

US Rates Watch

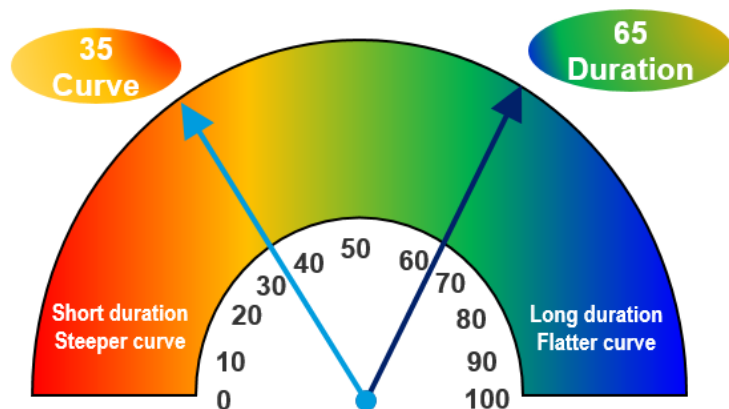
Real money resilience

Asset manager bid and UST inflows continue

Asset managers continue to extend longs and UST fund inflows remain intact, representing still strong demand from the real money community. As discussed in further detail below, UST fund inflows have proven more resilient to UST selloffs vs history, perhaps reflecting more “dip buying” mentality from investors as the Fed nears the expected end of its hiking cycle. Our futures positioning proxy shows a mixed bias for rates near-term given two sided out of the money trades. CFTC data points to an ever-growing basis trade that a Fed paper acknowledged last week.

Exhibit 1: Curve-o-meter

Speculative longs appear less vulnerable vs recent weeks



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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Less directional signal from futures positioning proxy

Our futures positioning proxy (for construction details see: [Gauging positioning in Treasury Futures](#)) shows a less directional signal for rates versus recent weeks (Exhibit 12). Moneyness is now more mixed across both longs and shorts given rate volatility (Exhibit 11). Friday's bear steepening is not reflected here, but would suggest a higher concentration of OTM longs and ITM shorts particularly at the back end of the curve than exhibits reflect.

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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Refer to important disclosures on page 17 to 18.

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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

COB = close of business

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

Asset manager long is the LF short

Asset managers extend longs yet again, with notable increases in US, UXY, and TY contracts. Leveraged hedge funds continue to take the other side and extend their futures short particularly in US and TY (Exhibit 7). Non-commercial positioning excluding leveraged hedge funds also modestly extended longs and remains around the 80th percentile over the past 5 years (Exhibit 9).

We continue to think that while part of the leveraged hedge fund short may reflect a directional view on rates (consistent with short rates momentum driving CTA positions), a large portion indicates a growing basis trade in the market. In a Fed research note last week, writers acknowledge that data indicates the hedge fund basis trade is likely back and flag risks that it poses to financial stability.

We think it is important that regulators understand two key points: 1- leveraged fund shorts are providing liquidity to meet strong demand from asset managers, 2- leveraged funds are playing an important role helping to absorb historically elevated amounts of UST supply given large deficits and Fed QT. We discuss this in greater detail here: [UST demand in 2H '23: higher supply, few buyers](#).

CTAs likely remain short

Our cross-over momentum signal and top-down model (see: [CTA impact on the rates market](#)) continue to suggest that CTAs are short (Exhibit 13). This implies that a turn in momentum could see meaningful covering from these investors. Non-reportable CFTC positioning contradicts this, implying that longs were added for the fourth consecutive week and is not as stretched as our CTA models imply (Exhibit 16). CTAs may overall be reducing the short that they likely maintained after holding the position for several weeks.

UST fund flows proving resilient despite selloff

US fixed income funds continued to see inflows overall, albeit at less than half the pace observed in recent months (Exhibit 30). While UST funds saw inflows consistent with recent averages, inflation and mixed allocation funds saw more notable outflows. Inflation fund outflows continue to be a prominent trend and have now reversed over half of the inflows observed alongside the inflation surge. However, dealer holdings of 2-6y TIPS are now flat vs levels at the start of 2021 (Exhibit 40), suggesting that other sources of demand have emerged.

We continue to think that UST fund inflows are an important indicator to watch for demand appetite especially given how prominent investment funds are in auctions (Exhibit 49). Our analysis suggests that fund inflows have been less sensitive to changes in rates as they have been historically when outflows would coincide more regularly with selloffs (Exhibit 33 and Exhibit 34). This could indicate more dip buying mentality from the market as the Fed is believed to be nearing the end of its hiking cycle.

Total return funds on an AUM-weighted basis outperformed benchmarks alongside the rate rally the week ending August 31, with 24 out of the 28 funds we track beating benchmark (Exhibit 35). Blackrock Strategic Income and PIMCO Income funds were the two that underperformed to the greatest extent and have likely maintained larger underweight duration positions. Excess return correlation to 10y USTs showed a modest uptick (Exhibit 39), but remains well below the levels observed in June implying a moderation in underweights.

Hedged pickup improves for regions ex-Japan

While FX hedged pickup of USTs remains deeply unattractive for JPY investors, it has improved for GBP, CAD, and EUR investors (Exhibit 18 - Exhibit 22). Even for these investors, pickup is still relatively flat vs local yield curves. However, based on market forwards, it is expected to turn positive for CAD and GBP investors in coming months (Exhibit 17).

NY Fed custodial holdings continued to decline on the week albeit it by only \$3bn and alongside a \$5bn increase in foreign reverse repo (Exhibit 29). Over the last three weeks, custodial UST holdings + foreign reverse repo has declined by \$16bn, which may reflect FX intervention activity (see: [FX intervention: another potential headwind to UST demand](#)). MoF data showed about \$3bn in buying of foreign bonds from Japanese investors over the week ending August 25th (Exhibit 28).

Exhibit 2: On deck next week

Calendar of upcoming events

	US Data		Fed Speaker / Event	Treasury Auction			Treasury Settlements	
Tu, Sep 5	Series	BB Consensus		Security	Amount (\$bn)	Prior Δ	Security	Amount
	Factory orders	-2.50%		13-week bills	69	0	Bills	34
	Durable goods orders	-		26-week bills	62	0		
				52-week bills	42	2		
				42-day bills	60	0		
W, Sep 6	MBA mortgage applications	-	Fed's Collins speaks on economy, policymaking	17-week bills				
	Trade balance	-\$67.8bn	Federal Reserve releases Beige Book					
	S&P Global US services PMI							
	ISM services index	52.4						
Th, Sep 7	Initial jobless claims	233k	Fed's Bostic speaks on economic outlook	4-week bills				
	Continuing claims	-	Fed's Logan speaks on monetary policy in Dallas					
F, Sep 8	Wholesale inventories MoM	-0.1%						

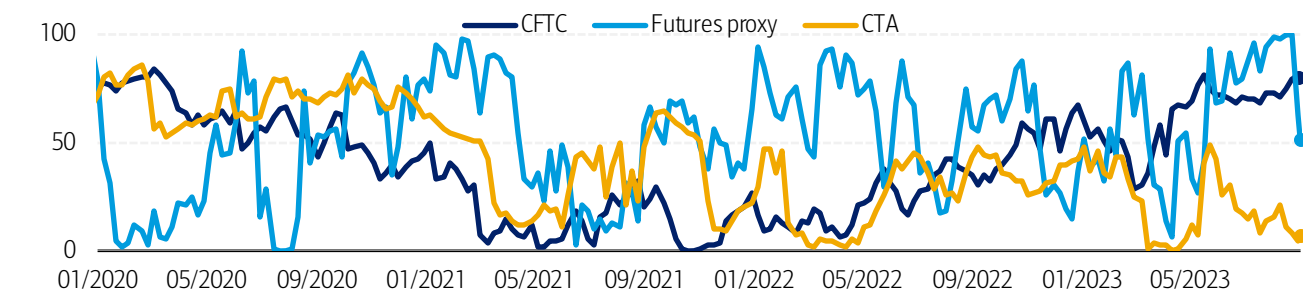
Source: BofA Global Research, Bloomberg, US Treasury

