

## US Rates Watch

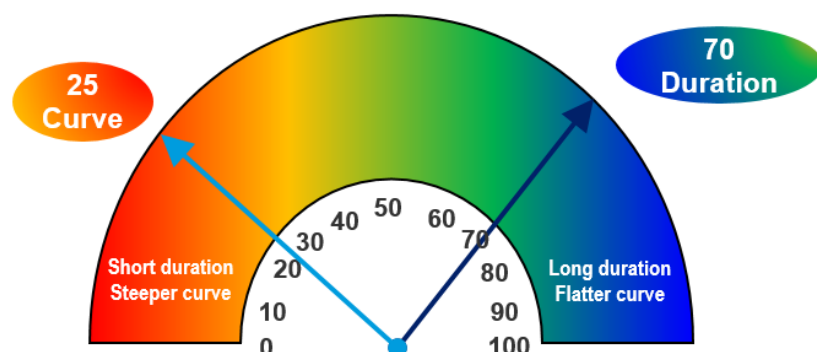
## Shorts added but longs are vulnerable

## Asset manager bid continues

Alongside the move higher in rates this week triggered by concerns around the larger supply/ demand backdrop, we saw open interest in UST futures grow. This suggests that rather than longs covered, new shorts were created. However, it is the long position that remains out of the money and vulnerable to covering. CFTC data as of Tuesday indicates that asset managers continue to add to futures longs, with leveraged funds taking the other side. The leveraged fund position is difficult to distill as a directional view on rates given the large basis trade in the market. Our cross over momentum signal and top-down model both suggest that CTAs are quite short which may dampen the impact of potential long covering from asset managers.

## Exhibit 1: Curve-o-meter

Speculative investors excluding leveraged funds are historically long; while new shorts created on week longs are still net out of the money position



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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## New shorts created, but longs are most vulnerable

Open interest increased notably on the week through Thursday, particularly in the belly and back-end of the curve. This suggests that rather than long positions closed, the dominant trade was shorts created. While shorts now are more prominent across many points on the curve (Exhibit 11), the net out of the money is the long position—which biases rates to continue selling off (for construction details see: Gauging positioning in Treasury Futures) particularly at longer tenors (Exhibit 12). However, this bias may have moderated following the rate rally on Friday.

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 15 to 16. Analyst Certification on page 14. 12589554

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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 longs & LF shorts again hit new extremes

In 10y equivalents, CFTC data shows that asset manager longs and leveraged fund shorts reached new extremes as of August 1 (Exhibit 7). New asset managers longs were concentrated in US and FV, with leveraged funds taking the other side. Asset manager longs remain more concentrated at longer-tenors vs history (Exhibit 6). While the leveraged fund short may in part reflect a directional view on the market, it is likely muddled heavily by the growing basis trade in the market (see: [Back to basis](#)). Non-commercial positioning excluding leveraged funds also showed an add to longs particularly in US.

## Momentum suggests CTAs near max short

Our cross-over momentum signal suggests that CTAs should be positioned at some of the shortest levels since just before the banking risk events in March (Exhibit 13). Our top down model suggests CTAs have meaningfully added to shorts in recent months, but are not quite to Feb extremes (see: CTA impact on the rates market).

Both stand in contrast with non-reportable positioning, which shows that while CTAs may have added to shorts the week ending August 1, they are far more neutral on duration vs previously this year (Exhibit 16). We focus on non-reportable positioning as a proxy for CTAs because it historically has a strong correlation with our momentum indicator and top-down model. But larger CTA activity is likely reflected in the leveraged fund component that incorporates a mix of hedge fund strategies.

## FI funds report underweight UST allocation in Q2

US fixed income funds overall showed about \$5bn of inflows on the week dominated by mixed allocation and long-term UST funds (Exhibit 29). While inflation fund outflows continue, the pace has moderated from prior months.

US total return fixed income funds on an AUM-weighted basis outperformed benchmark alongside the sharp increase in rates. Outperformance alongside UST selloffs is consistent with what we have observed in recent months (Exhibit 32) and suggests that some large funds have been positioned appropriately for higher rates.

Indeed, Q2 reports released recently show these funds maintained an underweight UST position on an AUM-weighted basis (Exhibit 33). Q2 UST levels though reflect a moderation in underweight vs Q1. BlackRock Total Return Fund saw the largest add to US Treasuries. Of the funds we track, the two that outperformed the most on the week: PIMCO Income fund and BlackRock Strategic Income showed notable underweight allocations at the start of Q2 (Exhibit 33). Western Asset Core Plus and TCW Total Return Fund, which underperformed the most on the week, also had a significant underweight allocation to USTs at the start of the quarter. This suggests that their positioning may have shifted or weak performance was driven by different asset classes.

## JP investors stay sidelined, custodial holdings increase

MoF data shows that Japanese investors' holdings of foreign bonds was relatively flat the week ending July 28<sup>th</sup> (Exhibit 24). The BoJ's recent Yield Curve Control adjustment does not materially change the backdrop for Japanese demand for USTs. As shown in Exhibit 18, the FX-hedged pickup of USTs has been deeply negative for some time now, suggesting that it is unattractive for a Japanese investor to buy hedged USTs vs local rates.

While the yield curve control (YCC) adjustment does not materially change the near-term Japanese flow dynamic, it is yet another headwind to foreign buying more broadly. This puts the pressure on asset managers/ investment funds to keep up demand alongside a growing supply picture (see: Steep demand curve).

NY Fed custody holdings increased \$16bn the week ending August 2nd, the biggest increase since volatility around bank risk events in March/ April. While this may reflect a stronger bid from foreign investors, it does not coincide with a weaker dollar that usually

triggers a strong official bid (Exhibit 25). Instead, the increase in official sector UST holdings may reflect a repositioning on the curve (into steepeners) as the data is not reported in 10y equivalents.

## Primary dealers cash holdings increase in belly

As of the week ending July 26, primary dealers saw an increase in cash Treasury holdings in the 3-10y bucket and futures declined at the 6-7y sector (Exhibit 37). Since the banking risk events, cash positions have been lower in the back end (Exhibit 38).

