

# US Rates Watch

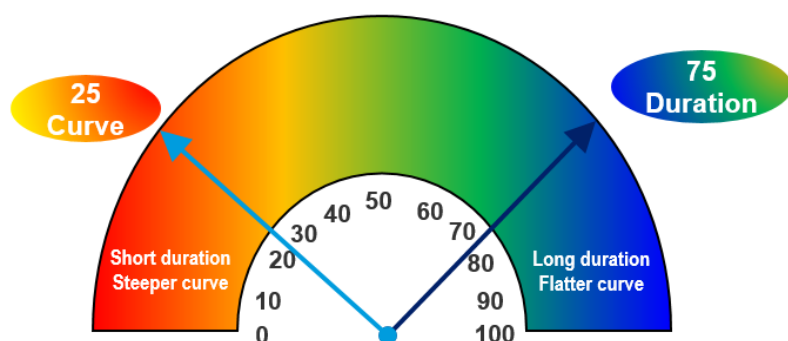
## Hedge funds move shorter with asset managers on other side

### Longs vulnerable and challenged by momentum

Our indicators continue to reflect a notable divergence in positioning between real money longs and hedge fund shorts. Asset manager CFTC positioning continues to hit new highs, and over 80% of the total return fixed income funds we track underperformed benchmarks alongside the selloff. Momentum and our top-down model both suggest that CTAs are continuing to add to already historically short positions. Foreign flows show limited sign of recent buying but indicate no meaningful selling related to potential FX intervention.

#### Exhibit 1: Curve-o-meter

Back-end longs are vulnerable to covering, CTAs remain steepener and short but open interest suggests longs are vulnerable



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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### Longs covered but open positions remain vulnerable

On the week through Thursday, open interest declined with longs covered. This was observed to the greatest extent in FV, TY, and WN. Our futures positioning proxy (for construction details see: [Gauging positioning in Treasury Futures](#)) still shows a bias for the curve to bear steepen, with the greatest concentration of out of the money longs in UXY and US (Exhibit 12).

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

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 managers hit new record long (again)

Asset manager CFTC futures data hit new record longs driven by a build in positions at the back end of the curve. The leveraged fund futures short that takes the other side of this position also extended (Exhibit 7). Speculative investors ex-leveraged funds also saw an increase in longs and is now at the 75<sup>th</sup> percentile over the past 5 years (Exhibit 6). This is consistent with the most recent FX and Rates Sentiment Survey (see: [Dipping in](#)) which suggests that the global real money community remains long US rates despite the recent selloff.

## CTAs continue to add to already short position

Our cross over momentum signal shows that CTAs added to shorts and are now at the shortest levels since March 2022 (Exhibit 13). Our top-down model (see: CTA impact on the rates market) also suggests that CTAs added to shorts recently (Exhibit 15). Our model indicates that the short is more concentrated in the back-end vs front-end implying that CTAs have also been chasing the bear steepener (Exhibit 14). Non-reportable CFTC positioning contradicts this, implying that longs were added on the week and is not as stretched as our CTA models imply (Exhibit 16).

## Funds underperform alongside rates selloff

Fund flows into US fixed income overall slowed on the week—driven by outflows from corporate and inflation funds (Exhibit 30). Inflows to sovereign funds totaled around \$3bn, with stronger than recent inflows into short term funds.

We continue to think that fund flows are an important data point to watch in terms of assessing the broader demand backdrop given how important funds are overall to auction takedown (Exhibit 47). Despite the continued outflows from inflation funds, primary dealer holdings of TIPS in the 2-6y sector have moderated from their peak at end June/ mid July (Exhibit 38), perhaps suggesting better buying from investors outside of ETFs. Despite the recent back-end led selloff, primary dealer holdings of longer-term USTs (both cash and futures) declined the week ending Aug 8/9 (Exhibit 42).

23 out of the 28 total return fixed income funds that we monitor underperformed benchmarks on the week (Exhibit 33). While fund outperformance has generally trended with higher rates in recent months (Exhibit 35), the correlation between outperformance and rates has declined meaningfully since June (Exhibit 37). This may suggest that duration underweights have been covered.

## Custodial holdings decline modestly

NY Fed custodial holdings dipped about \$5bn (using weekly averages) the week ending August 16<sup>th</sup> while foreign RRP held steady (Exhibit 29). The drop in custodial holdings may suggest some modest selling from the official sector that could be related to intervention activity (see: [FX intervention: another potential headwind to UST demand](#)). Japanese investors sold about \$2bn in foreign bonds the week ending August 11<sup>th</sup> (Exhibit 24). This outflow does not reflect any official flows as it only captures activity from private investors.

TIC data released this week for the month of June showed decent buying from foreign investors: \$30bn from official, about \$110bn from private investors adjusting for the change in levels for market value. China + Belgium was roughly flat but Japan was one of the largest monthly buyers at \$23bn (Exhibit 27). Japan purchases were probably driven by the banking sector, which we can square from the monthly MoF data (Exhibit 28), and has likely slowed since then. The other notable buyers were Ireland, UK, France, and Canada.

