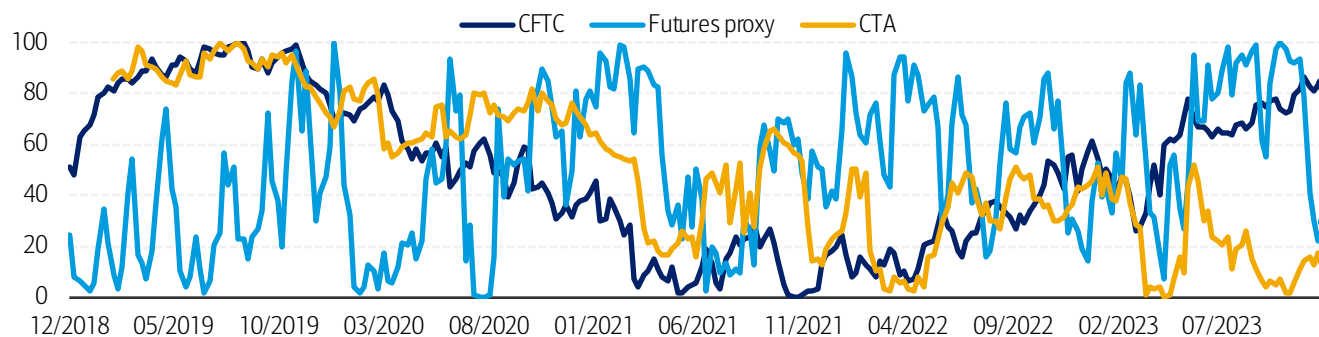
	US Data			Fed Speaker / Event	Treasury Auction			Treasury Settlements	
	Series	BofA	BB Consensus		Security	Amount (\$bn)	Prior Δ	Security	Amount
M, Dec 4	Durable Goods Orders	-	-	Fed blackout period	13-week bills	75	0		
	Factory Orders	-	-2.60%		26-week bills	68	0		
					42-day bills	70	0	Bills	-5
Tu, Dec 5	S&P Global US services PMI	50.5	-	Fed blackout period					
	ISM Services	53	52.5						
	JOLTS Job Openings	-	9400k						
W, Dec 6	MBA Mortgage Applications	-	-	Fed blackout period	17-week bills				
	ADP Employment	-	120k						
	Nonfarm Productivity	4.80%	4.80%						
	Unit Labor Costs	-0.70%	-0.90%						
	Trade Balance	-\$65.0bn	-\$63.0bn						
Th, Dec 7	Initial Jobless Claims	222k	-	Fed blackout period	4-week bills			Bills	11
	Wholesale Inventories	-	-		8-week bills				
	Consumer Credit	-	\$9.0b						
F, Dec 8	Change in Nonfarm Payrolls	200k	200k	Fed blackout period					
	Private Payrolls	175k	158k						
	Unemployment Rate	3.90%	3.90%						
	Average Hourly Earnings mom	0.30%	0.30%						
	Average Weekly Hours	34.3	34.3						
	U. of Michigan Sentiment	62.5	61.6						

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

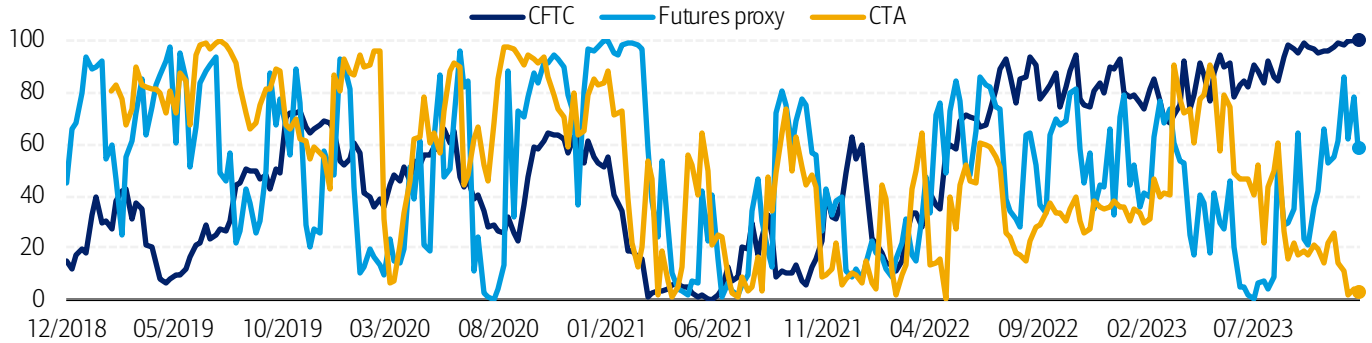


Source: BofA Global Research

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

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

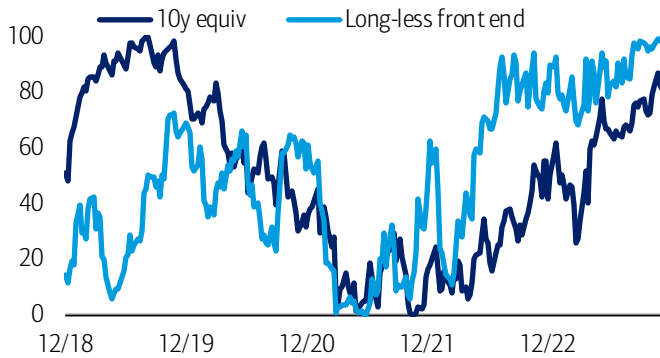


Source: BofA Global Research

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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