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Positioning indicators

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

Futures positioning proxy shows less clear bias for rates, CFTC data adjusted for LFs is long, top down CTA model is lagged and shows historic shorts that may have been previously covered



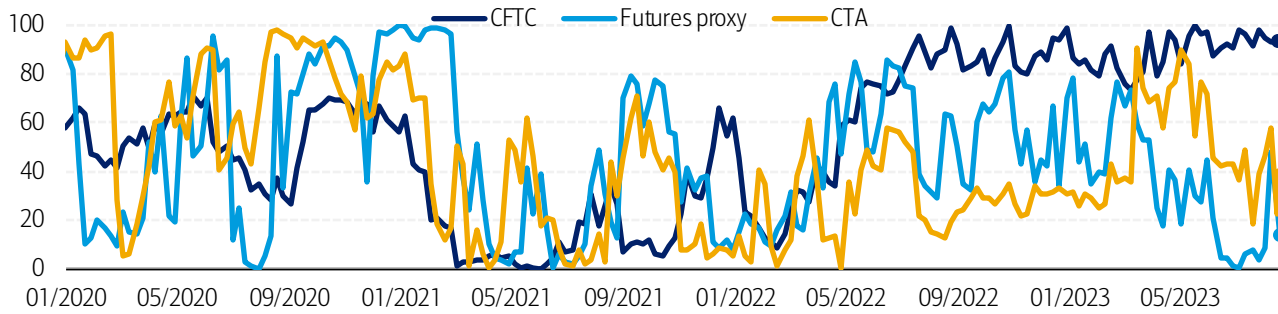
Source: BofA Global Research

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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

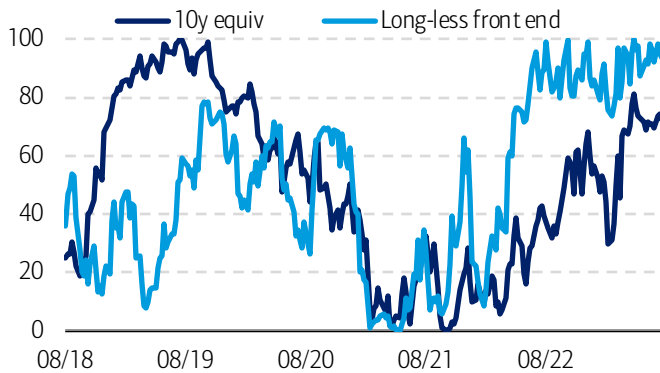


Source: BofA Global Research

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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

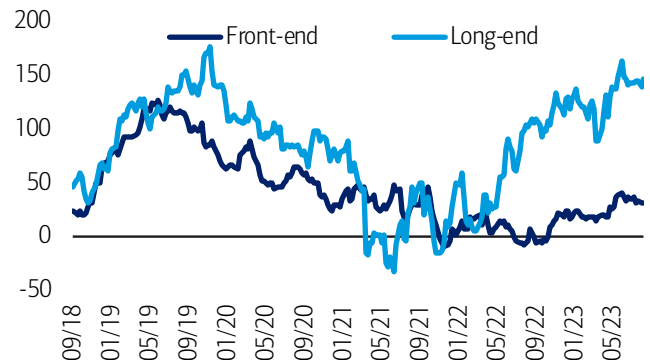


Source: BofA Global Research, Bloomberg

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

Longs are more concentrated in the back-end

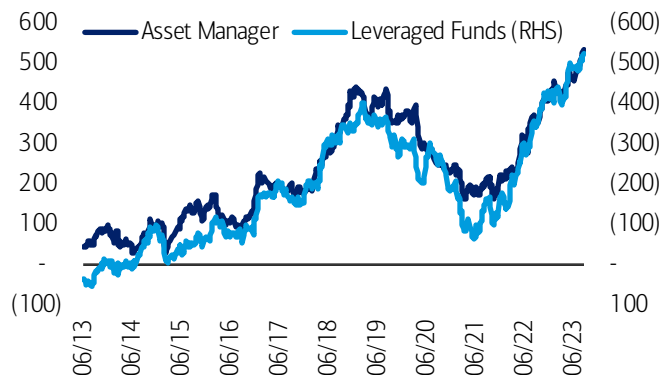


Source: BofA Global Research, Bloomberg

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

Asset manager longs correspond with leveraged fund shorts

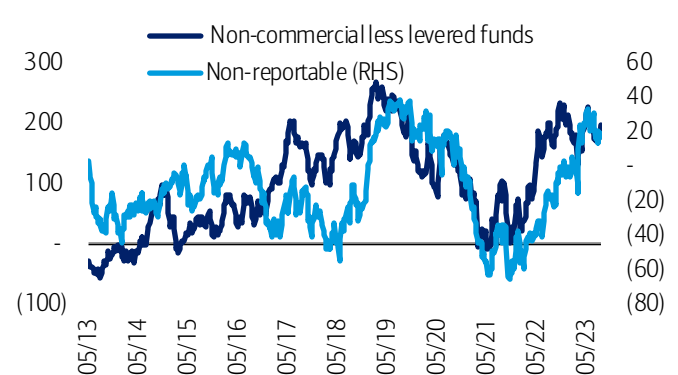


Source: BofA Global Research, Bloomberg

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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	0	1	2	2
10 to 20	20	1	3	3	3	4
20 to 30	30	4	2	2	1	1
30 to 40	40	2	4	3	3	4
40 to 50	50	3	3	2	2	2
50 to 60	60	-1	-1	-1	0	0
60 to 70	70	0	0	0	0	0
70 to 80	80	-2	-2	-3	-4	-6
80 to 90	90	-1	-1	-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 10: 10y rate change for given percentile of leveraged fund positioning (higher percentile = longer)

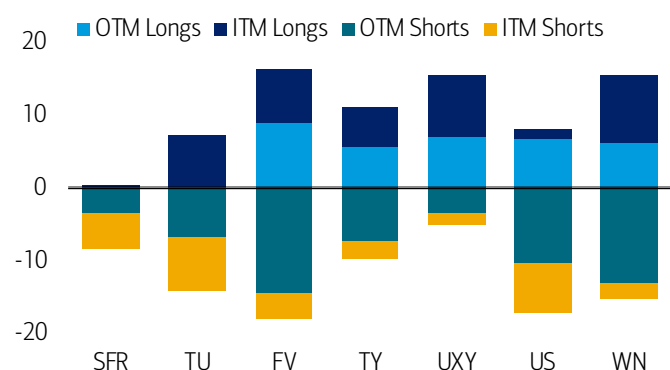
Positioning is contrarian signal: shorter positioning is usually followed by stronger 10y performance

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

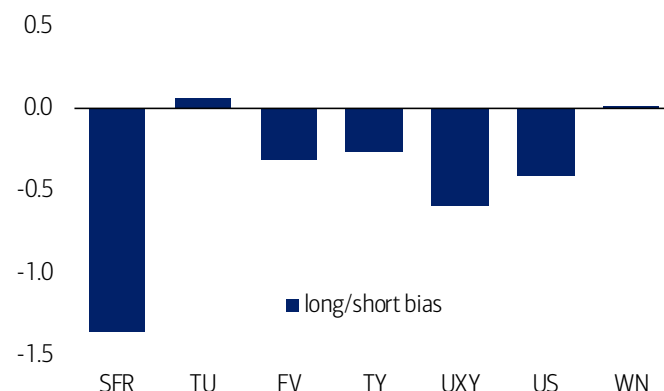
Money-ness mixed in longs and shorts across contracts



Source: BofA Global Research, Bloomberg
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Exhibit 12: Analysis of proxies for futures positioning