**Exhibit 2: On deck next week**

Calendar of upcoming events

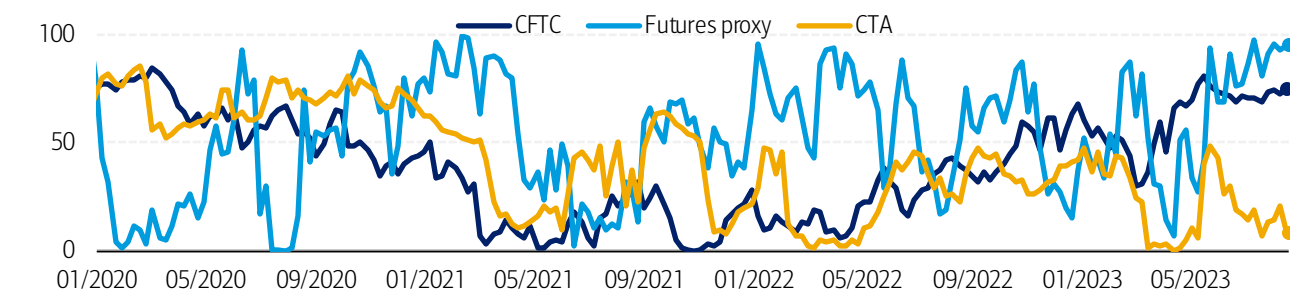
	US Data			Fed Speaker / Event	Treasury Auction			Treasury Settlements	
	Series	BofA	BB Consensus		Security	Amount (\$bn)	Prior Δ	Security	Amount
M, Aug 21				No major events	13-week bills	69	0		
					26-week bills	62	0		
Tu, Aug 22	Existing Home Sales	4.15M	4.15M	Fed's Goolsbee (voter) Gives Welcome Remarks	42-day bills	60	0	Bills	34
				Fed's Goolsbee (voter) and Bowman (voter) Participate in Fireside Chat					
W, Aug 23	MBA Mortgage Applications	-	-	No major events	17-week bills				
	S&P Global US services PMI	53	52		20-year bonds	16	1		
	S&P Global US manufacturing PMI	49	49		1-year 11-month FRNs	24	2		
	New Home Sales	715k	709k						
Th, Aug 24	Jackson Hole Economic Symposium	-	-	Fed's Harker (voter) Interview With CNBC	4-week bills			Bills	36
	Initial Jobless Claims	244k	-	Jackson Hole Economic Symposium	8-week bills				
	Durable Goods Orders	-4.00%	-4.00%		29-year 6-month TIPS	8	0		
	Durables Ex Transportation	0.50%	0.20%						
	Core Capital Goods Orders	0.10%	0.00%						
	Core Capital Goods Shipments	0.00%	-						
F, Aug 25	Jackson Hole Economic Symposium	-	-	Fed's Harker (voter) Interview With Bloomberg TV				Coupons	24
	U. of Michigan Sentiment	71.2	71.2	Fed's Harker (voter) Interview With Yahoo Finance Live					
				Fed Chair Powell (voater) To Speak At Jackson Hole Economic Symposium					

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



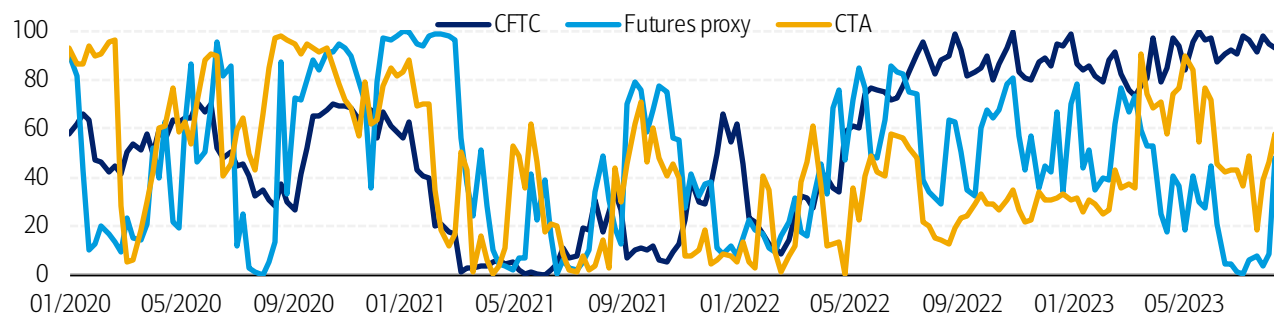
Source: BofA Global Research

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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

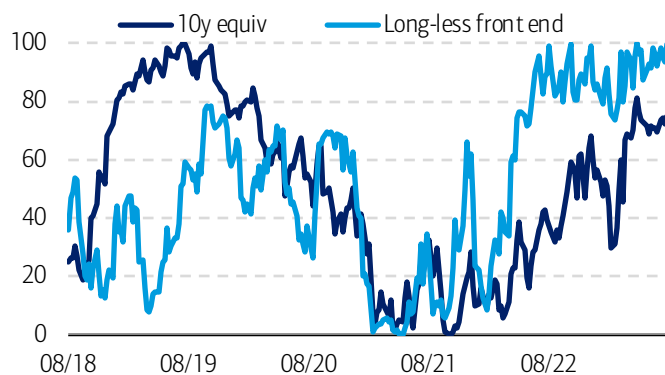


Source: BofA Global Research

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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