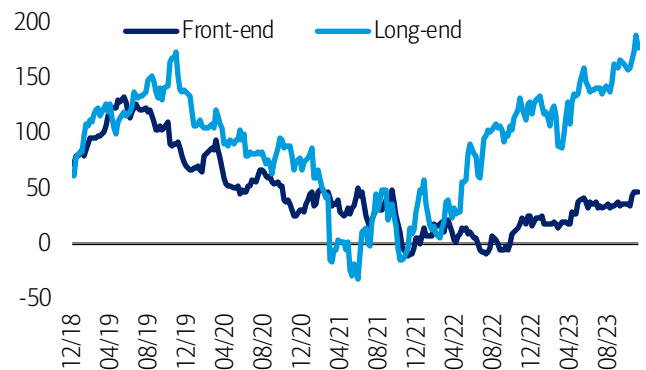


Source: BofA Global Research, Bloomberg

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

Longs are more concentrated in the back-end

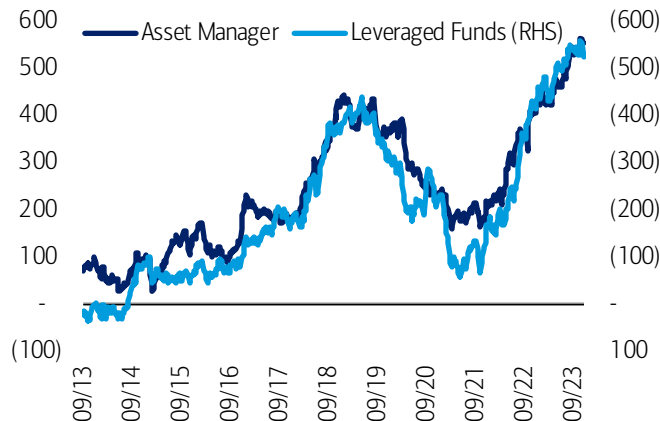


Source: BofA Global Research, Bloomberg

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

Asset manager longs correspond with leveraged fund shorts

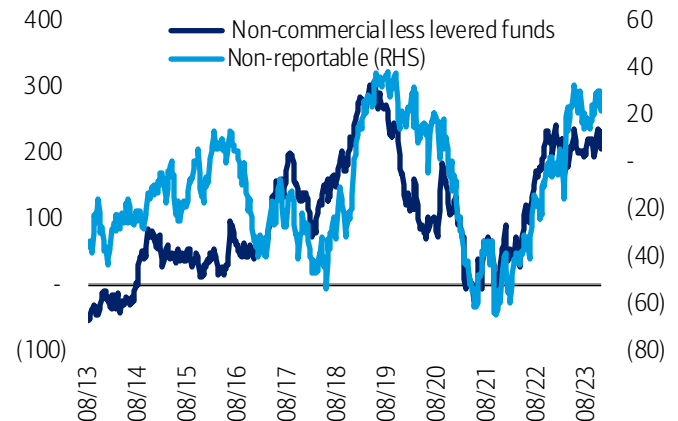


Source: BofA Global Research, Bloomberg

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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)

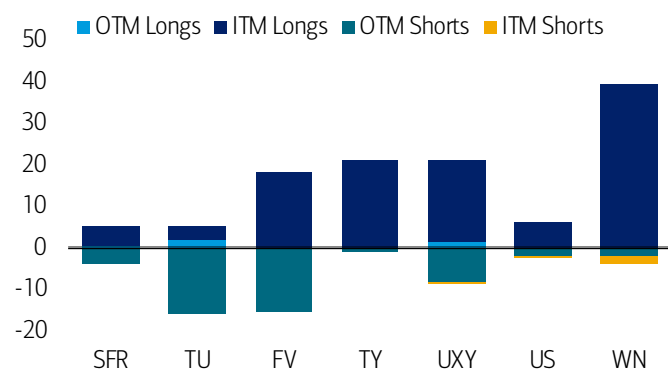
Positioning is a momentum signal: longer positioning is usually followed by stronger 10y performance

	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	5	4	4	4
40 to 50	50	0	0	0	1	1
50 to 60	60	0	-1	0	0	0
60 to 70	70	-1	1	1	1	1
70 to 80	80	0	-1	-1	-2	-3
80 to 90	90	-3	-2	-2	-2	-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

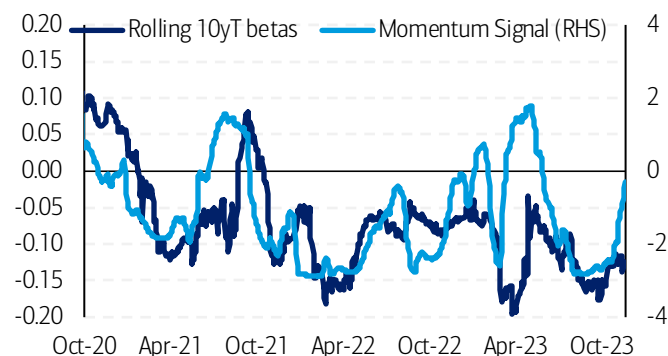
On the week, shorts are concentrated in SFR, FV, UXY and are largely OTM, longs are ITM except in TY



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

On the week, momentum signal continued to increase and is now near neutral, CTAs positioning little changed



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

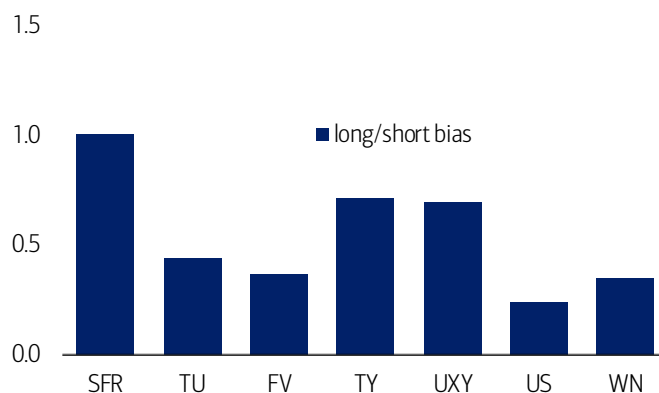
Positioning is contrarian signal: shorter positioning is usually followed by stronger 10y performance

	0	1w	4w	8w	12w	16w
0 to 10	10	4	4	5	5	7
10 to 20	20	-1	-1	0	0	1
20 to 30	30	0	-3	-2	-2	-3
30 to 40	40	-5	-2	-4	-3	-5
40 to 50	50	-4	-3	-3	-2	-3
50 to 60	60	5	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	3	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

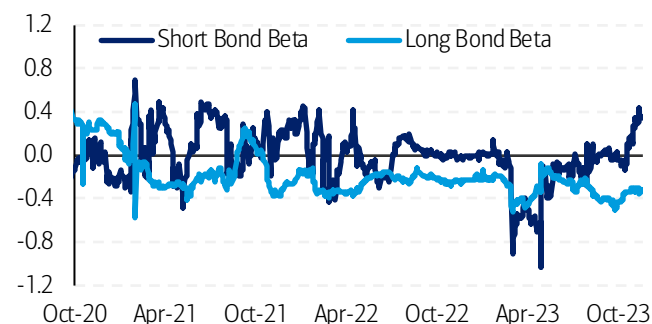
Bias for rates to rally in the front-end



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

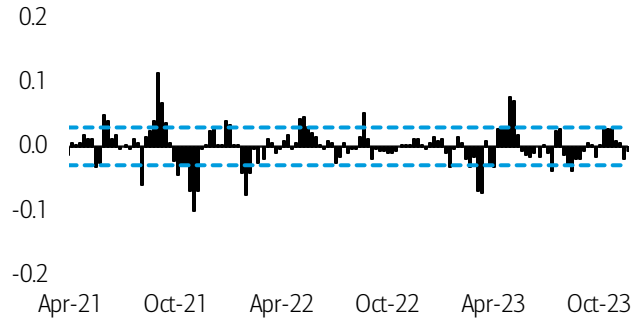
Top-down model suggests CTAs positioning is long at the front-end and shows a steepening bias



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

Change in 10y beta modestly negative on the week

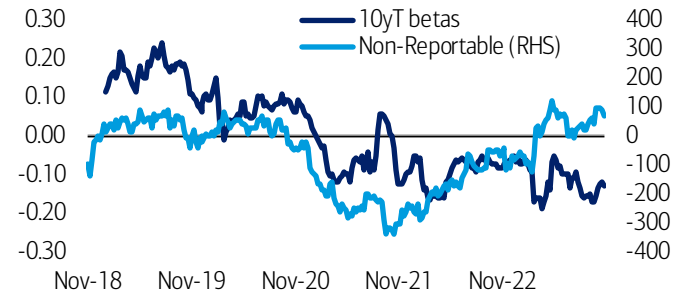


Source: BofA Global Research

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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