### 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, Aug 7				<i>Fed's Bostic speaks at Fed Listens event</i>	13-week bills	67	2		
					26-week bills	60	2		
				<i>Fed's Bowman (voter) speaks at Fed Listens Event</i>					
Tu, Aug 8	Trade Balance	-\$64.6b	-\$65.0b	<i>Fed's Harker (voter) speaks on economic outlook in Philadelphia</i>	52-week bills	40	2	Bills	20
	Wholesale Inventories	-	-0.30%		42-day bills	55	5		
					3-year notes	42	2		
W, Aug 9	MBA Mortgage Applications	-	-		10-year notes	38	6		
Th, Aug 10	Initial Jobless Claims	236k	-	<i>Fed's Bostic gives remarks at event about employment</i>	30-year bonds	23	5	Bills	33
	Consumer Price Index (yoy)	3.20%	3.20%						
	CPI Ex Food & Energy (yoy)	4.60%	4.80%						
	Consumer Price Index (mom)	0.20%	0.20%						
	CPI Ex Food & Energy (mom)	0.10%	0.20%						
	Monthly Budget Statement	-\$50.0b	-						
F, Aug 11	Producer Price Index (mom)	0.20%	0.20%						
	PPI Ex Food & Energy (mom)	0.20%	0.20%						
	PPI Ex Food, Energy, Trade (mom)	0.30%	0.10%						
	U. of Michigan Sentiment	73	71.3						

Source: BofA Global Research, Bloomberg, US Treasury

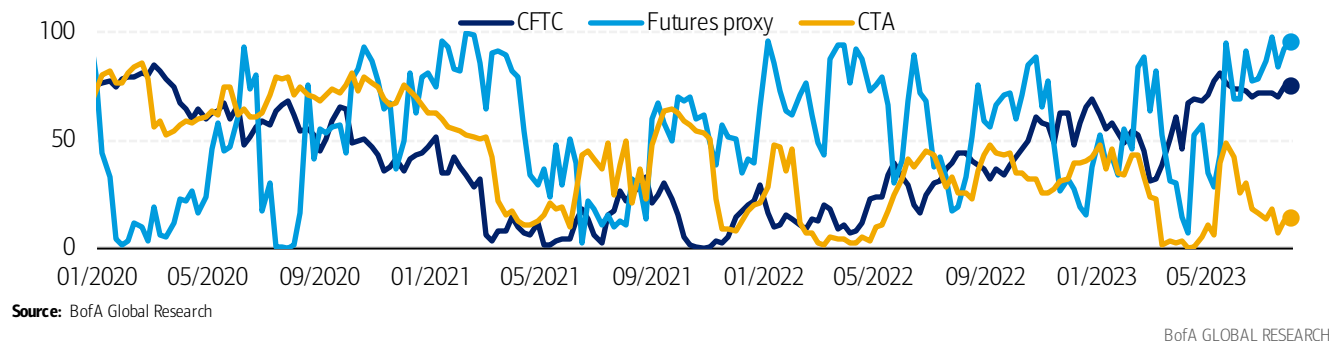
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## Positioning indicators

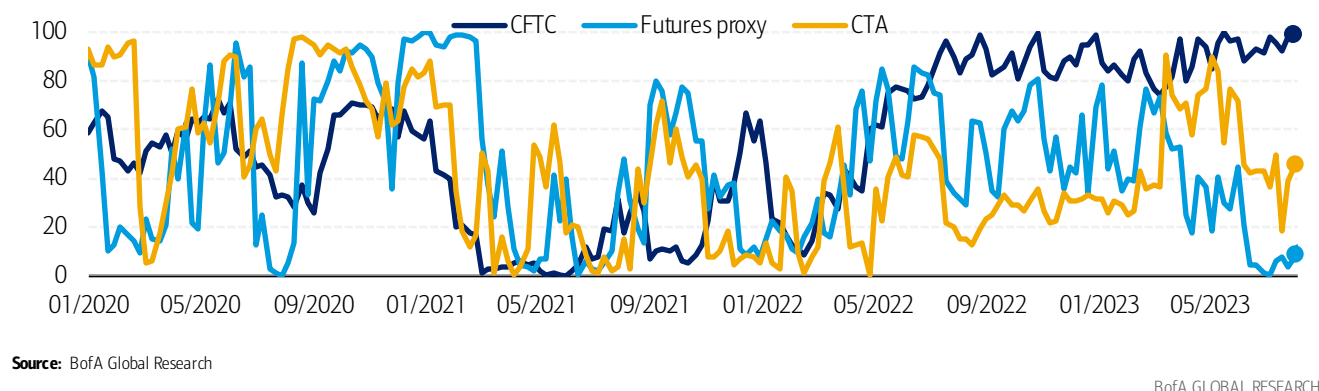
### Exhibit 3: 5y percentile of 10 equivalent duration positioning (percentile: higher = longer)

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



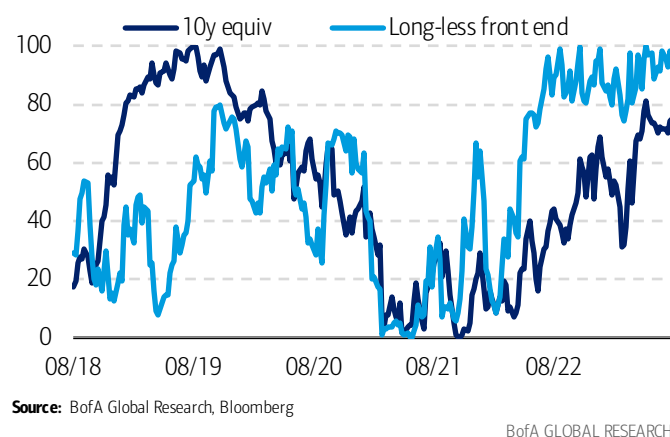
### Exhibit 4: 5y percentile of curve positioning (percentile: higher = longer back-end relative to front end)

Indicators generally point to steeper curve positioning besides CFTC speculative ex-LFs as these investors have long position concentrated further out the curve



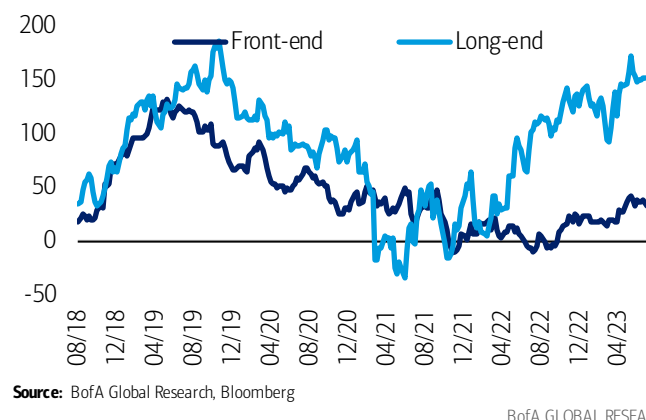
### Exhibit 5: 5y percentile of non-commercial ex LF positioning