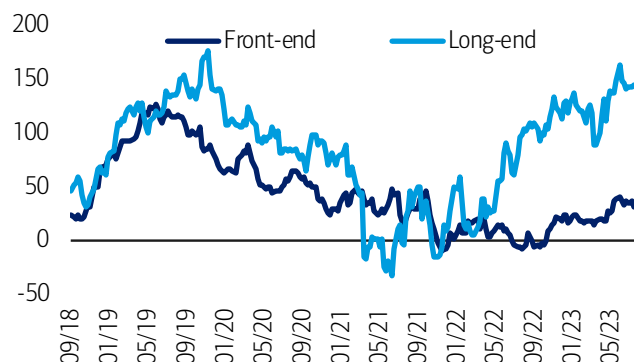


Source: BofA Global Research, Bloomberg

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

Longs are more concentrated in the back-end

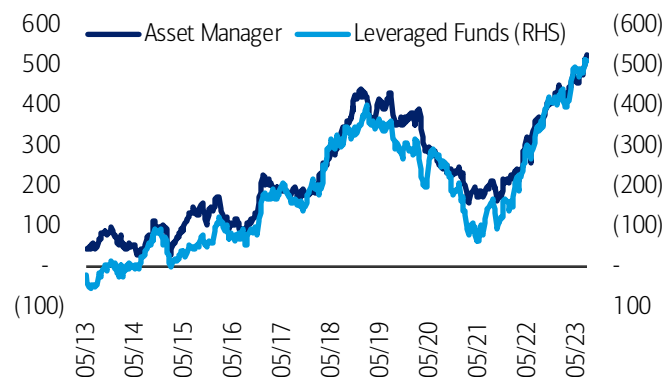


Source: BofA Global Research, Bloomberg

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

Asset manager longs correspond with leveraged fund shorts

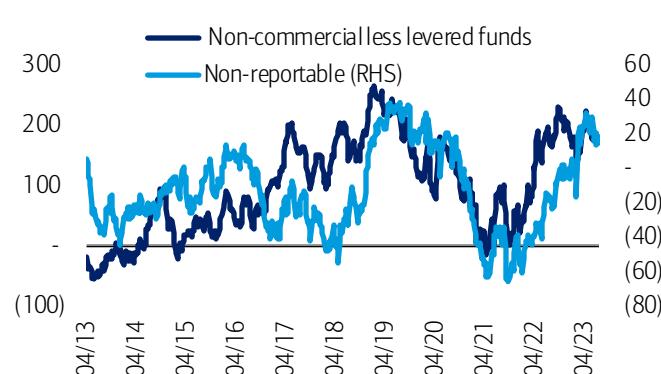


Source: BofA Global Research, Bloomberg

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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	1	-1	0	1	2
10 to 20	20	1	4	3	3	4
20 to 30	30	4	2	2	1	1
30 to 40	40	5	5	4	3	4
40 to 50	50	0	2	1	2	2
50 to 60	60	-2	0	0	0	0
60 to 70	70	0	-1	0	0	0
70 to 80	80	-1	-2	-4	-5	-8
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)

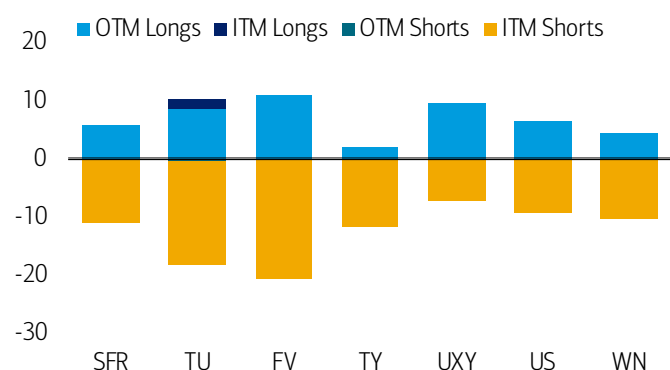
Positioning is contrarian signal: shorter positioning is usually followed by stronger 10y performance

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

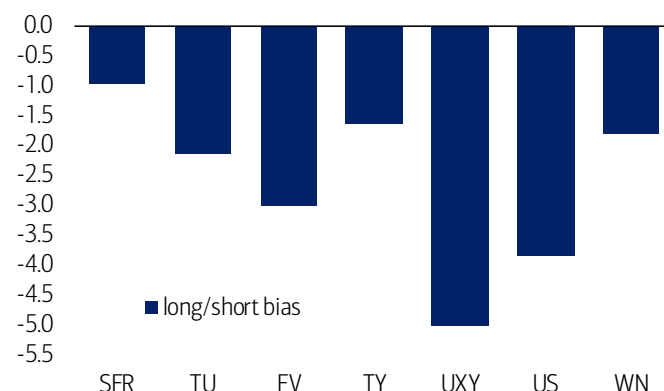
On the week, shorts are ITM across contracts while longs are largely OTM



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

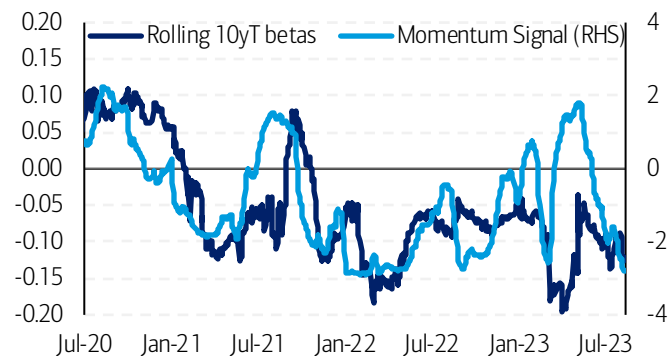
Bias for rates to sell off across the curve, particularly strong in UXY and US