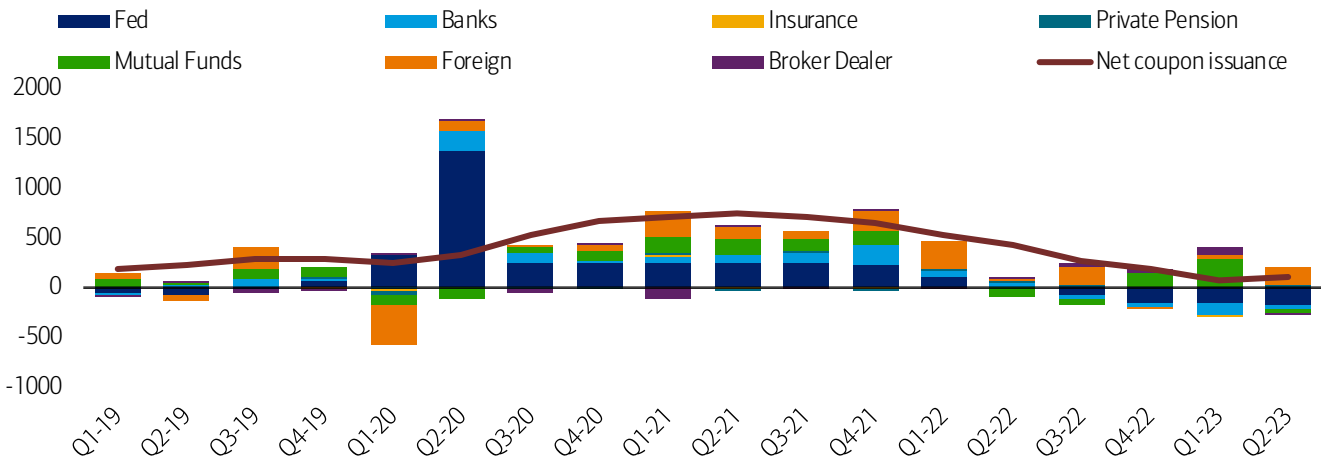
Source: BofA Global Research, Bloomberg

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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

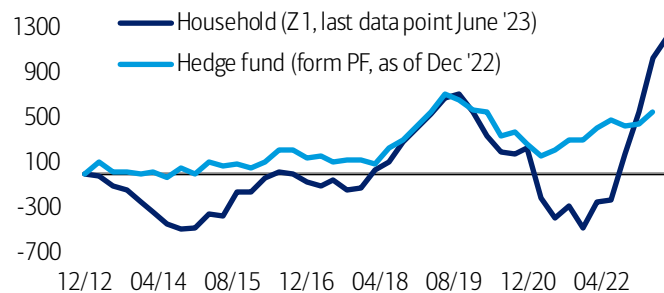


Source: BofA Global Research, Bloomberg. Note: change in levels adjusted for change in rates over the quarter

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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

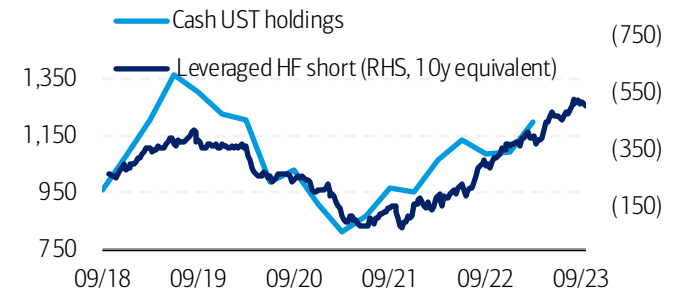


Source: BofA Global Research, Federal Reserve

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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



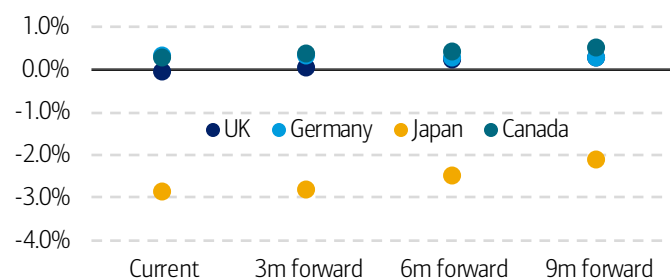
Source: BofA Global Research, Federal Reserve, Bloomberg

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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

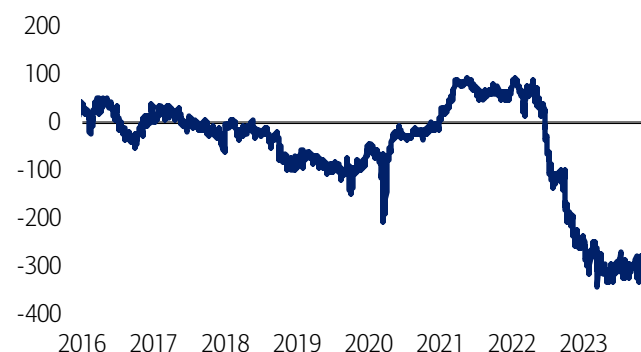


Source: BoFA Global Research, Bloomberg. Note: pickup vs 10y local alternative except Japan which is relative to 20y JGB using 3m forward FX hedge

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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

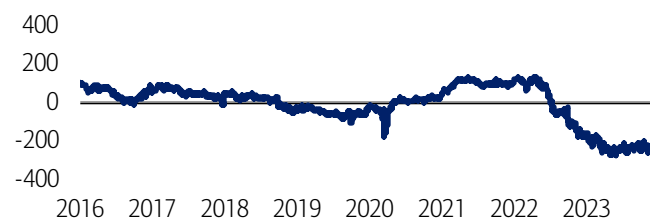


Source: BoFA Global Research, Bloomberg

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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

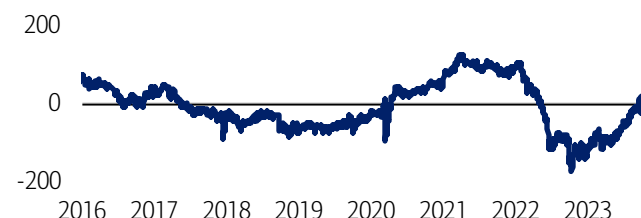


Source: BoFA Global Research, Bloomberg

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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

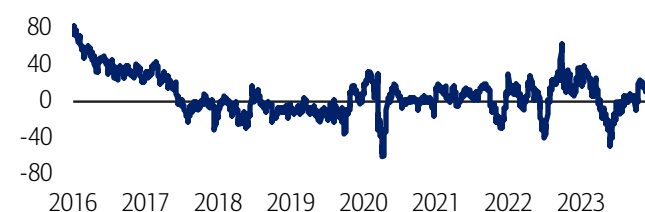


Source: BoFA Global Research, Bloomberg

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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

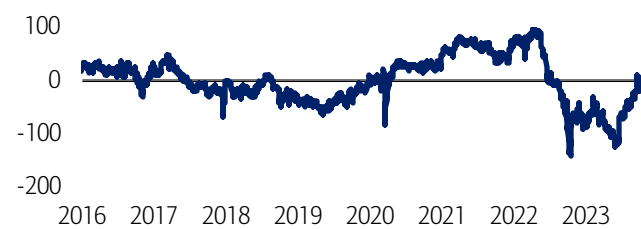


Source: BoFA Global Research, Bloomberg

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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