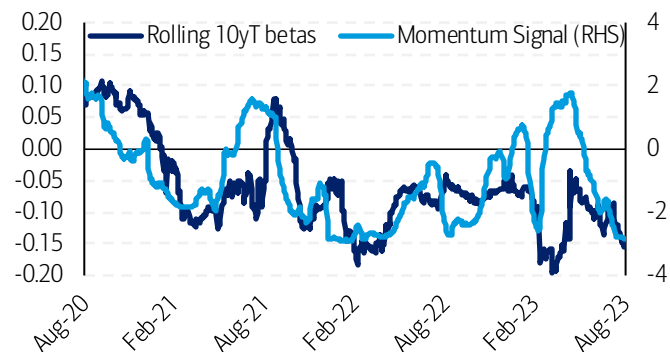
Bias for rates to sell off across the curve, particularly strong in SFR



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

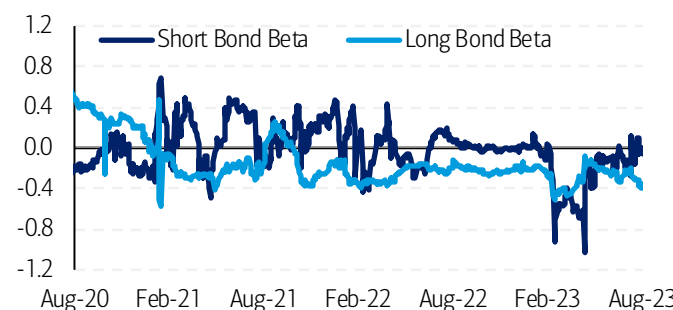
CTA little changed on the week



Source: BofA Global Research
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Exhibit 14: CTA positioning in longer duration and shorter duration bonds

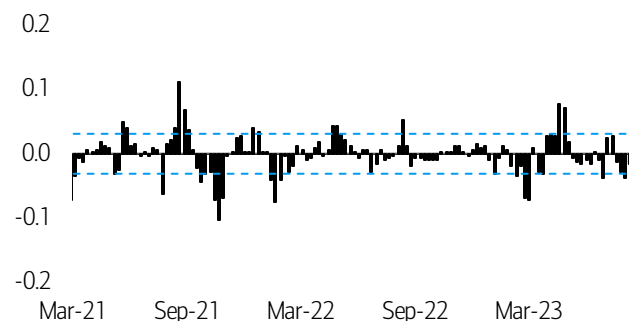
Top-down model suggests CTAs added shorts in long duration bonds



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

Change in 10yT beta negative on the week

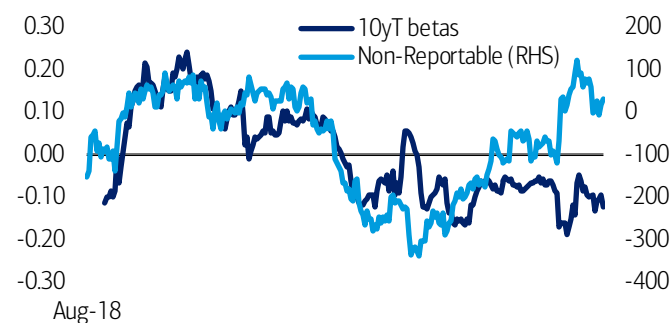


Source: BofA Global Research

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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



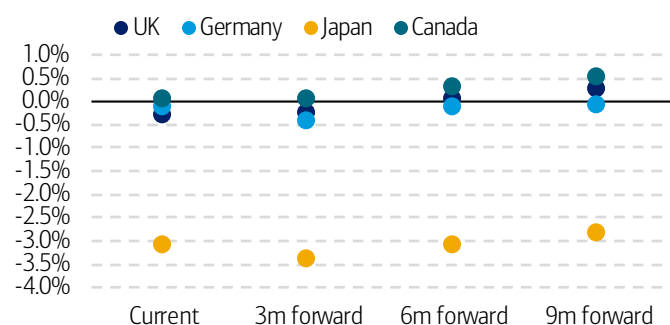
Source: BofA Global Research, Bloomberg

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FX hedged pickup and foreign flows

Exhibit 17: 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

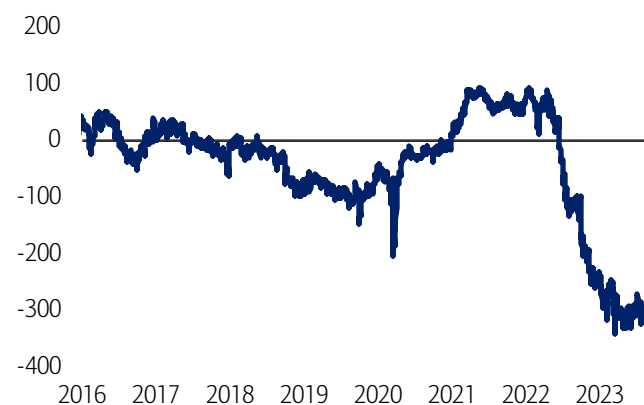


Source: BofA Global Research, Bloomberg. Note: pickup vs 10y local alternative except Japan which is relative to 20y JGB using 3m forward FX hedge

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Exhibit 18: 10Y UST pickup to 20Y JGB, with 3m fx hedge (bps)

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

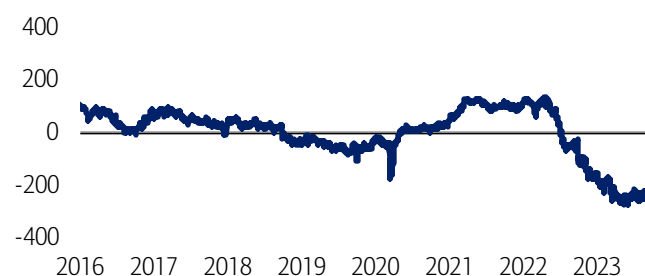


Source: BofA Global Research, Bloomberg

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Exhibit 19: 10Y UST pickup to 10Y JGB, with 3m fx hedge (bps)

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

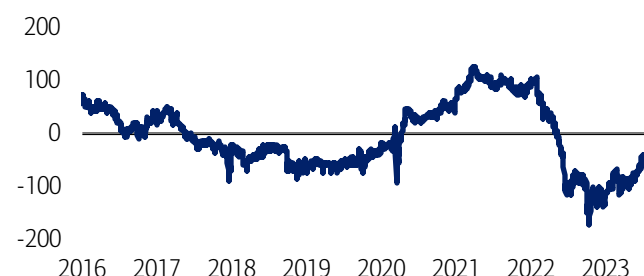


Source: BofA Global Research, Bloomberg

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

10y TSY offers near zero pickup vs 10y Bund

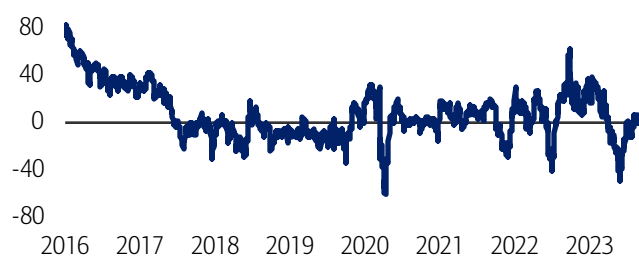


Source: BofA Global Research, Bloomberg

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

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

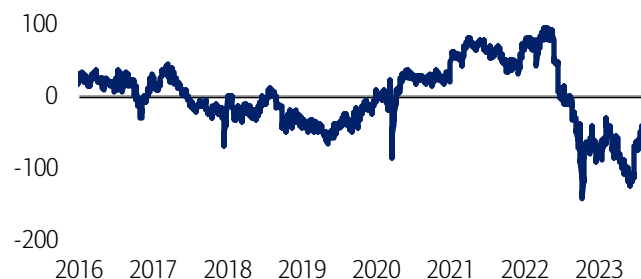


Source: BofA Global Research, Bloomberg

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

10y TSY offers negative pickup vs 10y Gilt but shows improvement recently



Source: BofA Global Research, Bloomberg

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Exhibit 23: 3m rolling JPY currency hedge

From the perspective of Japanese investor, pickup has been unattractive except vs the EU periphery