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

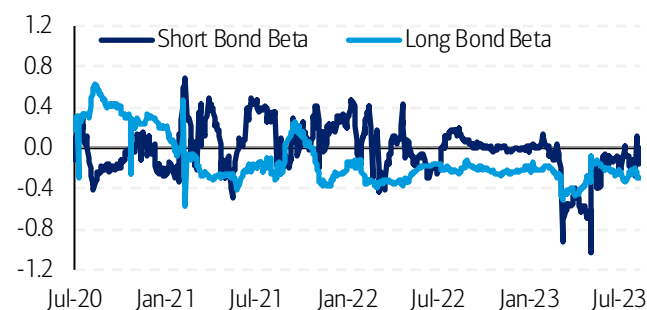
CTA added shorts on the week as momentum signal dropped further



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

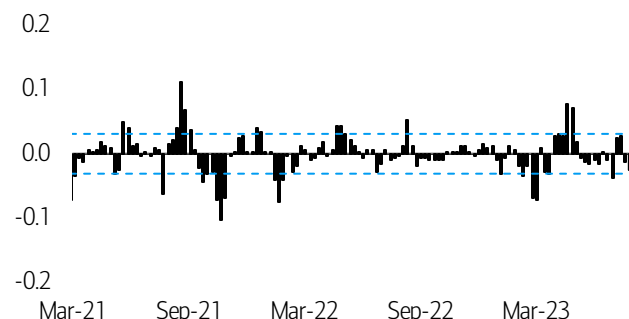
Top-down model suggests CTAs added shorts in long duration bonds



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

Change in 10yT beta more negative on the week

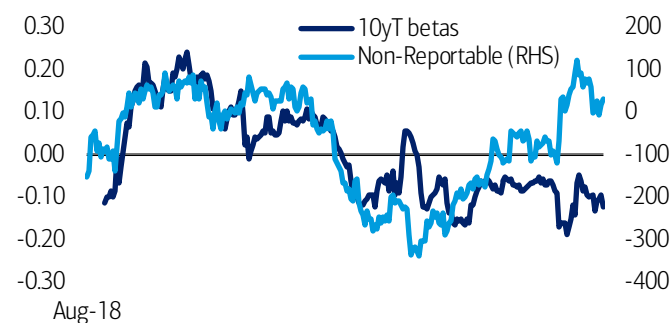


Source: BofA Global Research

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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



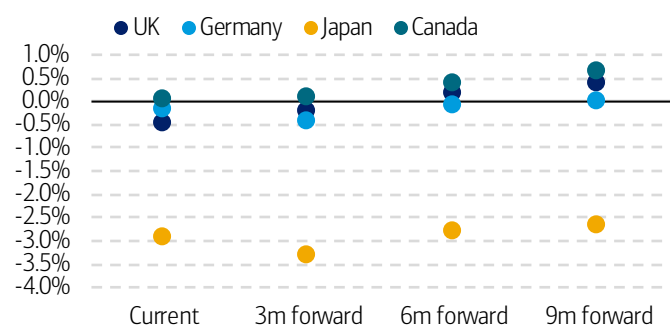
Source: BofA Global Research, Bloomberg

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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

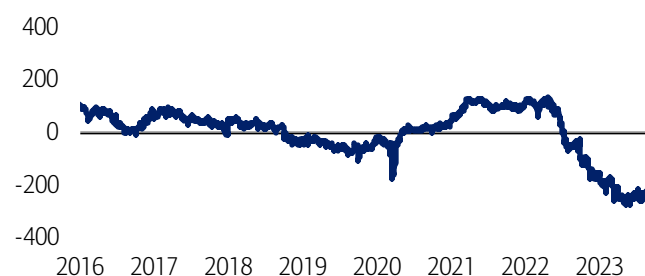


Source: BofA Global Research, Bloomberg

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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

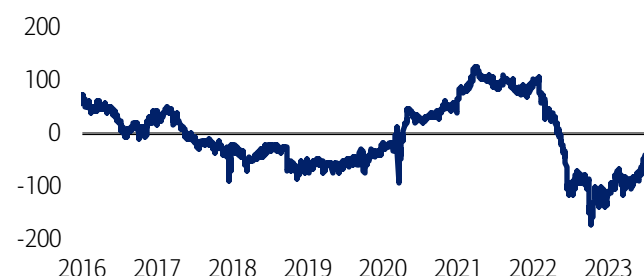


Source: BofA Global Research, Bloomberg

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

10y TSY offers negative pickup vs 10y Bund

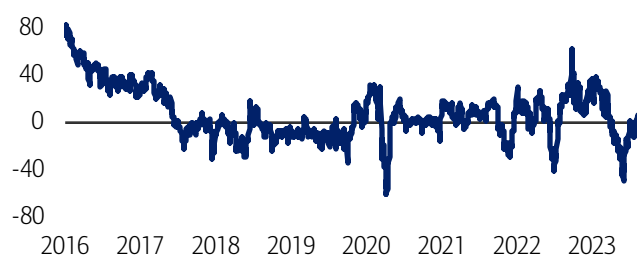


Source: BofA Global Research, Bloomberg

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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

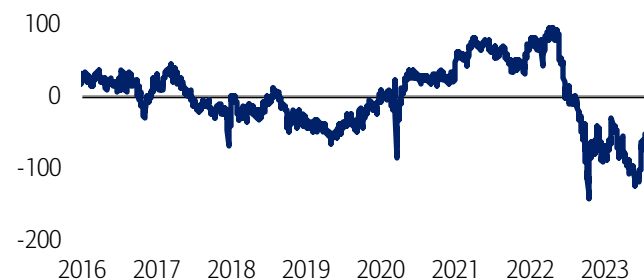


Source: BofA Global Research, Bloomberg

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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