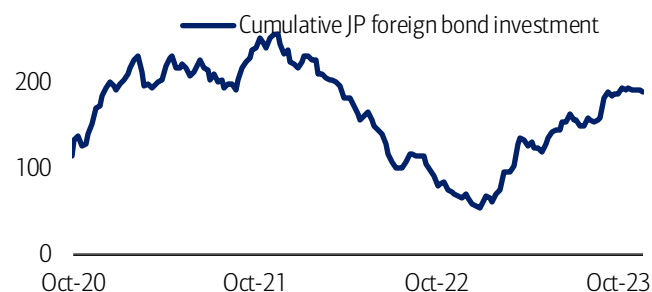
	11/30/2023		As of 1 wk ago		As of 1 mo ago		As of 1 yr ago	
	Pickup to 10y JGB	Pickup to 20y JGB	Pickup to 10y JGB	Pickup to 20y JGB	Pickup to 10y JGB	Pickup to 20y JGB	Pickup to 10y JGB	Pickup to 20y JGB
10y UST	-2.17%	-2.93%	-2.26%	-2.98%	-2.39%	-3.16%	-1.48%	-2.37%
10y GER	-2.45%	-3.21%	-2.42%	-3.14%	-2.63%	-3.40%	-0.39%	-1.28%
10y FRA	-1.88%	-2.64%	-1.87%	-2.59%	-2.05%	-2.82%	0.08%	-0.81%
10y BEL	-1.84%	-2.60%	-1.83%	-2.55%	-2.01%	-2.78%	0.17%	-0.71%
10y ITA	-0.68%	-1.44%	-0.69%	-1.41%	-0.78%	-1.56%	1.54%	0.66%
10y SPA	-1.44%	-2.19%	-1.44%	-2.16%	-1.60%	-2.38%	0.62%	-0.27%
10y UK	-2.06%	-2.82%	-2.17%	-2.89%	-2.42%	-3.20%	-0.86%	-1.75%
10y CAN	-2.38%	-3.14%	-2.42%	-3.14%	-2.60%	-3.37%	-1.57%	-2.46%

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

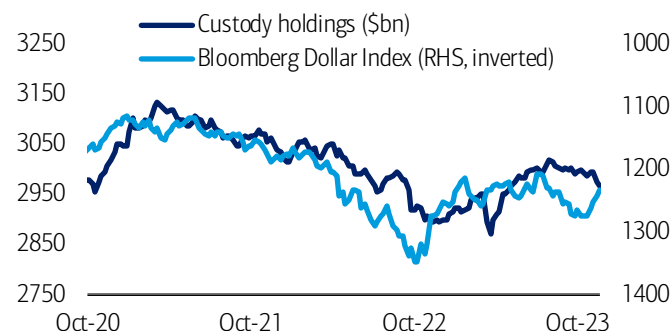


Source: BofA Global Research, Bloomberg

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

Custody holdings dropped on the week

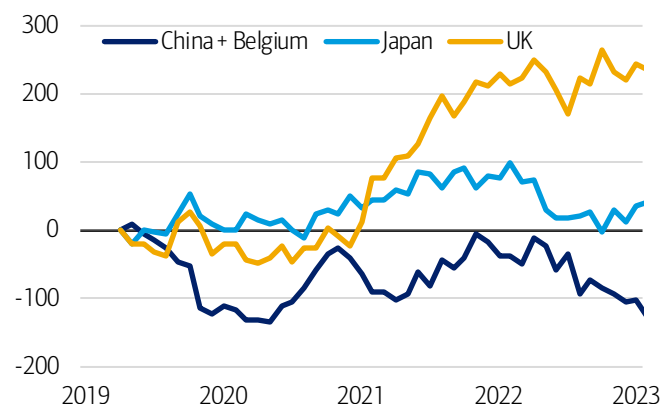


Source: BofA Global Research, NY Fed

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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

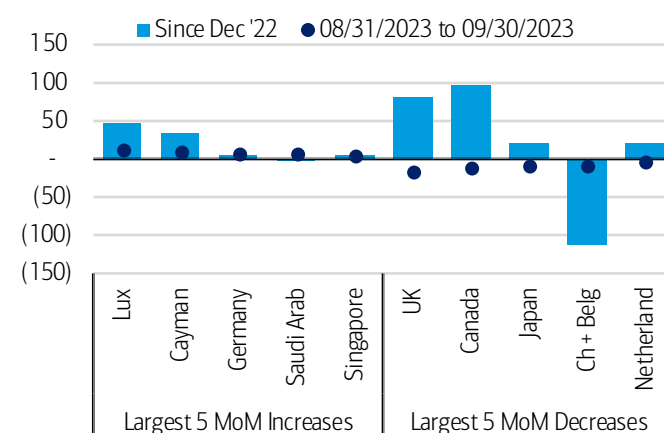


Source: BofA Global Research, Bloomberg, TIC, note: references the valuation-adjusted flow

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

Luxembourg was largest buyer, UK largest seller in September

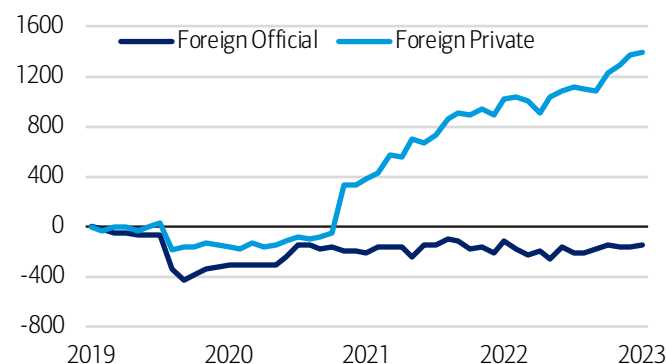


Source: BofA Global Research, TIC, Note: adjusted for level of rates

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Exhibit 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

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

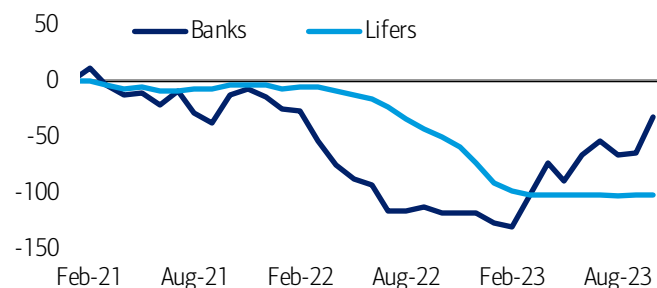


Source: BofA Global Research, Note: TIC data YTD through August adjusted for valuation

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Exhibit 33: 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 buyers while lifer demand has been flat

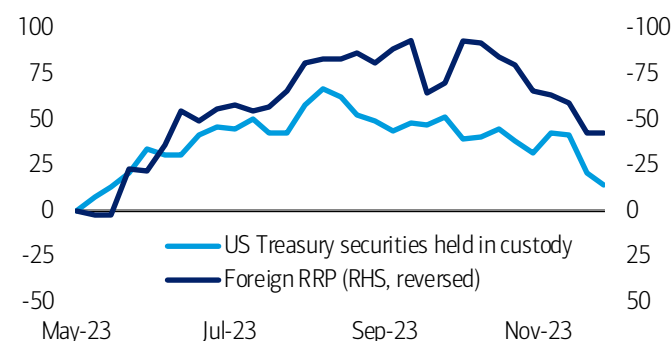


Source: Source: BofA Global Research, Bloomberg, Note: JPY flow converted to USD using end of month FX level, last data point is June '23