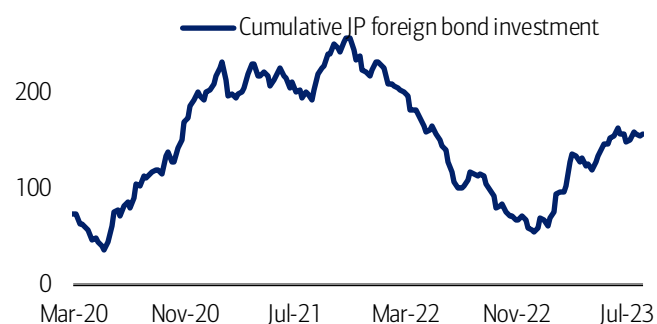
	8/31/2023		As of 1 wk ago		As of 1 mo ago		As of 1 yr ago	
	Pickup to 10y JGB	Pickup to 20Y JGB	Pickup to 10y JGB	Pickup to 20Y JGB	Pickup to 10y JGB	Pickup to 20Y JGB	Pickup to 10y JGB	Pickup to 20Y JGB
10y UST	-2.37%	-3.11%	-2.33%	-3.06%	-2.43%	-3.12%	-0.38%	-1.02%
10y GER	-2.24%	-2.98%	-2.19%	-2.92%	-2.10%	-2.79%	0.43%	-0.21%
10y FRA	-1.73%	-2.47%	-1.67%	-2.40%	-1.58%	-2.27%	1.04%	0.40%
10y BEL	-1.63%	-2.36%	-1.56%	-2.29%	-1.46%	-2.15%	1.06%	0.43%
10y ITA	-0.61%	-1.34%	-0.53%	-1.26%	-0.47%	-1.16%	2.77%	2.14%
10y SPA	-1.24%	-1.97%	-1.18%	-1.90%	-1.08%	-1.77%	1.62%	0.99%
10y UK	-2.07%	-2.80%	-2.07%	-2.80%	-1.94%	-2.63%	-0.09%	-0.73%
10y CAN	-2.39%	-3.12%	-2.35%	-3.07%	-2.43%	-3.12%	-0.60%	-1.24%

Source: BofA Global Research, Bloomberg

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Exhibit 24: Japan investment in foreign bonds, cumulative weekly (\$bn)

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

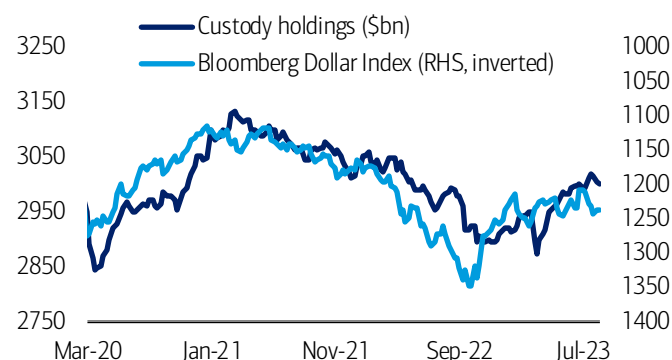


Source: BofA Global Research, Bloomberg

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Exhibit 25: Weekly UST custody holdings, foreign official (\$bn)

Custody holdings dropped on the week

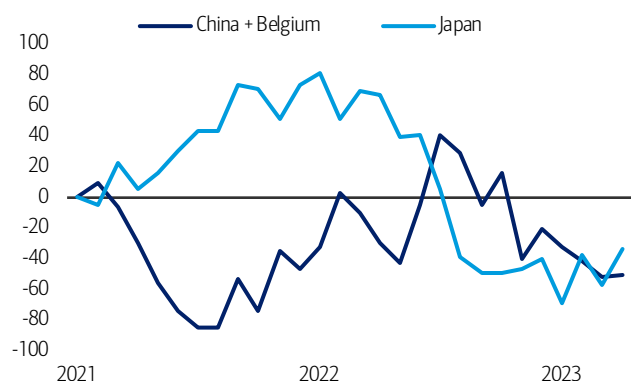


Source: BofA Global Research, NY Fed

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Exhibit 26: Cumulative UST flows from foreign investors (\$bn)

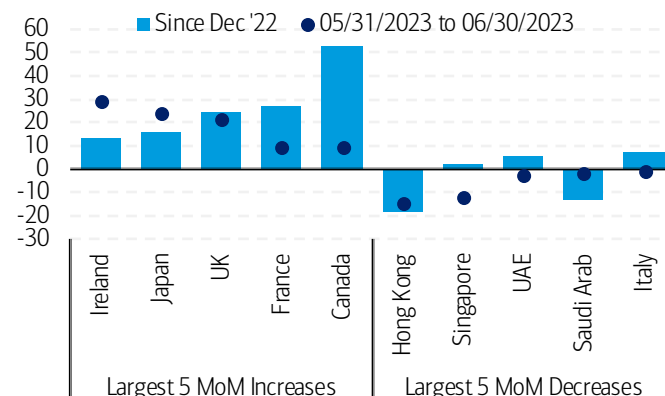
China + Belgium and Japan have turned to net sellers since end of '22



Source: BofA Global Research, Bloomberg, TIC, note: references the valuation-adjusted flow
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Exhibit 27: Largest MoM changes in foreign TSY holdings (\$bn)

Ireland was largest buyer, Hong Kong largest seller in June

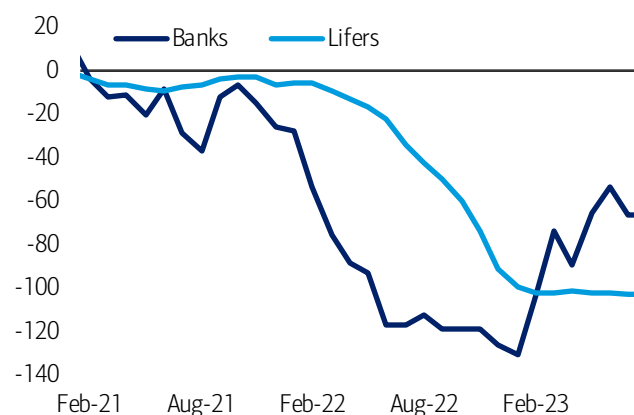


Source: BofA Global Research, TIC, Note: adjusted for level of rates

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Exhibit 28: Cumulative change in Japanese investor foreign bond holdings (\$bn)

While banks and lifers have reduced foreign bond holdings in the last year, banks and lifers demand have been flat recently

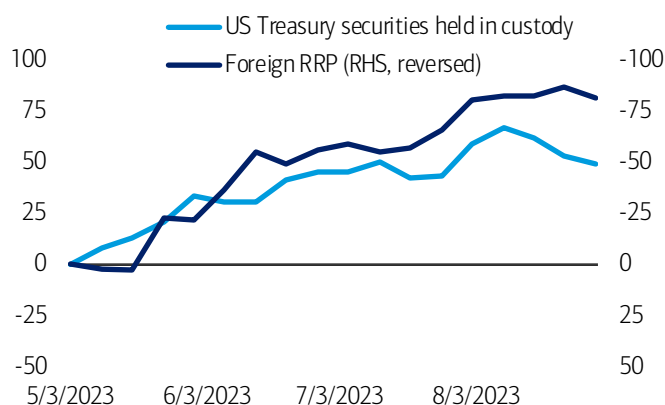


Source: BofA Global Research, Bloomberg, Note: JPY flow converted to USD using end of month FX level, last data point is June '23

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Exhibit 29: Cumulative change in custody holdings and foreign RRP since May 2023 (\$bn)

Custody holdings dipped further on the week while RRP held steady



Source: BofA Global Research, Federal Reserve, Bloomberg

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Fund flows and returns

Exhibit 30: US fixed income fund flows (\$million)

US FI funds saw inflows primarily led by govt long and corp HY funds, inflation & mixed allocation funds saw outflows