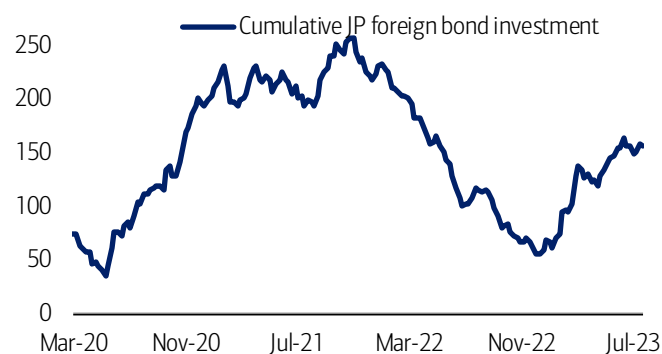
	8/17/2023		As of 1 wk ago		As of 1 mo ago		As of 1 yr ago	
	Pickup to 10y JGB	Pickup to 20Y JGB	Pickup to 10y JGB	Pickup to 20Y JGB	Pickup to 10y JGB	Pickup to 20Y JGB	Pickup to 10y JGB	Pickup to 20Y JGB
10y UST	-2.21%	-2.93%	-2.26%	-2.95%	-2.40%	-3.03%	-0.53%	-1.11%
10y GER	-2.03%	-2.76%	-2.02%	-2.71%	-1.97%	-2.60%	0.32%	-0.26%
10y FRA	-1.50%	-2.22%	-1.50%	-2.19%	-1.45%	-2.08%	0.90%	0.32%
10y BEL	-1.38%	-2.10%	-1.38%	-2.06%	-1.33%	-1.96%	0.94%	0.36%
10y ITA	-0.34%	-1.07%	-0.41%	-1.10%	-0.38%	-1.01%	2.55%	1.97%
10y SPA	-0.99%	-1.72%	-1.02%	-1.71%	-0.97%	-1.60%	1.47%	0.89%
10y UK	-1.73%	-2.46%	-1.78%	-2.46%	-1.90%	-2.53%	-0.43%	-1.01%
10y CAN	-2.23%	-2.96%	-2.27%	-2.96%	-2.34%	-2.97%	-0.77%	-1.35%

Source: BofA Global Research, Bloomberg

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

Long &amp; medium term bonds (\$bn) holdings slightly dropped on the week

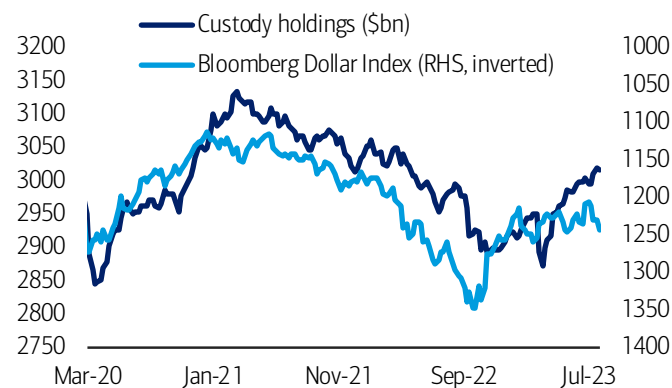


Source: BofA Global Research, Bloomberg

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

Custody holdings dropped on the week

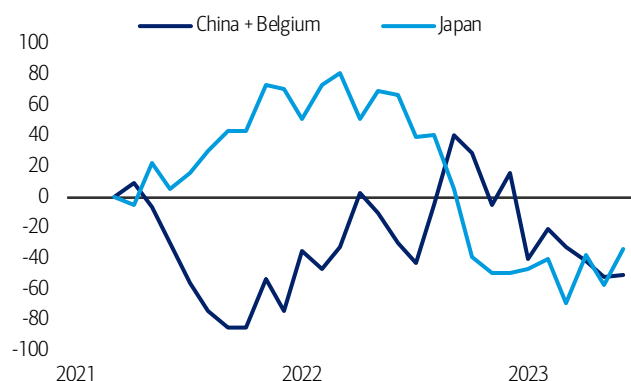


Source: BofA Global Research, NY Fed

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

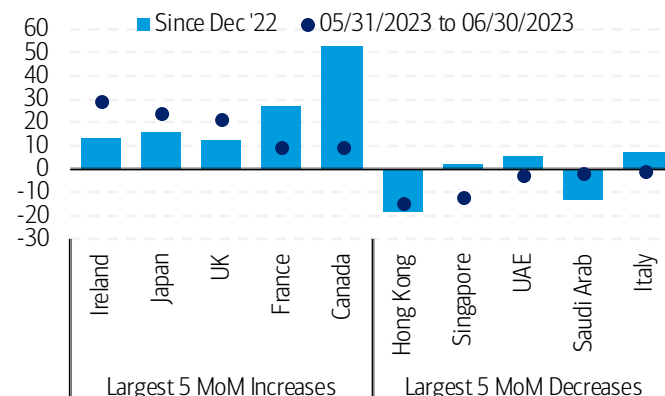
China + Belgium and Japan have turned to net sellers since end of '22



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

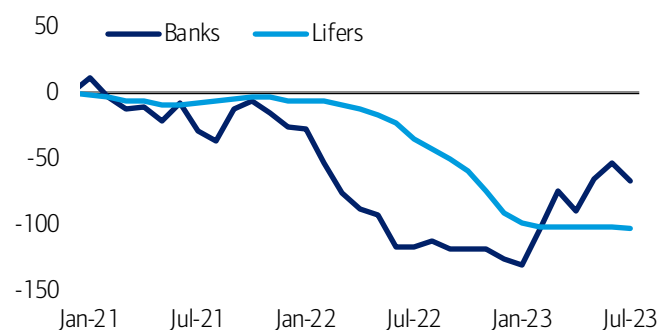


Source: BofA Global Research, TIC, Note: adjusted for level of rates

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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 have recently turned modest buyers while lifer demand has been flat