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

Custody holdings dropped & foreign RRP held flat



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 modest inflows primarily in govt long, corp HY funds, outflows led by gov short & inflation funds

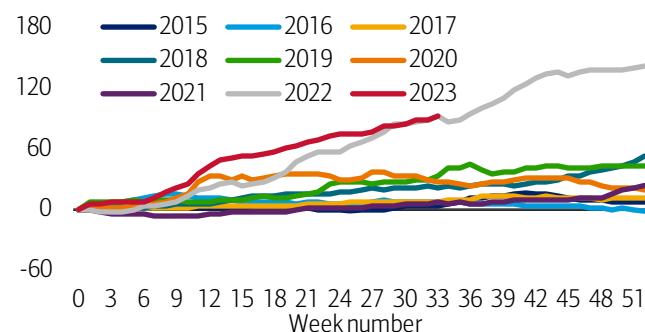
	11/29/2023	Rolling 4w average	Rolling 8w average	Rolling 12w average	Rolling 52w average
Gov: short	(1,132)	(1,619)	699	1,026	1,102
Gov: intermediate	(11)	(26)	170	269	319
Gov: long	900	1,255	1,996	1,630	1,314
Corp: IG	255	1,374	222	(117)	159
Corp: HY	811	2,761	959	251	(202)
Corp: all quality	98	60	37	42	39
MBS	578	295	422	334	260
Inflation	(934)	(671)	(520)	(451)	(466)
Muni	305	578	101	(138)	(115)
Mixed allocation	325	(280)	572	935	1,881
All US FI	696	3,687	4,428	3,586	3,853

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

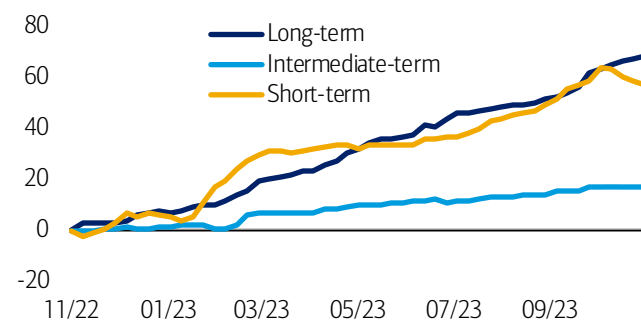


Source: BofA Global Research, EPFR

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

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

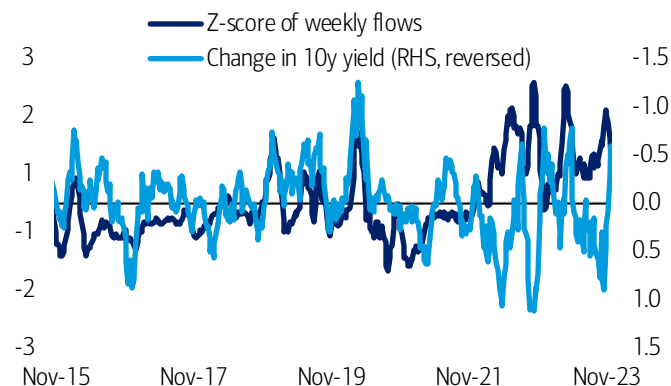


Source: BofA Global Research, EPFR

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

Fund flows recently have been historically strong alongside rates rally

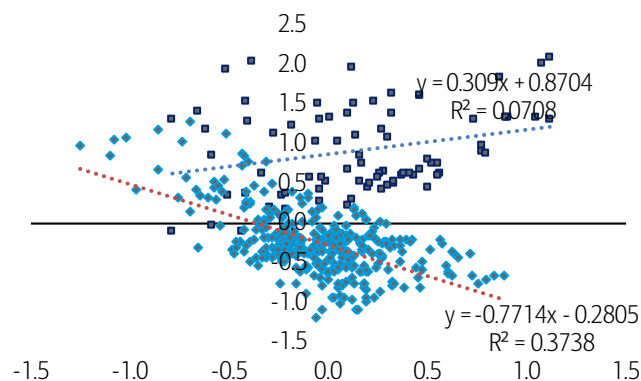


Source: BofA Global Research, EPFR

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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

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Exhibit 40: Total return FI fund performance vs benchmark

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

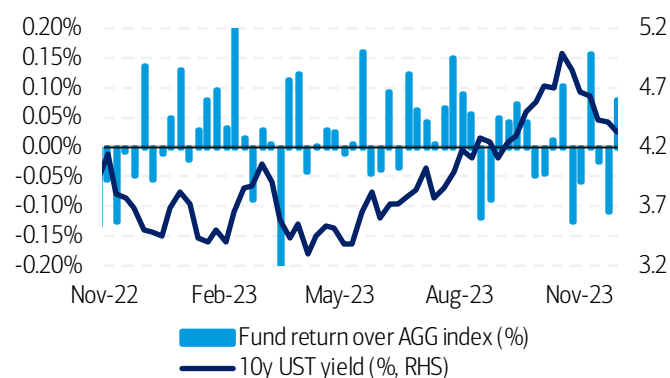
	AUM (\$Bn)	11/30/2023	Vs. Agg	Last 4w	Vs. Agg
Vanguard Total Bond Market II Index Fund	246	0.72%	0.02%	2.93%	0.10%
Vanguard Total Bond Market Index Fund	193	0.82%	0.11%	3.00%	0.17%
PIMCO Income fund	126	0.81%	0.10%	2.58%	-0.25%
The Bond Fund of America	77	0.82%	0.11%	2.91%	0.08%
MetWest Total Return Bond Fund	55	0.89%	0.19%	3.29%	0.46%
PIMCO Total Return Fund	51	0.68%	-0.02%	2.90%	0.07%
Dodge & Cox Income Fund	55	0.74%	0.04%	3.11%	0.28%
PGIM Total Return Bond Fund	41	0.78%	0.08%	3.13%	0.30%
BlackRock Strategic Income Opportunities Fund	35	0.64%	-0.06%	2.03%	-0.80%
Baird Aggregate Bond Fund	41	0.75%	0.05%	3.04%	0.21%
JPMorgan Core Bond Fund	42	0.71%	0.01%	2.67%	-0.16%
DoubleLine Total Return Bond Fund	32	0.63%	-0.07%	2.68%	-0.15%
Fidelity Series Investment Grade Bond Fund	33	0.80%	0.10%	3.06%	0.23%
Fidelity Total Bond Fund	31	0.85%	0.15%	3.00%	0.16%
Western Asset Core Plus Bond Portfolio	22	1.09%	0.38%	4.13%	1.30%
Baird Core Plus Bond Fund	26	0.84%	0.14%	3.06%	0.23%
John Hancock Bond Fund	21	0.87%	0.17%	3.18%	0.35%
TIAA-CREF Bond Index Fund	21	0.82%	0.12%	2.89%	0.06%
BlackRock Total Return Fund	18	0.81%	0.11%	3.11%	0.28%
JPMorgan Core Plus Bond Fund	17	0.77%	0.07%	2.83%	0.00%
Bridge Builder Core Bond Fund	17	0.77%	0.07%	2.91%	0.07%
T Rowe Price New Income Fund	16	0.85%	0.15%	2.68%	-0.15%
Western Asset Core Bond Fund	14	0.96%	0.26%	3.63%	0.80%
CREF Bond Market Account	10	0.77%	0.07%	2.96%	0.13%
Fidelity Investment Grade Bond Fund	8	0.65%	-0.05%	2.95%	0.12%
DoubleLine Core Fixed Income Fund	7	0.74%	0.04%	2.92%	0.09%
TCW Total Return Bond Fund	3	0.94%	0.24%	3.49%	0.66%
Janus Henderson Flexible Bond Fund	3	0.86%	0.16%	3.31%	0.48%
Weighted avg	1261	0.78%	0.08%	2.94%	0.11%
Agg		0.70%		2.83%	
10y return		0.78%		3.33%	