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



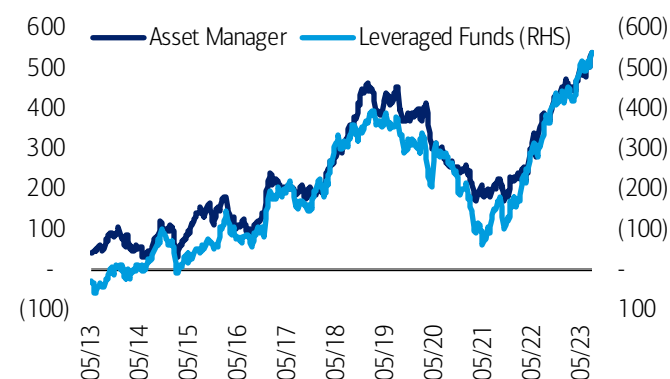
### Exhibit 6: Non-commercial ex leveraged fund positioning (\$bn, 10y equivalent)

Longs are more concentrated in the back-end



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

Asset manager longs correspond with leveraged fund shorts

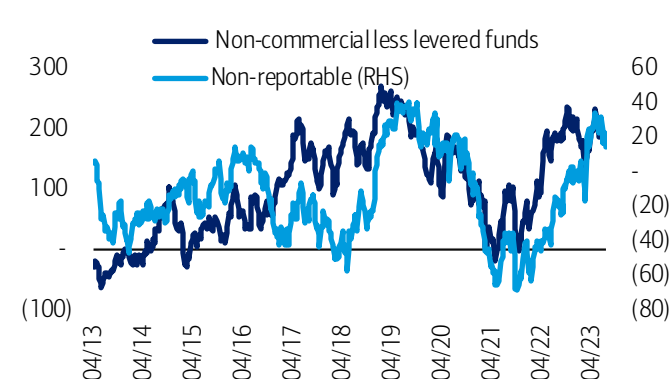


Source: BofA Global Research, Bloomberg

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

Directional positions trend together



Source: BofA Global Research, Bloomberg

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

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

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

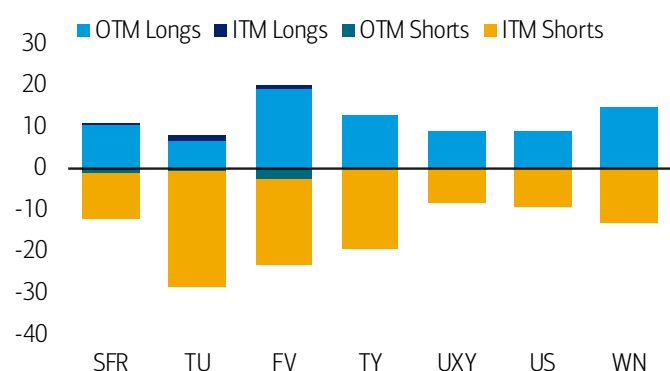
	0	1w	4w	8w	12w	16w
0 to 10	10	1	2	1	1	1
10 to 20	20	-1	-4	-2	-2	-2
20 to 30	30	-4	-3	-3	-3	-4
30 to 40	40	-4	-4	-4	-3	-4
40 to 50	50	3	3	2	0	0
50 to 60	60	1	1	1	0	0
60 to 70	70	3	2	2	3	3
70 to 80	80	3	4	4	4	5
80 to 90	90	2	4	4	4	5
90 to 100	100	-1	-2	-1	0	0

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

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### Exhibit 11: Proxies for futures positioning

On the week, longs are OTM across contracts, while shorts are ITM

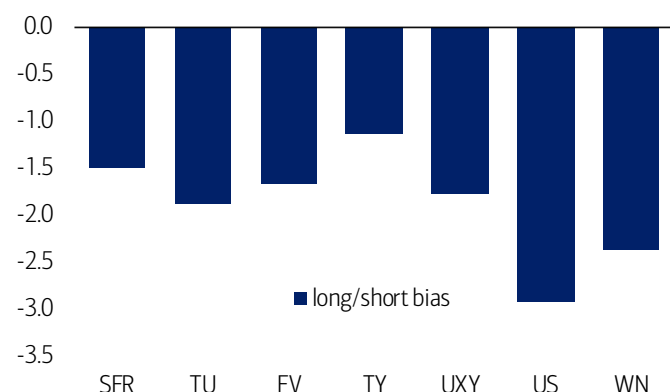


Source: BofA Global Research, Bloomberg

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### Exhibit 12: Analysis of proxies for futures positioning

Bias for rates to sell off across the curve, particularly strong at back-end

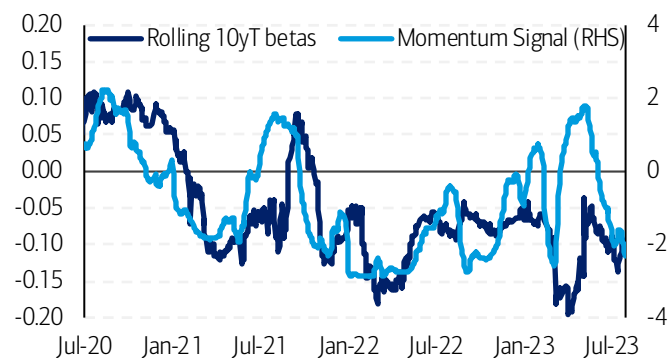


Source: BofA Global Research, Bloomberg, Note: reflects average positioning of futures stack over last 5 days

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**Exhibit 13: CTA positioning in 10yT**

CTA little changed on the week while momentum signal dropped

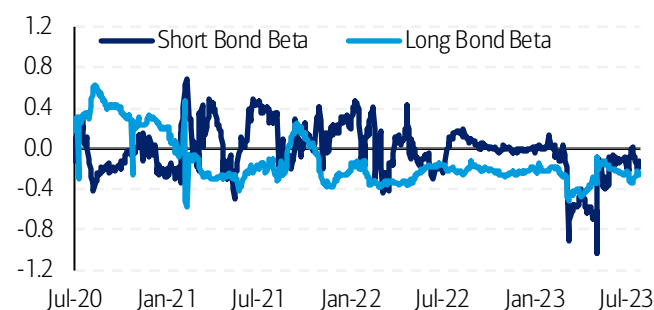


Source: BofA Global Research

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

Top-down model suggests CTAs little changed in long duration bonds

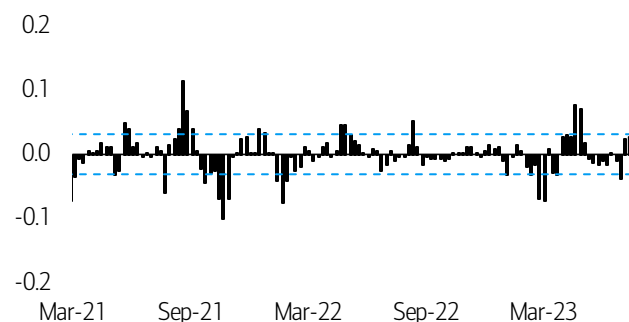


Source: BofA Global Research

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**Exhibit 15: Changes in CTA 10yT beta**