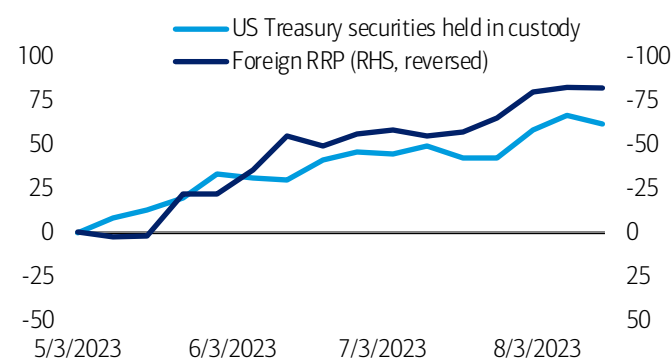


Source: BofA Global Research, Bloomberg, Note: JPY flow converted to USD using end of month FX level, last data point is June '23

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

Increase in custody holdings occurred alongside drop in RRP



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 short & long and mixed allocation funds, corp IG funds led outflows

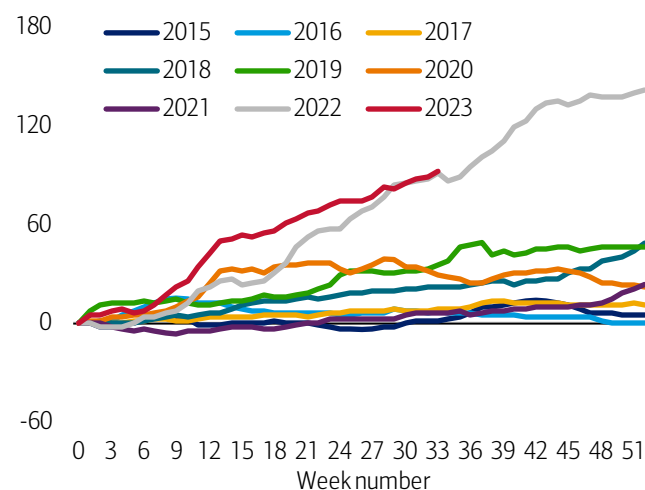
	8/16/2023	Rolling 4w average	Rolling 8w average	Rolling 12w average	Rolling 52w average
Gov: short	1,508	1,081	781	556	1,413
Gov: intermediate	376	(1)	160	237	335
Gov: long	1,054	1,528	1,367	1,362	1,125
Corp: IG	(1,381)	335	325	411	248
Corp:HY	(947)	(473)	48	227	(291)
Corp: all quality	3	35	67	57	16
MBS	296	448	397	433	130
Inflation	(754)	(39)	(169)	(290)	(504)
Muni	(427)	71	176	189	(408)
Mixed allocation	2,168	2,283	2,365	2,342	1,084
All USFI	1,664	4,899	5,225	5,152	2,581

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

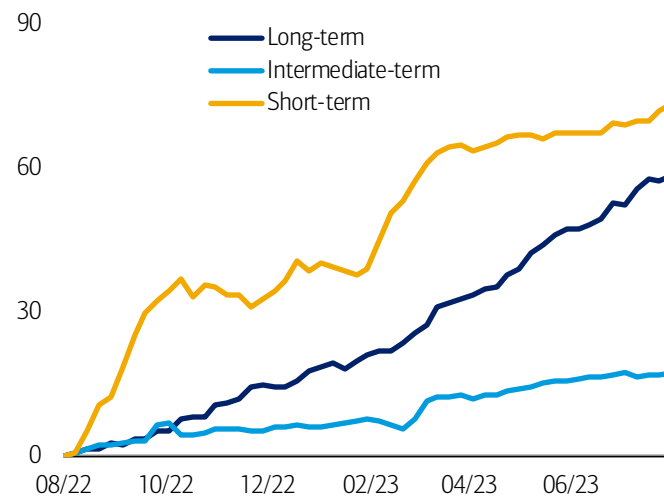


Source: BofA Global Research, EPFR

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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: Total return FI fund performance vs benchmark**