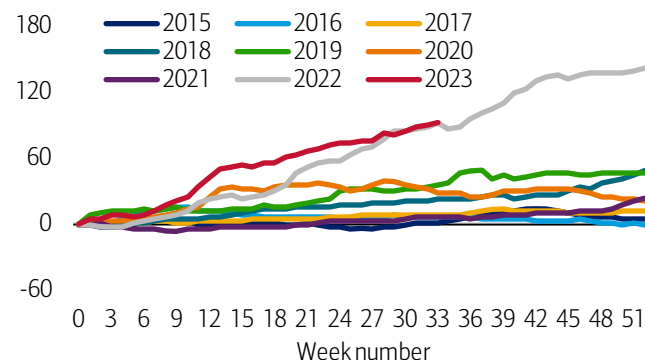
	8/30/2023	Rolling 4w average	Rolling 8w average	Rolling 12w average	Rolling 52w average
Gov: short	850	1,835	1,226	817	1,382
Gov: intermediate	304	432	246	252	329
Gov: long	1,069	675	1,389	1,188	1,136
Corp: IG	(210)	(289)	221	440	276
Corp: HY	1,118	(223)	104	47	(120)
Corp: all quality	7	25	61	54	16
MBS	1	125	304	362	143
Inflation	(1,293)	(576)	(302)	(331)	(539)
Muni	662	255	292	246	(327)
Mixed allocation	(851)	1,405	1,516	2,027	1,015
All US FI	2,020	3,692	4,926	4,850	2,769

Source: BofA Global Research, EPFR

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Exhibit 31: Sovereign fund inflows by year (\$bn)

Flows YTD are on track with highs of last year

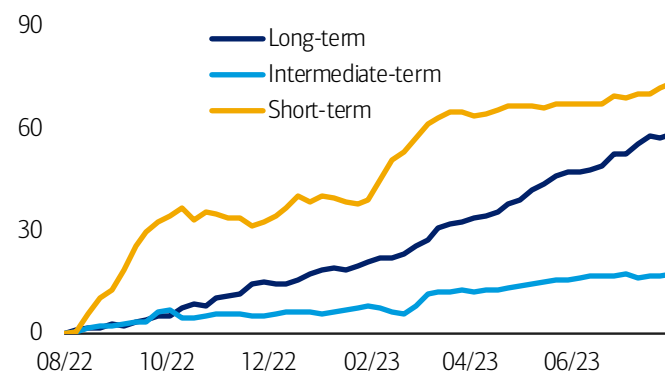


Source: BofA Global Research, EPFR

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Exhibit 32: Sovereign inflows by tenor (\$bn)

Inflows have been concentrated in long-term and short-term funds

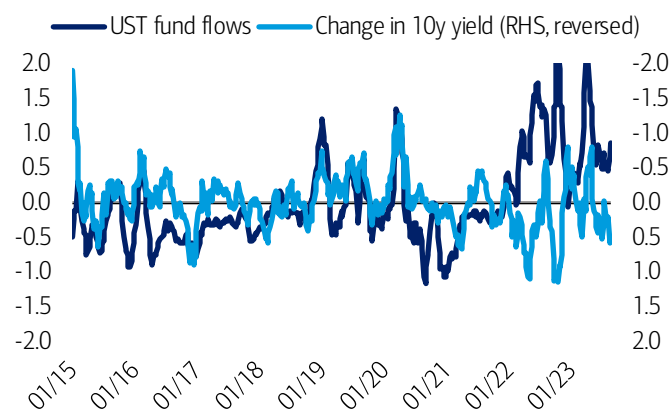


Source: BofA Global Research, EPFR

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Exhibit 33: Fund flows and rate change (Z-score)

Fund flows recently have been historically strong despite rate selloff

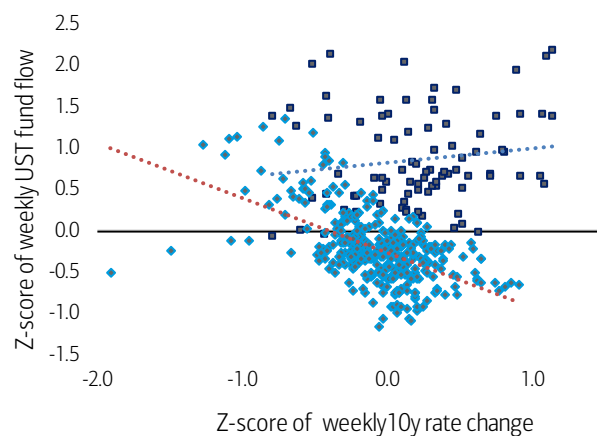


Source: BofA Global Research, EPFR

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Exhibit 34: 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 35: Total return FI fund performance vs benchmark

Over the last week, AUM weighted fund outperformed benchmark

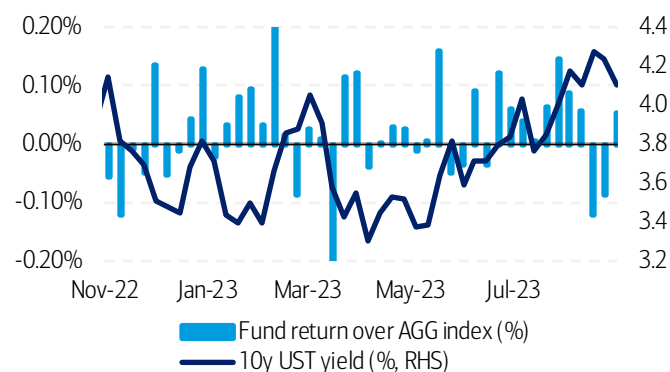
	AUM (\$Bn)	8/31/2023	Vs. Agg	Last 4w	Vs. Agg
Vanguard Total Bond Market II Index Fund	255	0.93%	0.02%	0.90%	-0.05%
Vanguard Total Bond Market Index Fund	203	1.02%	0.12%	0.88%	-0.07%
PIMCO Income fund	127	0.80%	-0.11%	0.58%	-0.37%
The Bond Fund of America	76	1.07%	0.16%	0.75%	-0.20%
MetWest Total Return Bond Fund	61	1.11%	0.20%	0.92%	-0.03%
PIMCO Total Return Fund	55	1.03%	0.12%	0.90%	-0.05%
Dodge & Cox Income Fund	58	0.98%	0.08%	0.90%	-0.05%
PGIM Total Return Bond Fund	42	1.03%	0.13%	1.05%	0.10%
BlackRock Strategic Income Opportunities Fund	35	0.42%	-0.49%	0.37%	-0.58%
Baird Aggregate Bond Fund	40	0.95%	0.04%	0.92%	-0.03%
JPMorgan Core Bond Fund	40	0.89%	-0.02%	0.79%	-0.16%
DoubleLine Total Return Bond Fund	33	0.97%	0.06%	1.09%	0.14%
Fidelity Series Investment Grade Bond Fund	35	1.01%	0.10%	0.94%	-0.01%
Fidelity Total Bond Fund	32	0.95%	0.04%	0.87%	-0.08%
Western Asset Core Plus Bond Portfolio	24	1.18%	0.27%	0.69%	-0.26%
Baird Core Plus Bond Fund	25	0.92%	0.01%	1.02%	0.07%
John Hancock Bond Fund	22	1.08%	0.17%	0.94%	-0.01%
TIAA-CREF Bond Index Fund	22	0.92%	0.01%	0.88%	-0.07%
BlackRock Total Return Fund	18	1.01%	0.10%	0.85%	-0.10%
JPMorgan Core Plus Bond Fund	17	0.90%	-0.01%	0.76%	-0.19%
Bridge Builder Core Bond Fund	16	0.99%	0.09%	0.99%	0.04%
T Rowe Price New Income Fund	16	0.97%	0.06%	0.82%	-0.13%
Western Asset Core Bond Fund	15	1.14%	0.23%	0.89%	-0.06%
CREF Bond Market Account	11	0.92%	0.01%	0.90%	-0.05%
Fidelity Investment Grade Bond Fund	9	0.93%	0.03%	0.86%	-0.09%
DoubleLine Core Fixed Income Fund	7	0.96%	0.05%	1.07%	0.12%
TCW Total Return Bond Fund	3	1.17%	0.27%	0.79%	-0.16%
Janus Henderson Flexible Bond Fund	3	1.19%	0.28%	0.89%	-0.06%
Weighted avg	1297	0.96%	0.05%	0.85%	-0.10%
Agg		0.91%		0.95%	
10y return		1.29%		0.67%	