Change in 10yT beta remained positive on the week

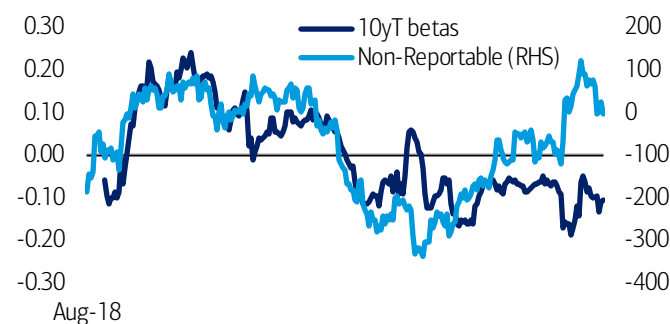


Source: BofA Global Research

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**Exhibit 16: CTA 10y TSY beta and non-reportable positions**

Strong divergence between non-reportable position and top-down model, which tends to be lagged



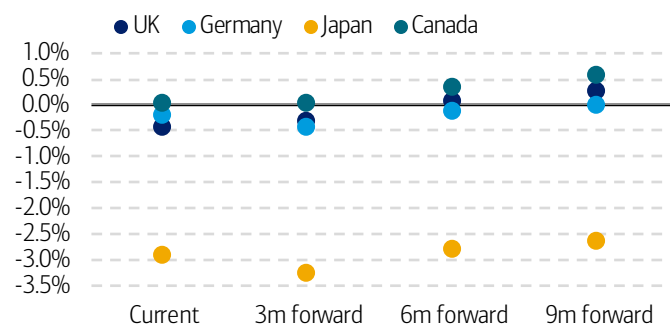
Source: BofA Global Research, Bloomberg

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## 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

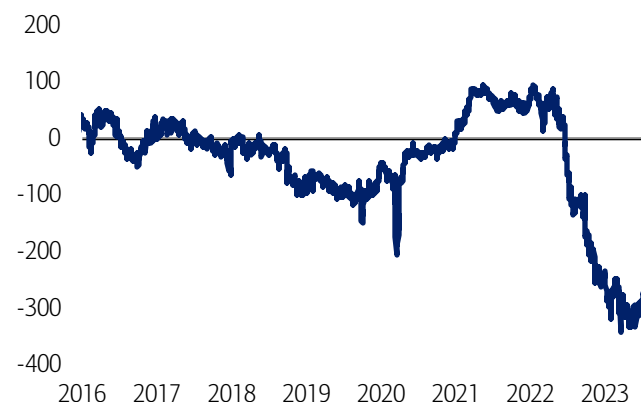


Source: BofA Global Research, Bloomberg. Note: pickup vs 10y local alternative except Japan which is relative to 20y JGB using 3m forward FX hedge

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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

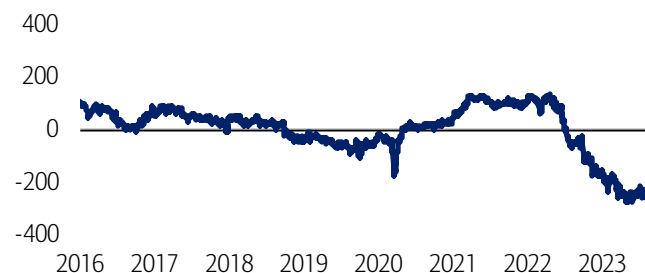


Source: BofA Global Research, Bloomberg

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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

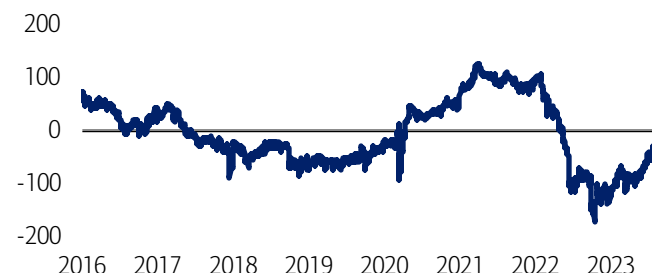


Source: BofA Global Research, Bloomberg

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

10y TSY offers negative pickup vs 10y Bund

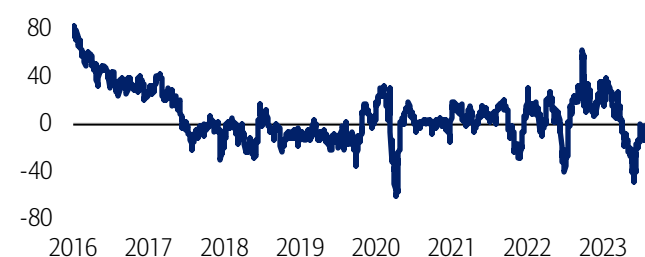


Source: BofA Global Research, Bloomberg

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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

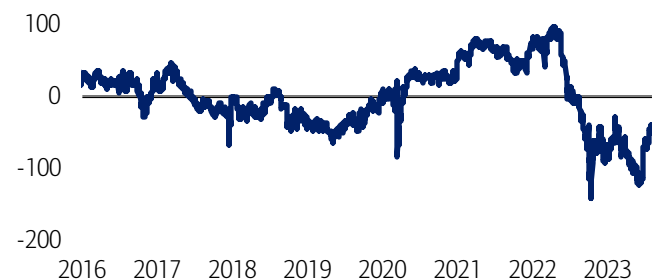


Source: BofA Global Research, Bloomberg

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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