Over the last week, AUM weighted fund performance underperformed benchmark

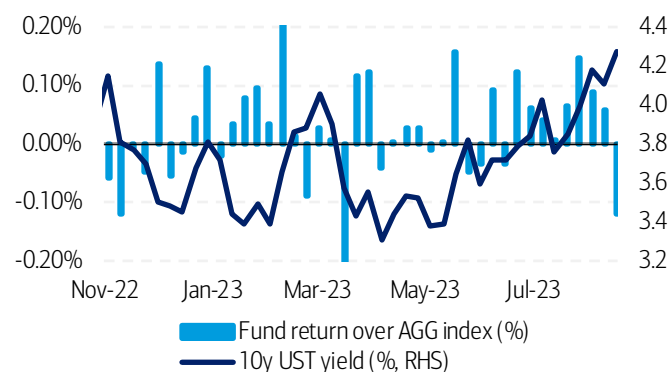
	AUM (\$Bn)	8/17/2023	Vs. Agg	Last 4w	Vs. Agg
Vanguard Total Bond Market II Index Fund	255	-1.12%	-0.12%	-2.30%	-0.01%
Vanguard Total Bond Market Index Fund	203	-1.11%	-0.11%	-2.28%	0.02%
PIMCO Income fund	127	-0.94%	0.06%	-1.23%	1.06%
The Bond Fund of America	75	-1.27%	-0.27%	-2.27%	0.02%
MetWest Total Return Bond Fund	61	-1.36%	-0.37%	-2.41%	-0.11%
PIMCO Total Return Fund	55	-1.11%	-0.11%	-2.15%	0.14%
Dodge & Cox Income Fund	58	-1.14%	-0.14%	-2.02%	0.28%
PGIM Total Return Bond Fund	41	-1.02%	-0.02%	-1.84%	0.46%
BlackRock Strategic Income Opportunities Fund	35	-0.89%	0.11%	-0.83%	1.46%
Baird Aggregate Bond Fund	40	-1.05%	-0.05%	-2.18%	0.11%
JPMorgan Core Bond Fund	39	-1.00%	0.00%	-2.18%	0.12%
DoubleLine Total Return Bond Fund	33	-1.15%	-0.16%	-2.48%	-0.18%
Fidelity Series Investment Grade Bond Fund	34	-1.04%	-0.04%	-2.10%	0.19%
Fidelity Total Bond Fund	31	-0.99%	0.01%	-2.01%	0.29%
Western Asset Core Plus Bond Portfolio	24	-1.96%	-0.96%	-3.78%	-1.48%
Baird Core Plus Bond Fund	24	-1.01%	-0.02%	-2.00%	0.29%
John Hancock Bond Fund	22	-1.20%	-0.21%	-2.29%	0.00%
TIAA-CREF Bond Index Fund	21	-1.11%	-0.12%	-2.29%	0.00%
BlackRock Total Return Fund	18	-1.14%	-0.14%	-2.49%	-0.19%
JPMorgan Core Plus Bond Fund	17	-1.13%	-0.13%	-2.20%	0.10%
Bridge Builder Core Bond Fund	16	-1.07%	-0.07%	-2.18%	0.12%
T Rowe Price New Income Fund	15	-1.06%	-0.06%	-2.07%	0.23%
Western Asset Core Bond Fund	15	-1.45%	-0.45%	-2.72%	-0.42%
CREF Bond Market Account	11	-1.05%	-0.06%	-2.14%	0.15%
Fidelity Investment Grade Bond Fund	9	-1.07%	-0.07%	-2.11%	0.19%
DoubleLine Core Fixed Income Fund	7	-0.99%	0.01%	-2.21%	0.09%
TCW Total Return Bond Fund	3	-1.63%	-0.63%	-3.08%	-0.79%
Janus Henderson Flexible Bond Fund	3	-1.22%	-0.23%	-2.26%	0.04%
Weighted avg	1291	-1.12%	-0.12%	-2.13%	0.17%
Agg		-1.00%		-2.30%	
10y return		-1.69%		-4.24%	

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

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**Exhibit 34: Total return funds, excess return vs. 10y rate**

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

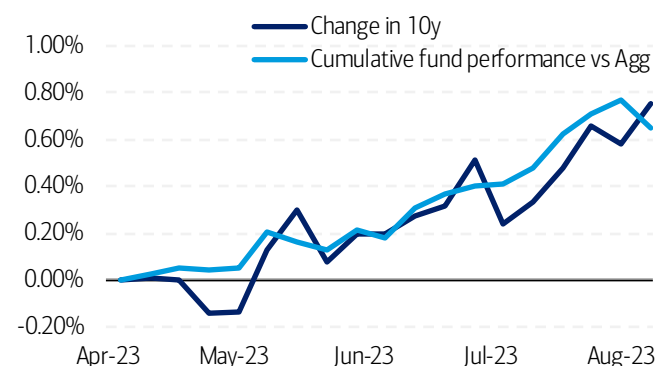


Source: BofA Global Research, Bloomberg. Note: Excess returns are fund total returns over Bloomberg Barclays Agg index

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**Exhibit 35: 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 36: Total return funds' published UST allocations vs benchmark from Q1 and Q2 '23**

Funds moderated underweight UST position from Q1 to Q2

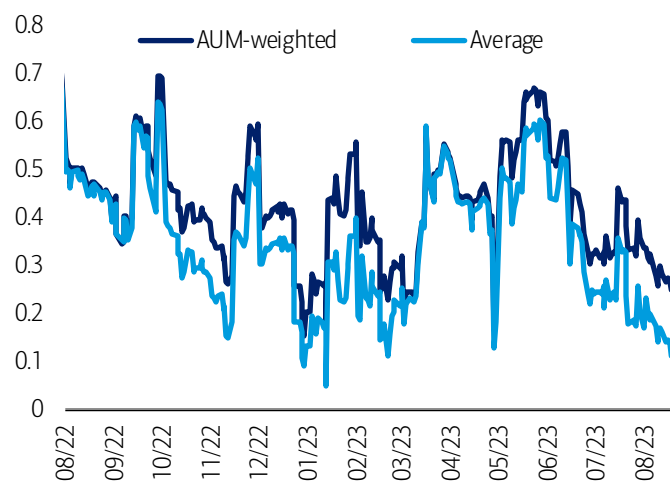
		AUM (\$bn)	Q1 '23 (%)	Q2 '23 (%)	Change (PPTS)
VTBIX	Vanguard Total Bond Market II Index Fund	255.2	2.4	2.1	-0.3
VBMFX	Vanguard Total Bond Market Index Fund	203.4	1.7	1.4	-0.3
PIMIX	PIMCO Income fund	126.7	-43.4	-34.1	9.3
ABNDX	The Bond Fund of America	74.8	-11.3	-14.0	-2.7
MWTIX	MetWest Total Return Bond Fund	60.7	-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	41.4	-33.7	-34.2	-0.5
BAGIX	Baird Aggregate Bond Fund	39.5	-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	35.3	-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	33.2	-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	23.7	-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	16.7	-5.1	-2.9	2.2
BBTBX	Bridge Builder Core Bond Fund	16.1	-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	14.6	-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	6.8	-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
<b>AUM weighted</b>		1291.3	-13.2	-11.8	1.4