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 return above benchmark on the week

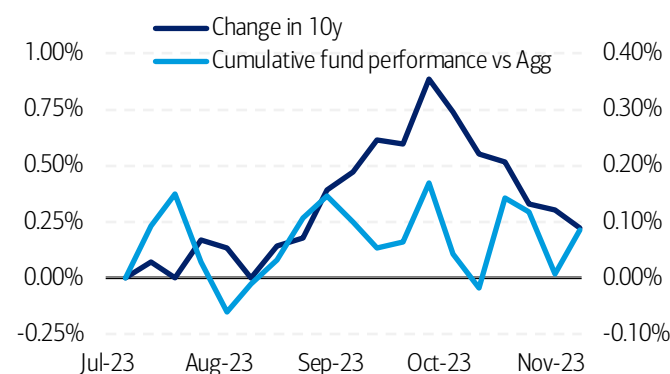


Source: BofA Global Research, Bloomberg. Note: Excess returns are fund total returns over Bloomberg Barclays Agg index

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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 Q2 and Q3 '23

Funds increased underweight position from Q2 to Q3

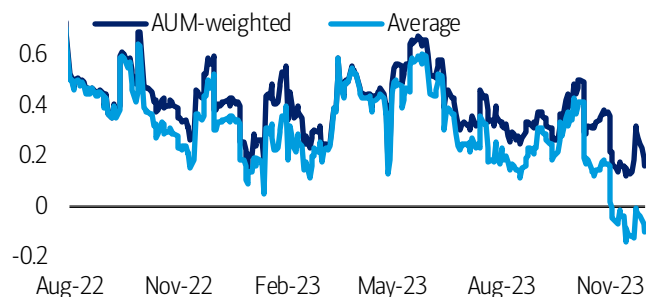
		AUM (\$bn)	Q2 '23 (%)	Q3 '23 (%)	Change (PPTS)
VTBIX	Vanguard Total Bond Market II Index Fund	246.3	2.1	2.2	0.1
VBMFX	Vanguard Total Bond Market Index Fund	193.2	1.4	1.3	-0.1
PIMIX	PIMCO Income fund	125.5	-34.1	-34.8	-0.6
ABNDX	The Bond Fund of America	77.5	-14.0	-22.4	-8.4
MWTIX	MetWest Total Return Bond Fund	55.5	-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	41.6	-2.2	-3.9	-1.7
PDBAX	PGIM Total Return Bond Fund	41.4	-34.2	-34.9	-0.7
BAGIX	Baird Aggregate Bond Fund	41.2	-17.7	-18.8	-1.1
BSIIX	BlackRock Strategic Income Opportunities Fund	35.5	-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	31.5	-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	25.9	-18.4	-19.1	-0.7
WACPX	Western Asset Core Plus Bond Portfolio	21.8	-38.0	-38.6	-0.6
TBIIX	TIAA-CREF Bond Index Fund	21.4	0.3	0.0	-0.3
JHBIX	John Hancock Bond Fund	21.1	-22.5	-21.6	0.9
MAHQX	BlackRock Total Return Fund	17.8	88.0	-1.9	-89.9
ONIAI	JPMorgan Core Plus Bond Fund	17.1	-2.9	-3.1	-0.2
BBTBX	Bridge Builder Core Bond Fund	16.7	-23.0	-24.6	-1.6
PRCIX	T Rowe Price New Income Fund	16.2	-11.8	-8.6	3.2
WATFX	Western Asset Core Bond Fund	14.1	-31.1	-32.1	-1.0
QCBMIX	CREF Bond Market Account	10.4	-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	6.8	-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		1260.7	-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

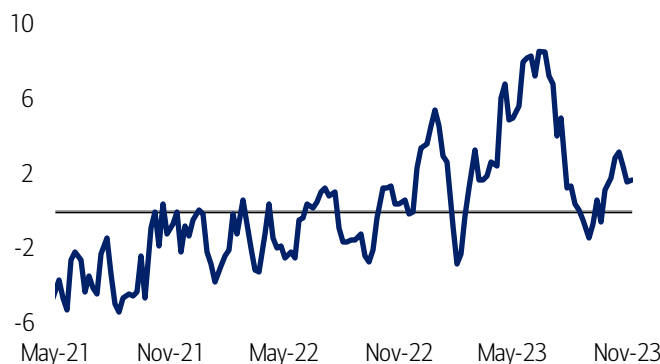


Source: BofA Global research, Bloomberg

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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 a decline in assets driven by cash, assets from UST & Agency declined modestly

		Current (11/22/2023)	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	23115	3	62	37	22	1
	Cash	3524	-33	44	32	17	5
	UST & Agency	1529	2	3	0	1	-3
	MBS	2540	6	7	0	-4	-5
	Loans and Leases	12264	29	5	7	7	7
	Other	3257	0	3	-1	0	-4
Large Domestic (\$bn, NSA)	Total Assets	13424	-23	37	14	15	-1
	Cash	1700	-28	26	10	13	6
	UST & Agency	1125	-2	2	0	1	-2
	MBS	1941	6	7	2	-1	-1
	Loans and Leases	6757	7	-3	1	1	1
	Other	1901	-7	5	2	1	-4
Small Domestic (\$bn, NSA)	Total Assets	6544	-4	4	2	1	2
	Cash	451	-7	4	3	1	1
	UST & Agency	296	0	0	0	0	-1
	MBS	571	0	-1	-1	-3	-4
	Loans and leases	4441	3	3	3	3	6
	Other	786	0	-1	-1	-1	0
All Domestic (\$bn, NSA)	Total Assets	19968	-27	41	17	16	1
	Cash	2150	-35	30	13	14	6
	UST & Agency	1421	-2	2	-1	2	-3
	MBS	2512	6	6	0	-4	-5
	Loans and leases	11198	10	-1	4	4	6
	Other	2686	-7	4	0	0	-4
Foreign (\$bn, NSA)	Total Assets	3147	31	21	20	6	0
	Cash	1374	2	13	19	3	-1
	UST & Agency	108	4	1	0	0	0
	MBS	28	0	0	0	0	0
	Loans and leases	1066	19	6	3	3	1
	Other	571	6	-1	-2	0	0