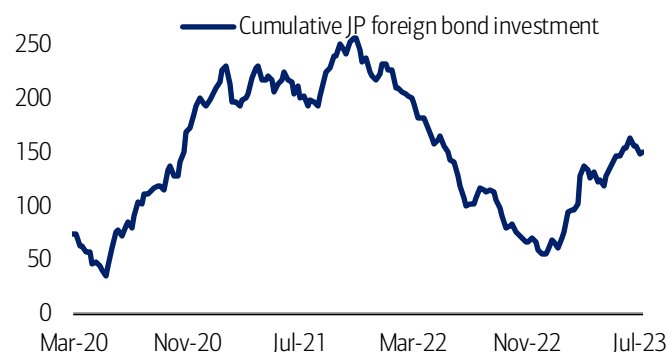
	8/3/2023		As of 1 wk ago		As of 1 mo ago		As of 1 yr ago	
	Pickup to 10y JGB	Pickup to 20Y JGB	Pickup to 10y JGB	Pickup to 20Y JGB	Pickup to 10y JGB	Pickup to 20Y JGB	Pickup to 10y JGB	Pickup to 20Y JGB
10y UST	-2.28%	-2.95%	-2.39%	-2.98%	-2.13%	-2.73%	-0.63%	-1.29%
10y GER	-2.05%	-2.71%	-2.04%	-2.62%	-1.70%	-2.30%	0.23%	-0.43%
10y FRA	-1.52%	-2.19%	-1.50%	-2.09%	-1.16%	-1.76%	0.80%	0.13%
10y BEL	-1.41%	-2.07%	-1.39%	-1.97%	-1.04%	-1.64%	0.83%	0.17%
10y ITA	-0.39%	-1.06%	-0.43%	-1.01%	0.00%	-0.60%	2.37%	1.71%
10y SPA	-1.02%	-1.69%	-1.02%	-1.61%	-0.66%	-1.26%	1.34%	0.68%
10y UK	-1.84%	-2.50%	-1.93%	-2.52%	-1.52%	-2.12%	-0.55%	-1.21%
10y CAN	-2.29%	-2.95%	-2.35%	-2.93%	-2.05%	-2.65%	-0.76%	-1.42%

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 little changed on the week

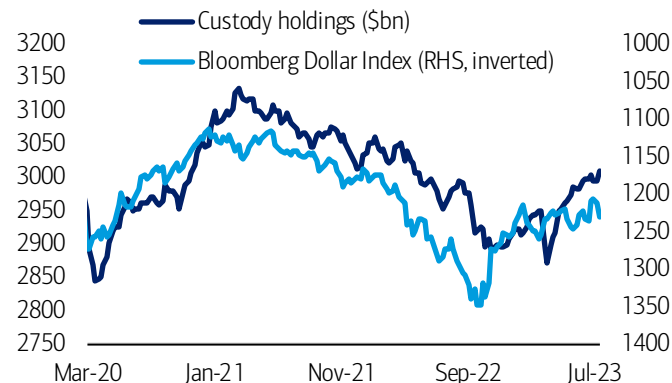


Source: BofA Global Research, Bloomberg

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

Custody holdings saw largest inflows since May '23

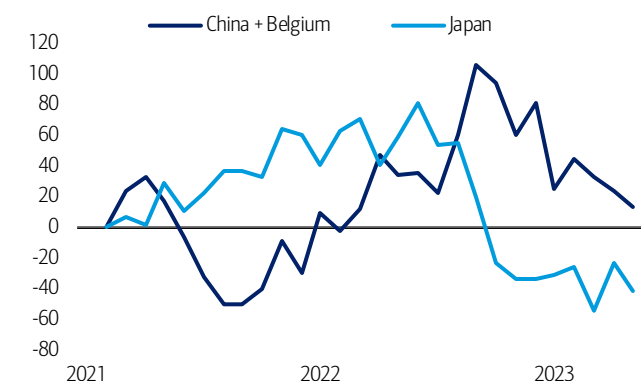


Source: BofA Global Research, NY Fed

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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

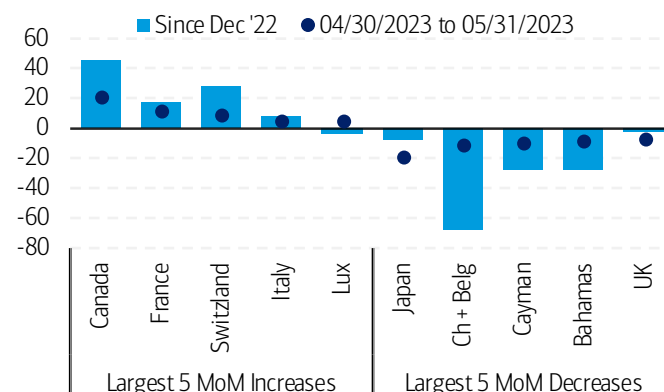


Source: BofA Global Research, Bloomberg, TIC, note: references the valuation-adjusted flow

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### Exhibit 27: Largest MoM changes in foreign TSY holdings (\$bn)

Canada was largest buyer, Japan largest seller in May

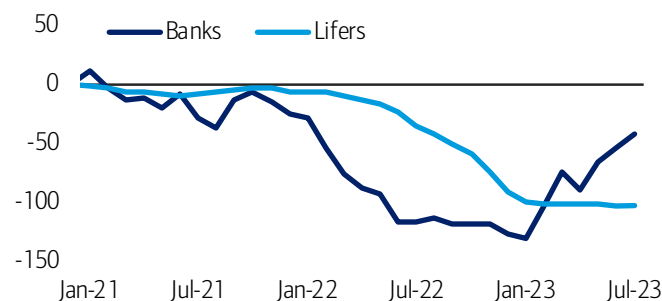


Source: BofA Global Research, TIC, Note: adjusted for level of rates

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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 have recently turned modest buyers while lifer demand has been flat



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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## Fund flows and returns

### Exhibit 29: US fixed income fund flows (\$million)

US FI funds saw inflows primarily led by govt long, & mixed allocation funds, outflows seen in muni funds

	8/2/2023	Rolling 4w average	Rolling 8w average	Rolling 12w average	Rolling 52w average
<b>Gov: short</b>	(69)	618	308	290	1,254
<b>Gov: intermediate</b>	312	60	162	282	344
<b>Gov: long</b>	2,039	2,104	1,445	1,674	1,162
<b>Corp: IG</b>	120	732	805	750	357
<b>Corp:HY</b>	(455)	431	182	205	(250)
<b>Corp: all quality</b>	12	98	68	59	16
<b>MBS</b>	1,024	483	480	423	119
<b>Inflation</b>	(46)	(28)	(208)	(317)	(494)
<b>Muni</b>	(1,034)	329	242	116	(439)
<b>Mixed allocation</b>	3,734	1,627	2,338	2,557	1,043
<b>All US FI</b>	4,874	6,161	5,429	5,529	2,550

Source: BofA Global Research, EPFR

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### Exhibit 30: Total return FI fund performance vs benchmark