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

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Exhibit 36: Total return funds, excess return vs. 10y rate

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

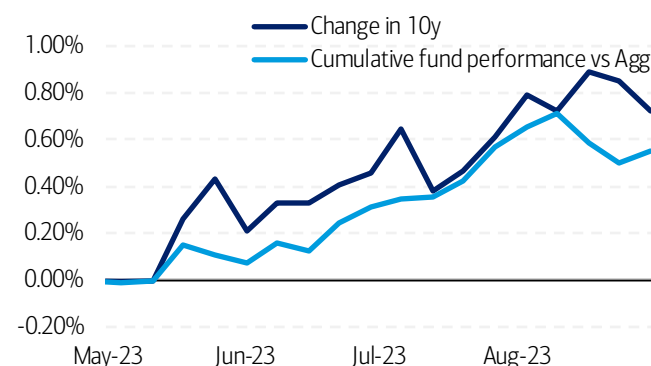


Source: BofA Global Research, Bloomberg. Note: Excess returns are fund total returns over Bloomberg Barclays Agg index

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Exhibit 37: Cumulative return of TR FI funds over benchmark vs 10yT

Funds have generally outperformed alongside higher rates in recent months



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

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Exhibit 38: Total return funds' published UST allocations vs benchmark from Q1 and Q2 '23

Funds moderated underweight UST position from Q1 to Q2

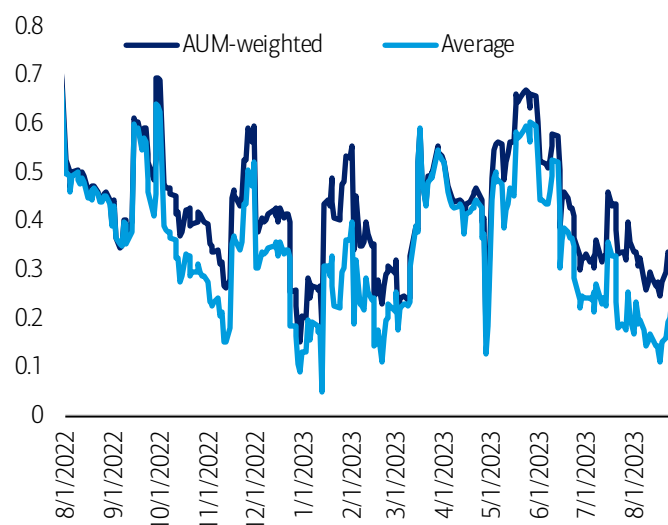
		AUM (\$bn)	Q1 '23 (%)	Q2 '23 (%)	Change (PPTS)
VTBIX	Vanguard Total Bond Market II Index Fund	255.2	2.4	2.1	-0.3
VBMFX	Vanguard Total Bond Market Index Fund	203.4	1.7	1.4	-0.3
PIMIX	PIMCO Income fund	126.7	-43.4	-34.1	9.3
ABNDX	The Bond Fund of America	75.8	-11.3	-14.0	-2.7
MWTIX	MetWest Total Return Bond Fund	61.3	-16.5	-18.7	-2.2
DODIX	Dodge & Cox Income Fund	57.5	-28.1	-32.7	-4.6
PTTRX	PIMCO Total Return Fund	54.6	-15.4	-18.6	-3.2
PDBAX	PGIM Total Return Bond Fund	42.0	-33.7	-34.2	-0.5
BAGIX	Baird Aggregate Bond Fund	40.1	-16.9	-17.7	-0.8
PGBOX	JPMorgan Core Bond Fund	40.1	-5.0	-2.2	2.8
BSIIX	BlackRock Strategic Income Opportunities Fund	35.4	-17.3	-23.4	-6.1
FSIGX	Fidelity Series Investment Grade Bond Fund	34.5	-7.5	-10.1	-2.6
DBLTX	DoubleLine Total Return Bond Fund	33.4	-32.7	-32.8	-0.1
FTBFX	Fidelity Total Bond Fund	31.7	-12.0	-12.5	-0.4
BCOIX	Baird Core Plus Bond Fund	24.8	-18.5	-18.4	0.1
WACPX	Western Asset Core Plus Bond Portfolio	23.8	-33.7	-38.0	-4.3
JHBIX	John Hancock Bond Fund	22.2	-22.8	-22.5	0.3
TBIIX	TIAA-CREF Bond Index Fund	21.5	0.8	0.3	-0.5
MAHQX	BlackRock Total Return Fund	18.0	-13.7	88.0	101.7
ONIAI	JPMorgan Core Plus Bond Fund	17.0	-5.1	-2.9	2.2
BBTBX	Bridge Builder Core Bond Fund	16.4	-22.1	-23.0	-0.9
PRCIX	T Rowe Price New Income Fund	15.5	-16.2	-11.8	4.4
WATFX	Western Asset Core Bond Fund	14.8	-30.7	-31.1	-0.4
QCBMIX	CREF Bond Market Account	10.5	-21.1	-22.6	-1.5
FBNDX	Fidelity Investment Grade Bond Fund	8.7	-5.7	-0.3	5.4
DBLFX	DoubleLine Core Fixed Income Fund	6.8	-16.9	-17.9	-1.0
JFLEX	Janus Henderson Flexible Bond Fund	2.9	-11.3	-17.9	-6.7
TGLMX	TCW Total Return Bond Fund	2.7	-38.5	-39.6	-1.1
AUM weighted		1297.3	-13.2	-11.9	1.4

Source: BofA Global Research, funds' publicly available reports

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Exhibit 39: 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) and may suggest adding to shorts

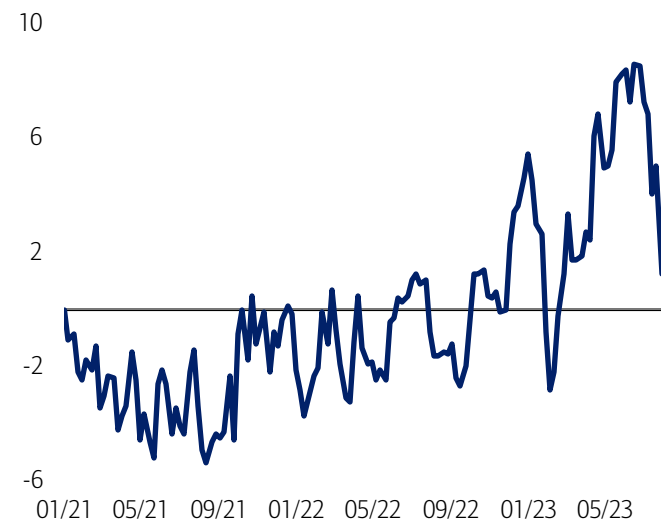


Source: BofA Global research, Bloomberg

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Exhibit 40: Primary dealer 2-6y holdings of TIPS (\$bn)

Primary dealer holdings have declined meaningfully since end of June and now close to zero



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

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Bank balance sheets

Exhibit 41: Changes to bank balance sheet assets (\$bn)