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

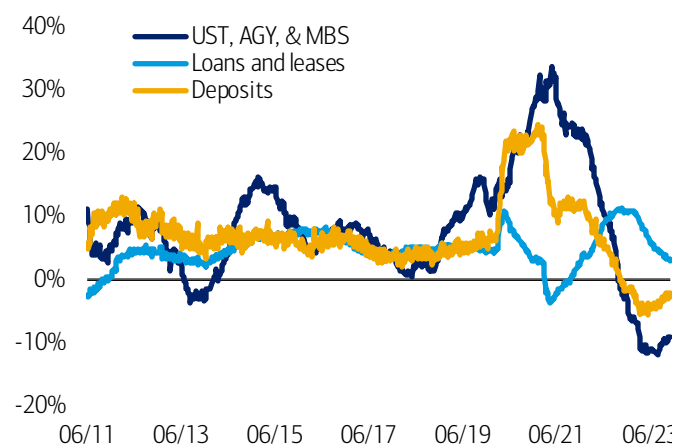
		Current (11/22/2023)	1w change	Rolling 4w avg wkly chg	Rolling 8w avg wkly chg	Rolling 12w avg wkly chg	Rolling 52w avg wkly chg
Deposits (\$bn, NSA)	All	17364	-49	41	10	7	-8
	Domestic	16068	-61	33	7	5	-7
	Large Domestic	10771	-44	27	2	2	-7
	Small Domestic	5297	-16	6	5	3	-1
	Foreign	1296	12	8	3	2	0
Other borrowing (\$bn, NSA)	All	2342	16	-1	6	6	9
	Domestic	1350	1	-1	2	4	7
	Large Domestic	934	-5	3	5	7	6
	Small Domestic	416	6	-4	-3	-3	1
	Foreign	992	15	0	3	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

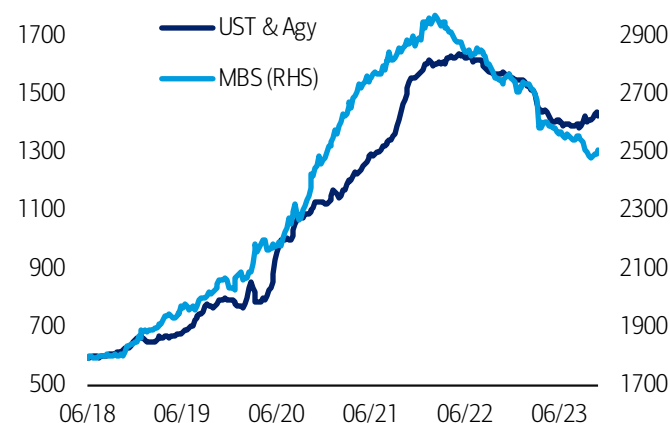


Source: BofA Global Research, Bloomberg, Federal Reserve

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Exhibit 49: Domestic bank holdings of UST& Agy, MBS

Holdings appear to be leveling off after declining last year



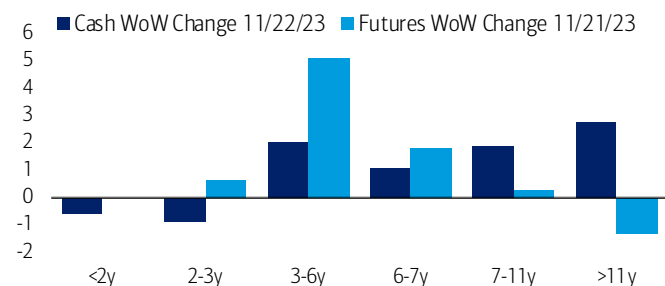
Source: BofA Global Research, Bloomberg, Federal Reserve

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Primary dealer balance sheet

Exhibit 50: Dealers WoW change in positions

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

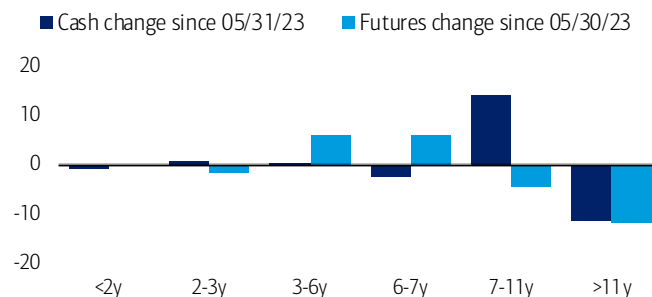


Source: BofA Global Research, NY Fed, CFTC

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Exhibit 51: Dealers change in positions over last 6mo

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

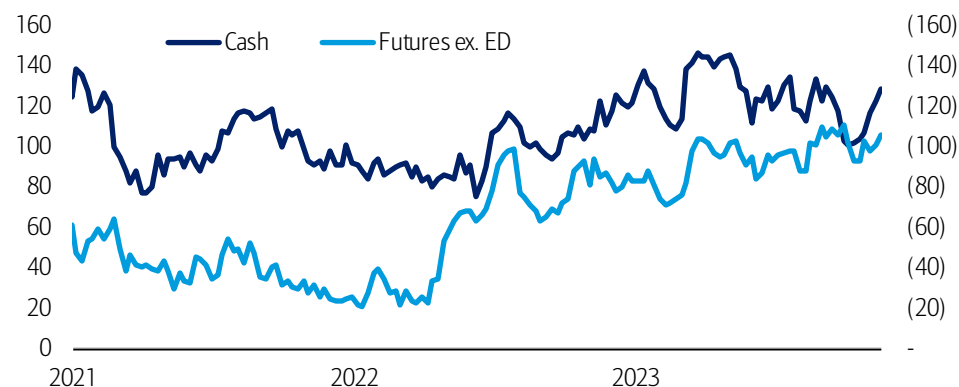


Source: BofA Global Research, NY Fed, CFTC

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Exhibit 52: Dealers total sector positions

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



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

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Auction statistics

Exhibit 53: Auction summary statistics

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

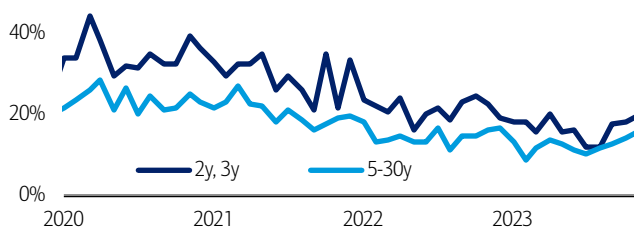
		Primary Dealer	Indirect Bidder	Direct Bidder	Investment Fund	Foreign	Depository Institution
2y	10/31/2023	17.6%	62.0%	20.3%	66.4%	12.8%	0.0%
	MoM Change	3.6%	-3.0%	-0.7%	-2.4%	-1.1%	0.0%
	1Y Z-score	0.0	0.0	-0.1	0.5	-0.6	-0.6
3y	11/15/2023	22.1%	56.0%	21.9%	66.6%	15.0%	0.0%
	MoM Change	0.0%	0.0%	0.0%	3.8%	1.9%	0.0%
	1Y Z-score	1.2	-1.2	0.8	0.3	-0.3	-0.5
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	11/15/2023	18.7%	60.3%	20.9%	53.0%	28.7%	0.1%
	MoM Change	0.0%	0.0%	0.0%	-13.2%	17.1%	0.1%
	1Y Z-score	0.6	-0.8	1.1	-1.9	1.5	2.5
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	11/15/2023	18.2%	65.1%	16.7%	57.5%	14.3%	0.0%
	MoM Change	0.0%	0.0%	0.0%	-11.5%	3.7%	0.0%
	1Y Z-score	1.6	-0.8	-1.2	-2.0	0.1	-0.1