Over the last week, AUM weighted fund performance outperformed benchmark

	AUM (\$Bn)	8/3/2023	Vs. Agg	Last 4w	Vs. Agg
Vanguard Total Bond Market II Index Fund	252	-1.11%	-0.06%	-0.41%	-0.04%
Vanguard Total Bond Market Index Fund	203	-1.00%	0.06%	-0.30%	0.07%
PIMCO Income fund	127	-0.36%	0.70%	1.29%	1.66%
The Bond Fund of America	76	-0.91%	0.15%	-0.16%	0.21%
MetWest Total Return Bond Fund	61	-1.14%	-0.08%	-0.12%	0.25%
PIMCO Total Return Fund	55	-0.87%	0.19%	0.18%	0.55%
Dodge & Cox Income Fund	57	-1.05%	0.00%	-0.08%	0.29%
PGIM Total Return Bond Fund	41	-1.02%	0.04%	-0.08%	0.29%
BlackRock Strategic Income Opportunities Fund	36	-0.35%	0.71%	0.79%	1.16%
Baird Aggregate Bond Fund	39	-1.04%	0.02%	-0.12%	0.25%
JPMorgan Core Bond Fund	39	-0.99%	0.07%	-0.32%	0.05%
DoubleLine Total Return Bond Fund	33	-1.13%	-0.07%	-0.67%	-0.30%
Fidelity Series Investment Grade Bond Fund	34	-1.04%	0.02%	-0.20%	0.17%
Fidelity Total Bond Fund	31	-0.99%	0.07%	-0.10%	0.27%
Western Asset Core Plus Bond Portfolio	24	-1.72%	-0.67%	-0.21%	0.16%
Baird Core Plus Bond Fund	24	-1.01%	0.05%	-0.10%	0.27%
John Hancock Bond Fund	22	-1.12%	-0.06%	-0.21%	0.16%
TIAA-CREF Bond Index Fund	21	-1.11%	-0.05%	-0.31%	0.06%
BlackRock Total Return Fund	18	-1.14%	-0.08%	-0.29%	0.08%
JPMorgan Core Plus Bond Fund	17	-0.98%	0.07%	-0.11%	0.26%
Bridge Builder Core Bond Fund	16	-1.05%	0.01%	-0.16%	0.21%
T Rowe Price New Income Fund	16	-1.05%	0.00%	-0.20%	0.17%
Western Asset Core Bond Fund	15	-1.25%	-0.20%	-0.19%	0.18%
CREF Bond Market Account	11	-1.07%	-0.01%	-0.23%	0.14%
Fidelity Investment Grade Bond Fund	9	-1.06%	0.00%	-0.15%	0.22%
DoubleLine Core Fixed Income Fund	7	-1.13%	-0.08%	-0.49%	-0.11%
TCW Total Return Bond Fund	3	-1.37%	-0.31%	-0.51%	-0.14%
Janus Henderson Flexible Bond Fund	3	-0.89%	0.17%	0.00%	0.37%
Weighted avg	1289	-0.97%	0.09%	-0.06%	0.31%
Agg		-1.06%		-0.37%	
10y return		-1.77%		-1.46%	

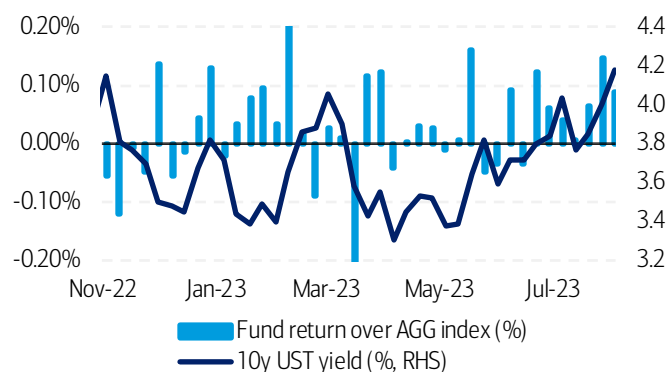
Source: BofA Global Research, Bloomberg. Note: Excess returns are fund total returns over Bloomberg Barclays Agg Index

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**Exhibit 31: Total return funds, excess return vs. 10y rate**

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

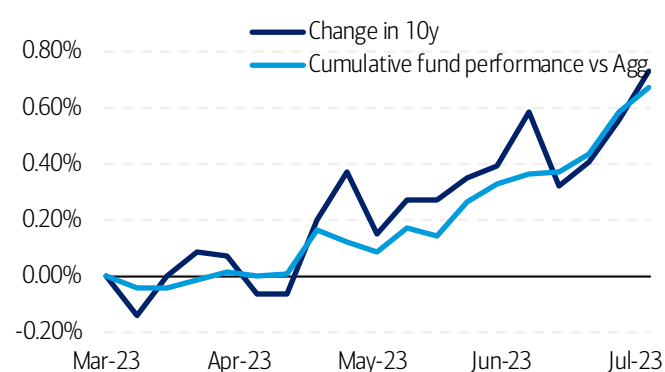


Source: BofA Global Research, Bloomberg. Note: Excess returns are fund total returns over Bloomberg Barclays Agg index

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**Exhibit 32: Cumulative return of TR FI funds over benchmark vs 10yT**

Funds have outperformed alongside higher 10y rates



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

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**Exhibit 33: Total return funds' published UST allocations vs benchmark from Q1 and Q2 '23**

Funds moderated underweight UST position from Q1 to Q1

		AUM (\$bn)	Q1 '23 (%)	Q2 '23 (%)	Change (PPTS)
VTBIX	Vanguard Total Bond Market II Index Fund	251.8	2.4	2.1	-0.3
VBMFX	Vanguard Total Bond Market Index Fund	202.9	1.7	1.4	-0.3
PIMIX	PIMCO Income fund	126.7	-43.4	-34.1	9.3
ABNDX	The Bond Fund of America	75.7	-11.3	-14.0	-2.7
MWTIX	MetWest Total Return Bond Fund	61.0	-16.5	-18.7	-2.2
DODIX	Dodge & Cox Income Fund	56.9	-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	41.3	-33.7	-34.2	-0.5
BAGIX	Baird Aggregate Bond Fund	39.4	-16.9	-17.7	-0.8
PGBOX	JPMorgan Core Bond Fund	39.1	-5.0	-2.2	2.8
BSIIX	BlackRock Strategic Income Opportunities Fund	35.6	-17.3	-23.4	-6.1
FSIGX	Fidelity Series Investment Grade Bond Fund	34.2	-7.5	-10.1	-2.6
DBLTX	DoubleLine Total Return Bond Fund	33.3	-32.7	-32.8	-0.1
FTBFX	Fidelity Total Bond Fund	31.4	-12.0	-12.5	-0.4
BCOIX	Baird Core Plus Bond Fund	24.4	-18.5	-18.4	0.1
WACPX	Western Asset Core Plus Bond Portfolio	24.1	-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	21.3	0.8	0.3	-0.5
MAHQX	BlackRock Total Return Fund	17.8	-13.7	88.0	101.7
ONIAI	JPMorgan Core Plus Bond Fund	16.8	-5.1	-2.9	2.2
BBTBX	Bridge Builder Core Bond Fund	16.2	-22.1	-23.0	-0.9
PRCIX	T Rowe Price New Income Fund	15.7	-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	10.7	-21.1	-22.6	-1.5
FBNDX	Fidelity Investment Grade Bond Fund	8.9	-5.7	-0.3	5.4
DBLFX	DoubleLine Core Fixed Income Fund	6.9	-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
<b>AUM weighted</b>		1289.4	-13.3	-11.9	1.4