Domestic bank balance sheet decline driven by cash

		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	22773	-51	5	-8	-16	-3
	Cash	3264	-45	4	-2	-5	-2
	UST & Agency	1503	4	-1	-2	-2	-4
	MBS	2578	13	0	-2	-2	-6
	Loans and Leases	12131	-1	6	1	0	11
	Other	3297	-21	-4	-3	-7	-2
Large Domestic (\$bn, NSA)	Total Assets	13210	-34	5	-6	-23	-5
	Cash	1514	-34	9	0	-13	1
	UST & Agency	1104	3	0	-1	-1	-4
	MBS	1952	15	1	0	-1	-2
	Loans and Leases	6724	-3	-2	-3	-4	2
	Other	1916	-15	-3	-2	-5	-3
Small Domestic (\$bn, NSA)	Total Assets	6523	-11	9	4	1	3
	Cash	448	-13	-2	0	-2	0
	UST & Agency	290	0	0	0	0	-1
	MBS	601	-2	-1	-1	-1	-4
	Loans and leases	4387	5	9	5	5	7
	Other	798	-1	2	1	0	0
All Domestic (\$bn, NSA)	Total Assets	19733	-45	13	-2	-22	-2
	Cash	1962	-47	7	1	-15	1
	UST & Agency	1394	3	0	-1	-1	-4
	MBS	2553	13	0	-2	-2	-6
	Loans and leases	11111	2	7	1	0	9
	Other	2713	-16	-1	-1	-5	-3
Foreign (\$bn, NSA)	Total Assets	3039	-6	-8	-6	6	-1
	Cash	1302	1	-3	-2	10	-3
	UST & Agency	109	1	-1	-1	-1	0
	MBS	25	0	0	0	0	0
	Loans and leases	1019	-3	-1	0	-1	1
	Other	584	-4	-4	-2	-2	1

Source: BofA Global Research, Federal Reserve, Bloomberg

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Exhibit 42: Select bank balance sheet liabilities (\$bn, NSA)

Domestic bank balance sheet decline driven by deposits

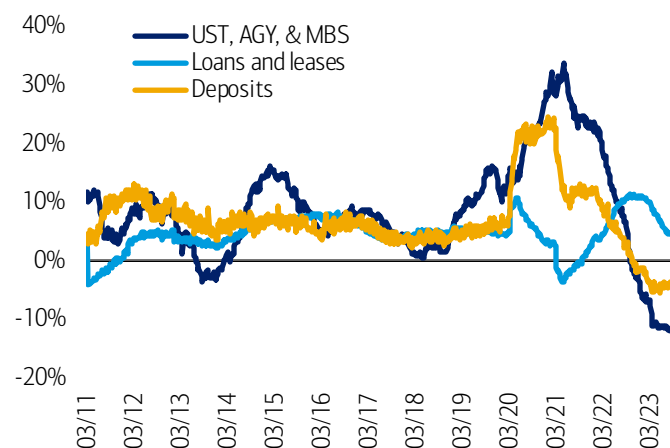
		Current	1w change	Rolling 4w avg wkly chg	Rolling 8w avg wkly chg	Rolling 12w avg wkly chg	Rolling 52w avg wkly chg
Deposits (\$bn, NSA)	All	17245	-62	10	-2	-5	-14
	Domestic	15964	-66	13	-2	-7	-13
	Large Domestic	10719	-51	3	-11	-13	-11
	Small Domestic	5245	-15	11	8	6	-2
	Foreign	1282	4	-3	0	2	-1
Other borrowing (\$bn, NSA)	All	2263	34	1	-8	-12	11
	Domestic	1280	20	4	-6	-16	10
	Large Domestic	829	17	7	-1	-9	6
	Small Domestic	452	4	-3	-5	-6	3
	Foreign	982	14	-2	-3	3	2

Source: BofA Global Research, Federal Reserve, Bloomberg

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Exhibit 43: YoY change in securities, loans, and deposits

Securities growth usually only positive when deposit growth is positive

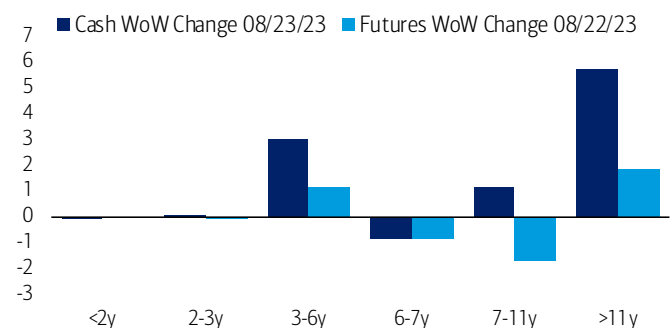


Source: BofA Global Research, Bloomberg, Federal Reserve

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Primary dealer balance sheet**Exhibit 44: Dealers WoW change in positions**

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

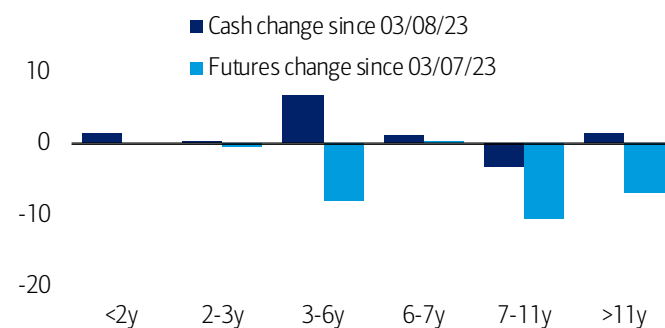


Source: BofA Global Research, NY Fed, CFTC

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Exhibit 45: Dealers change in positions since bank risk events

10y equivalent, \$bn, cash positions lower at the back-end

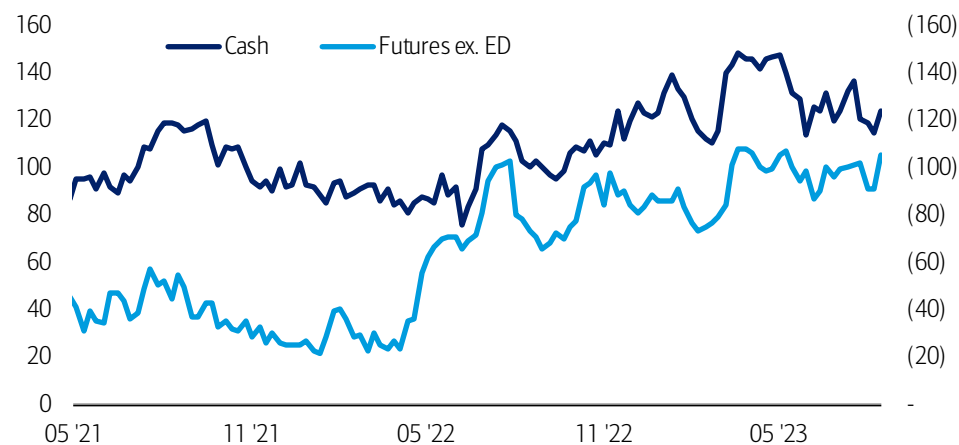


Source: BofA Global Research, NY Fed, CFTC

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Exhibit 46: Dealers total sector positions

10y equivalent, \$bn, futures shorts and cash longs picked up on the week



Source: BofA Global Research, NY Fed, CFTC

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Auction statistics

Exhibit 47: Auction summary statistics

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

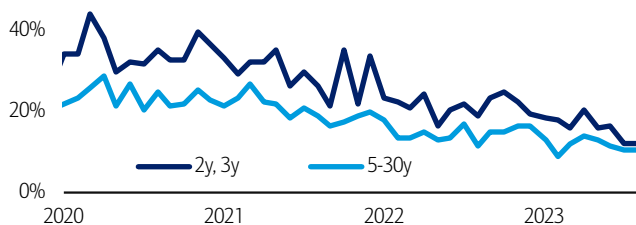
		Primary Dealer	Indirect Bidder	Direct Bidder	Investment Fund	Foreign	Depository Institution
2y	7/31/2023	13.3%	68.5%	18.2%	70.0%	13.7%	0.1%
	MoM Change	0.0%	0.0%	0.0%	-4.8%	4.3%	0.1%
	1Y Z-score	-1.4	1.3	-0.7	1.6	-0.7	1.9
3y	8/15/2023	10.8%	69.4%	19.8%	71.2%	16.6%	0.0%
	MoM Change	0.0%	0.0%	0.0%	-3.0%	3.2%	0.0%
	1Y Z-score	-1.5	1.1	0.3	1.3	0.0	-0.4
5y	7/31/2023	12.2%	19.7%	68.1%	70.9%	13.4%	0.1%
	MoM Change	0.0%	0.0%	0.0%	-6.8%	5.1%	0.0%
	1Y Z-score	-0.6	1.2	0.1	0.3	0.0	1.4
7y	7/31/2023	8.1%	75.3%	16.6%	68.5%	14.9%	0.0%
	MoM Change	0.0%	0.0%	0.0%	-12.6%	5.3%	0.0%
	1Y Z-score	-1.0	1.1	-0.8	-0.5	0.3	1.0
10y	8/15/2023	12.4%	67.7%	19.9%	69.1%	17.5%	0.0%
	MoM Change	0.0%	0.0%	0.0%	-7.9%	9.9%	0.0%
	1Y Z-score	-0.7	0.4	0.4	0.6	0.3	0.8
20y	7/31/2023	9.6%	68.8%	21.7%	76.0%	12.3%	0.0%
	MoM Change	1.8%	-5.8%	4.1%	-2.9%	1.7%	0.0%
	1Y Z-score	-0.2	-0.7	1.6	0.6	-0.4	-0.3
30y	8/15/2023	10.9%	69.0%	20.1%	69.6%	15.4%	0.0%
	MoM Change	0.0%	0.0%	0.0%	-8.1%	6.5%	0.0%
	1Y Z-score	-0.1	-0.2	0.6	-0.4	0.4	0.8