Source: BofA Global Research, Treasury

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Exhibit 54: Primary dealer – average auction allotment

Dealer participation has picked up

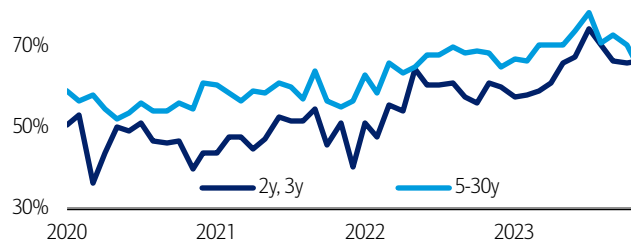


Source: BofA Global Research, Treasury

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Exhibit 55: Investment fund – average auction allotment

Fund participation still elevated but shows sign of decline

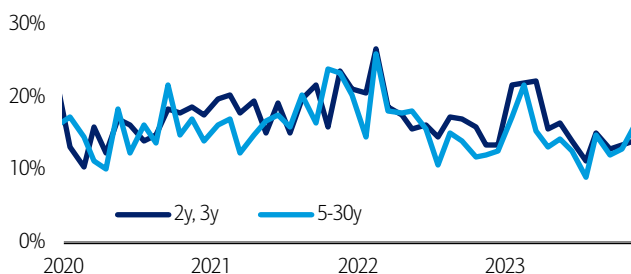


Source: BofA Global Research, Treasury

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Exhibit 56: Foreign investment – average auction allotment

Foreign participation still below average despite modest uptick in recent weeks

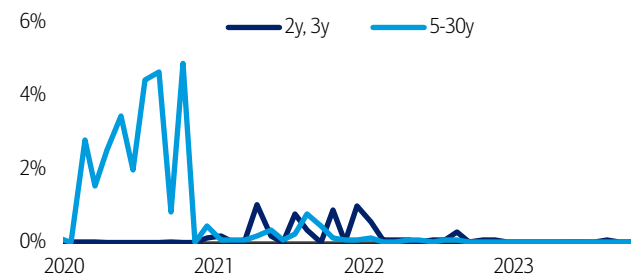


Source: BofA Global Research, Treasury

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Exhibit 57: Depository institutions – average auction allotment

Participation is minimal



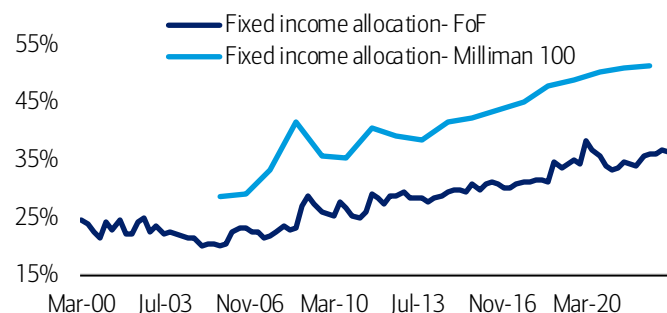
Source: BofA Global Research, Treasury

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Pensions

Exhibit 58: 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

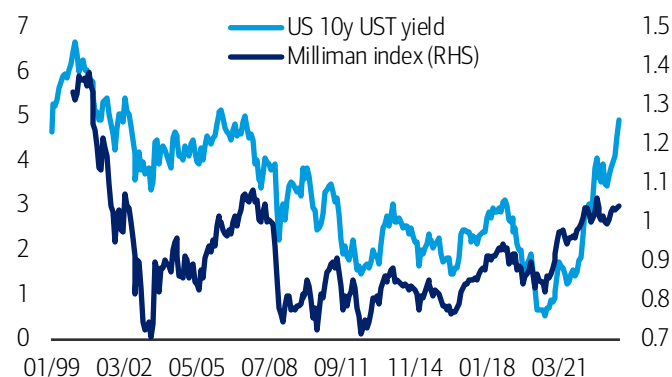


Source: BofA Global Research, Milliman, Federal Reserve

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Exhibit 59: 10y UST yield and Milliman pension funded index

Funded status historically improves with an increase in interest rates

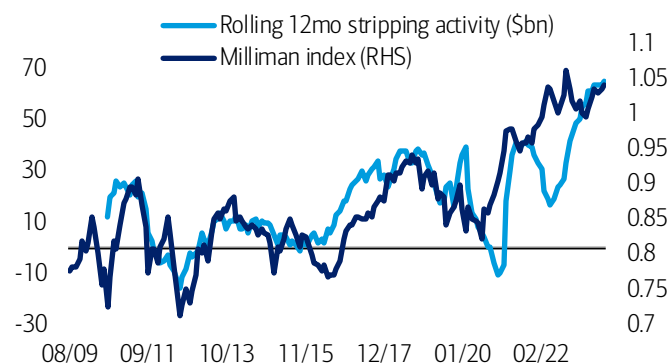


Source: BofA Global Research, Bloomberg

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Exhibit 60: Milliman index and 12mo increase in USTs held in stripped form

Higher pension funded status aligns with higher stripping activity

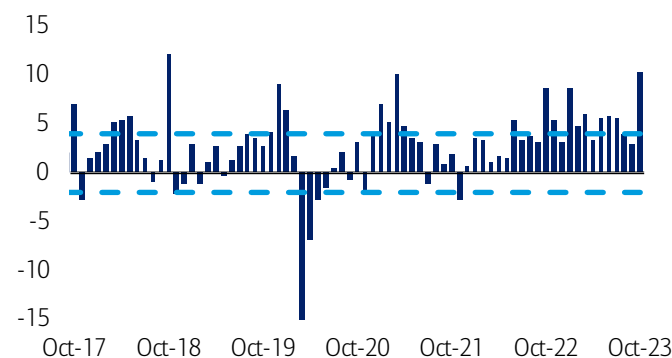


Source: BofA Global Research, Bloomberg

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Exhibit 61: Change in USTs held in stripped form (\$bn)

Stripping activity were notably higher in October

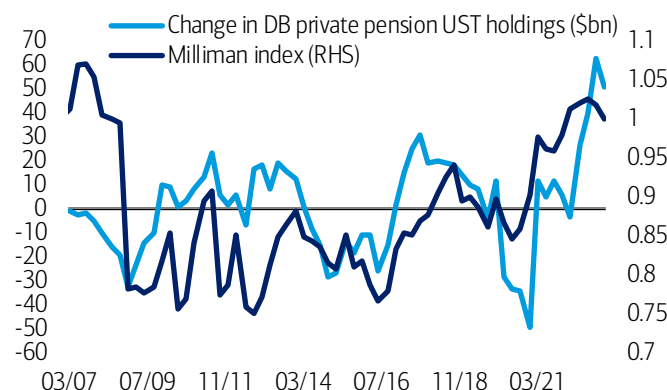


Source: BofA Global Research, Note: dashed line is 1stdev

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Exhibit 62: 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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