Source: BofA Global Research, funds' publicly available reports

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# Bank balance sheets

## Exhibit 34: Changes to bank balance sheet assets (\$bn)

Bank balance sheet decline led 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
<b>All (\$bn, NSA)</b>	<b>Total Assets</b>	22752	-69	-25	-29	-7	-1
	Cash	3247	-60	-8	-9	3	-2
	UST & Agency	1507	0	-3	-2	-3	-4
	MBS	2577	-7	-5	-4	-4	-6
	Loans and Leases	12107	18	-4	-3	0	11
	Other	3315	-21	-6	-11	-2	-1
<b>Large Domestic (\$bn, NSA)</b>	<b>Total Assets</b>	13191	-81	-21	-40	-16	-7
	Cash	1479	-51	-8	-23	-2	-2
	UST & Agency	1105	0	-1	-1	-3	-4
	MBS	1948	-3	-2	-2	-3	-2
	Loans and Leases	6733	13	-4	-6	-3	3
	Other	1927	-40	-5	-8	-5	-2
<b>Small Domestic (\$bn, NSA)</b>	<b>Total Assets</b>	6489	3	-1	-3	2	3
	Cash	454	4	3	-2	0	0
	UST & Agency	291	0	0	0	0	0
	MBS	603	-4	-2	-2	-1	-4
	Loans and leases	4351	4	0	3	4	7
	Other	789	-1	-1	-1	-1	0
<b>All Domestic (\$bn, NSA)</b>	<b>Total Assets</b>	19680	-79	-21	-42	-15	-4
	Cash	1933	-48	-6	-26	-3	-2
	UST & Agency	1396	0	-1	-1	-3	-4
	MBS	2551	-7	-4	-4	-4	-6
	Loans and leases	11084	17	-4	-3	2	10
	Other	2716	-40	-6	-9	-6	-2
<b>Foreign (\$bn, NSA)</b>	<b>Total Assets</b>	3073	10	-3	14	8	3
	Cash	1314	-12	-2	16	5	0
	UST & Agency	111	0	-2	0	0	0
	MBS	26	0	-1	0	0	0
	Loans and leases	1023	2	0	-1	-1	1
	Other	599	20	0	-2	4	1

Source: BofA Global Research, Federal Reserve, Bloomberg

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## Exhibit 35: Select bank balance sheet liabilities (\$bn, NSA)

Deposit and other borrowing decline

		Current	1w change	Rolling 4w avg wkly chg	Rolling 8w avg wkly chg	Rolling 12w avg wkly chg	Rolling 52w avg wkly chg
<b>Deposits (\$bn, NSA)</b>	All	17205	-30	-14	-12	3	-15
	Domestic	15912	-38	-17	-17	-1	-15
	Large Domestic	10709	-46	-24	-21	-7	-12
	Small Domestic	5203	8	6	4	5	-2
	Foreign	1293	7	4	5	4	0
<b>Other borrowing (\$bn, NSA)</b>	All	2258	-43	-18	-19	-17	11
	Domestic	1266	-29	-16	-25	-19	9
	Large Domestic	802	-21	-8	-17	-13	6
	Small Domestic	465	-8	-8	-8	-6	4
	Foreign	992	-14	-3	6	3	2

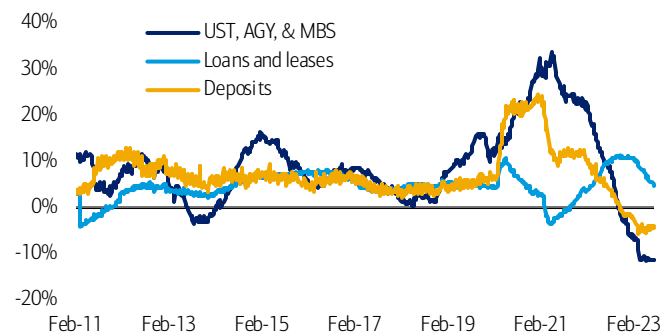
Source: BofA Global Research, Federal Reserve, Bloomberg

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**Exhibit 36: YoY change in securities, loans, and deposits**

Securities growth usually only positive when deposit growth is positive



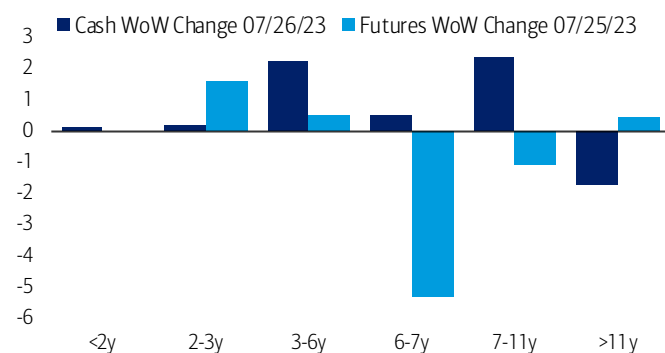
Source: BofA Global Research, Bloomberg, Federal Reserve

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## Primary dealer balance sheet

**Exhibit 37: Dealers WoW change in positions**

10y equivalent, \$bn, futures positions declined in belly

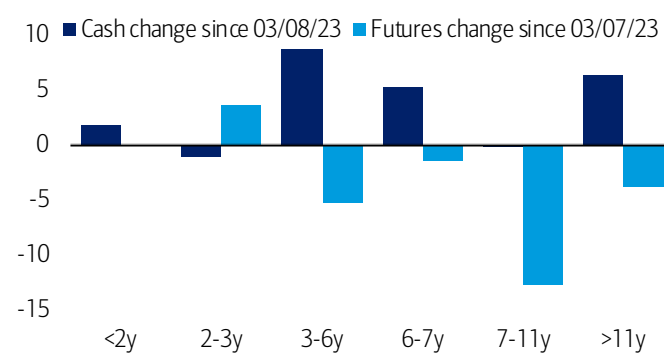


Source: BofA Global Research, NY Fed, CFTC

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**Exhibit 38: Dealers change in positions since bank risk events**