Source: BofA Global Research, Treasury

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Exhibit 48: Primary dealer – average auction allotment

Dealer participation has declined

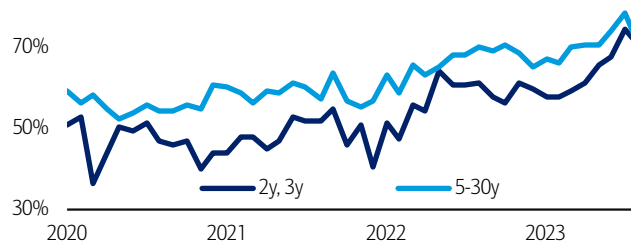


Source: BofA Global Research, Treasury

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Exhibit 49: Investment fund – average auction allotment

Fund participation still elevated

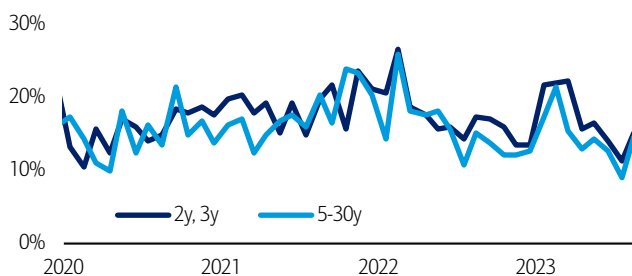


Source: BofA Global Research, Treasury

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Exhibit 50: Foreign investment – average auction allotment

Foreign participation still below average despite modest uptick in recent weeks

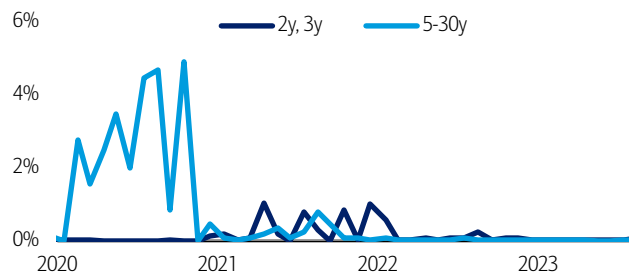


Source: BofA Global Research, Treasury

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Exhibit 51: Depository institutions – average auction allotment

Participation is minimal



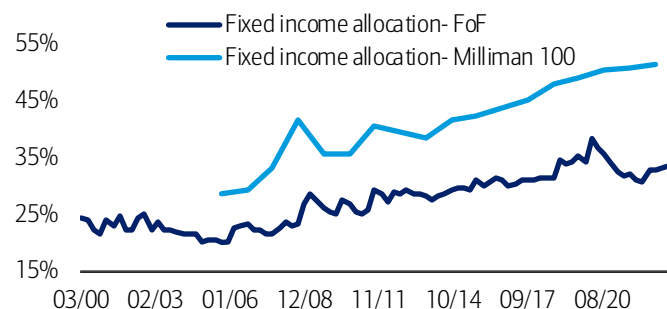
Source: BofA Global Research, Treasury

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Pensions

Exhibit 52: 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

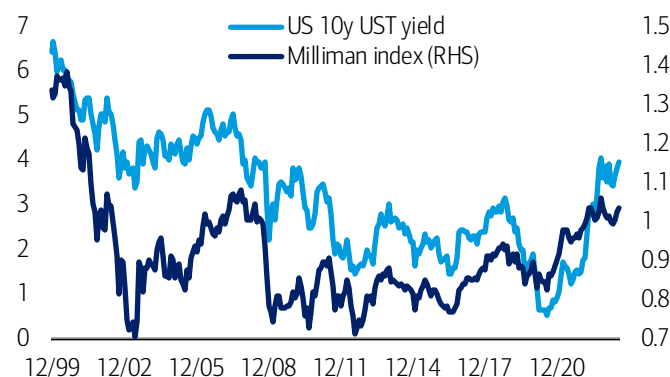


Source: BofA Global Research, Milliman, Federal Reserve

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Exhibit 53: 10y UST yield and Milliman pension funded index

Funded status historically improves with an increase in interest rates

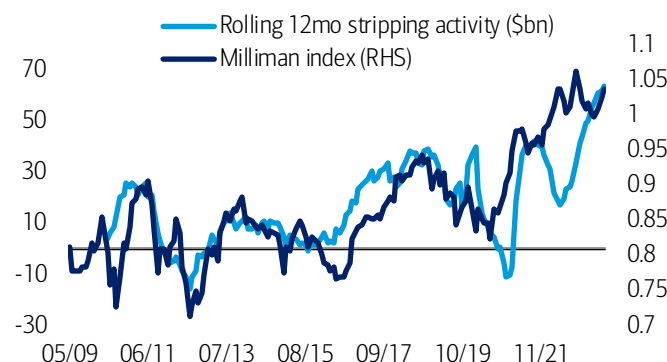


Source: BofA Global Research, Bloomberg

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Exhibit 54: Milliman index and 12mo increase in USTs held in stripped form

Higher pension funded status aligns with higher stripping activity

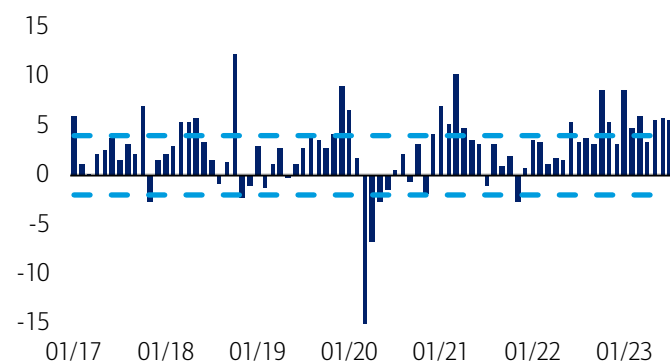


Source: BofA Global Research, Bloomberg

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Exhibit 55: Change in USTs held in stripped form (\$bn)

Stripping activity has recently been consistently above average

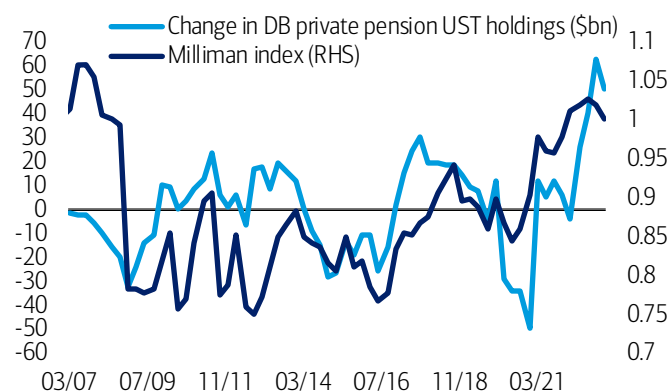


Source: BofA Global Research, Note: dashed line is 1stdev

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Exhibit 56: 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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