10y equivalent, \$bn, cash positions higher across the curve

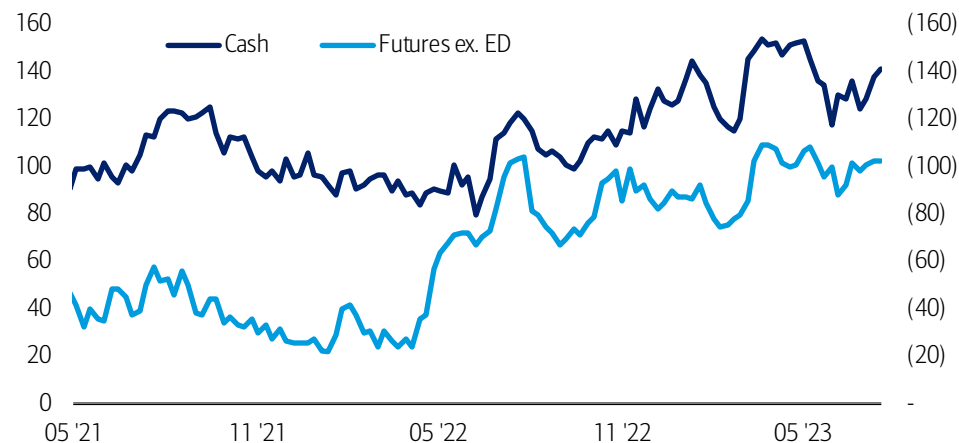


Source: BofA Global Research, NY Fed, CFTC

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**Exhibit 39: Dealers total sector positions**

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



Source: BofA Global Research, NY Fed, CFTC

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# Auction statistics

## Exhibit 40: Auction summary statistics

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

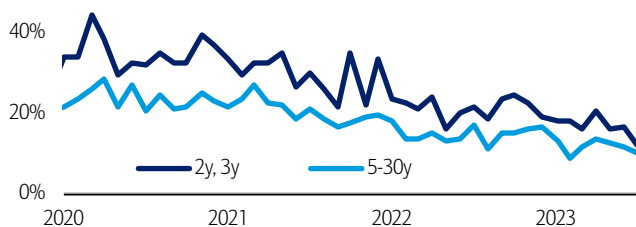
		Primary Dealer	Indirect Bidder	Direct Bidder	Investment Fund	Foreign	Depository Institution
2y	6/30/2023	13.3%	68.5%	18.2%	74.8%	9.3%	0.0%
	MoM Change	-2.9%	0.3%	2.6%	9.7%	-7.5%	0.0%
	1Y Z-score	-1.7	1.5	-0.9	2.8	-1.8	-0.5
3y	7/17/2023	10.8%	69.4%	19.8%	74.1%	13.4%	0.0%
	MoM Change	-5.9%	7.9%	-1.9%	4.0%	2.3%	0.0%
	1Y Z-score	-1.9	1.2	0.3	2.1	-0.8	-0.4
5y	6/30/2023	12.2%	19.7%	68.1%	77.7%	8.3%	0.1%
	MoM Change	2.9%	1.7%	-4.6%	6.0%	-9.7%	0.1%
	1Y Z-score	-0.7	1.2	0.3	2.0	-1.5	1.5
7y	6/30/2023	8.1%	75.3%	16.6%	81.1%	9.6%	0.0%
	MoM Change	-2.3%	3.0%	-0.7%	4.1%	-1.9%	0.0%
	1Y Z-score	-1.2	1.3	-0.9	1.8	-1.0	-0.3
10y	7/17/2023	12.4%	67.7%	19.9%	77.1%	7.6%	0.0%
	MoM Change	-5.4%	5.4%	0.0%	8.4%	-3.0%	0.0%
	1Y Z-score	-0.8	0.5	0.5	2.1	-0.9	-0.6
20y	6/30/2023	7.8%	74.6%	17.6%	78.9%	10.6%	0.0%
	MoM Change	-3.5%	4.0%	-0.5%	5.4%	-2.7%	0.0%
	1Y Z-score	-0.9	0.6	-0.2	1.4	-0.8	-0.3
30y	7/17/2023	10.9%	69.0%	20.1%	77.7%	8.9%	0.0%
	MoM Change	1.9%	-3.9%	2.0%	-1.2%	-0.7%	0.0%
	1Y Z-score	-0.1	-0.3	0.7	1.1	-1.2	-0.8

Source: BofA Global Research, Treasury

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## Exhibit 41: Primary dealer – average auction allotment

Dealer participation has declined

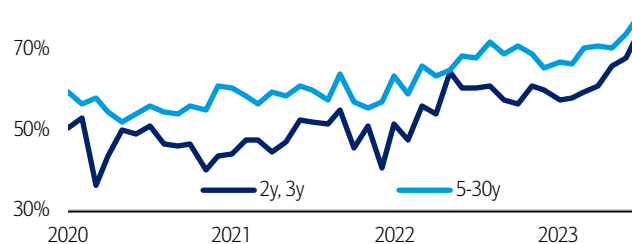


Source: BofA Global Research, Treasury

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## Exhibit 42: Investment fund – average auction allotment

Fund participation moderated recently after increasing in 2022

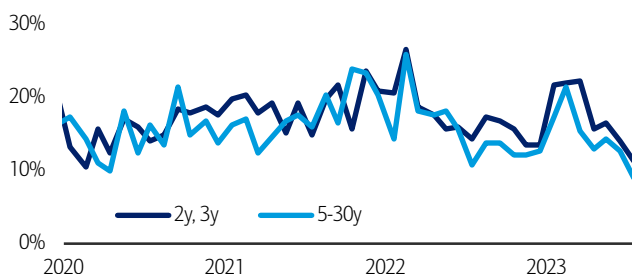


Source: BofA Global Research, Treasury

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## Exhibit 43: Foreign investment – average auction allotment

Foreign participation has been more muted

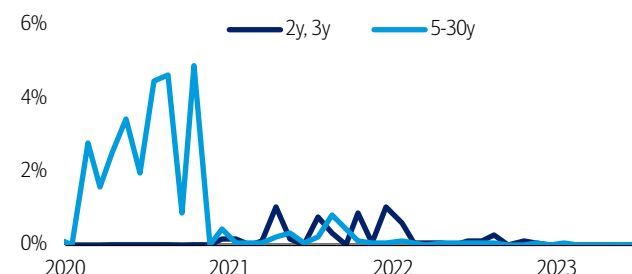


Source: BofA Global Research, Treasury

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## Exhibit 44: Depository institutions – average auction allotment

Participation is minimal



Source: BofA Global Research, Treasury

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