Source: BofA Global Research, funds' publicly available reports

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**Exhibit 37: 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

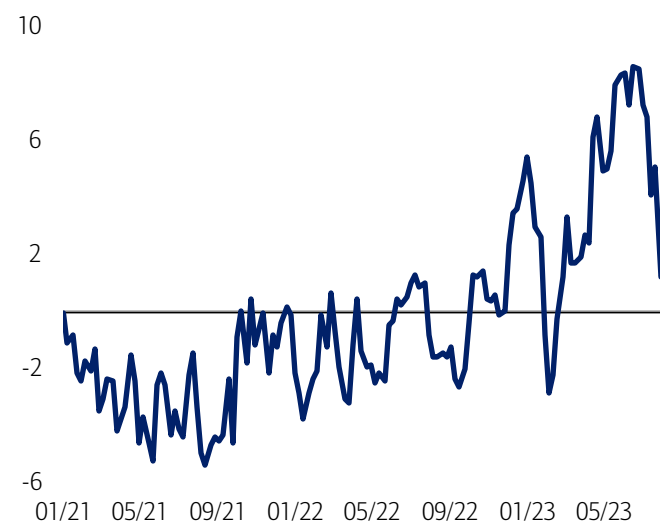


Source: BofA Global research, Bloomberg

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**Exhibit 38: Primary dealer 2-6y holdings of TIPS (\$bn)**

Primary dealer holdings have declined meaningfully since end of June



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

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# Bank balance sheets

## Exhibit 39: Changes to bank balance sheet assets (\$bn)

Domestic bank balance sheet little changed

		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>	22818	7	6	-15	-8	-3
	Cash	3315	25	15	-5	-2	-2
	UST & Agency	1505	6	-1	-2	-1	-4
	MBS	2565	-4	-2	-3	-4	-6
	Loans and Leases	12126	-20	9	4	3	11
	Other	3308	1	-16	-8	-4	-1
<b>Large Domestic (\$bn, NSA)</b>	<b>Total Assets</b>	13190	-11	-19	-26	-17	-7
	Cash	1506	2	0	-13	-5	-1
	UST & Agency	1101	2	0	-1	-1	-4
	MBS	1934	-4	-1	-1	-3	-2
	Loans and Leases	6732	-11	2	-1	-2	2
	Other	1917	1	-19	-10	-6	-2
<b>Small Domestic (\$bn, NSA)</b>	<b>Total Assets</b>	6531	-4	11	5	5	3
	Cash	458	-5	1	0	0	0
	UST & Agency	290	0	0	-1	0	-1
	MBS	606	1	-1	-1	-1	-4
	Loans and leases	4378	-4	9	5	6	7
	Other	798	4	2	1	0	0
<b>All Domestic (\$bn, NSA)</b>	<b>Total Assets</b>	19721	-15	-8	-21	-12	-4
	Cash	1964	-4	1	-12	-5	-1
	UST & Agency	1391	2	-1	-2	-1	-4
	MBS	2540	-4	-1	-3	-4	-6
	Loans and leases	11110	-15	10	4	4	10
	Other	2715	5	-17	-9	-6	-2
<b>Foreign (\$bn, NSA)</b>	<b>Total Assets</b>	3098	22	14	6	4	0
	Cash	1351	28	15	7	3	-2
	UST & Agency	113	3	-1	0	0	0
	MBS	25	0	0	0	0	0
	Loans and leases	1016	-5	-1	-1	-1	1
	Other	593	-4	1	1	1	1

Source: BofA Global Research, Federal Reserve, Bloomberg

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## Exhibit 40: Select bank balance sheet liabilities (\$bn, NSA)

Deposits decline modestly alongside build in other borrowing

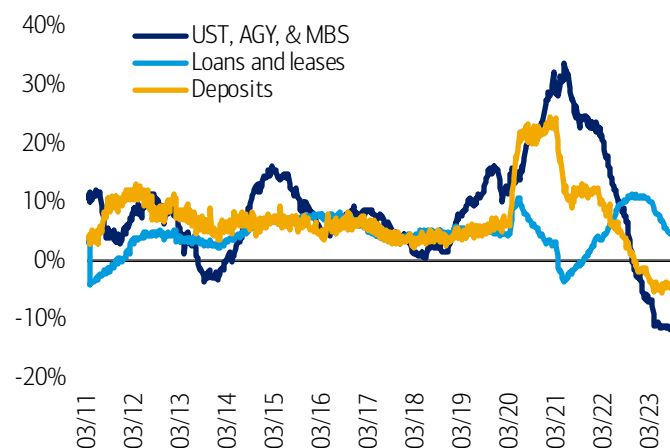
		Current	1w change	Rolling 4w avg wkly chg	Rolling 8w avg wkly chg	Rolling 12w avg wkly chg	Rolling 52w avg wkly chg
<b>Deposits (\$bn, NSA)</b>	All	17314	-11	14	7	14	-14
	Domestic	16014	-32	10	2	10	-13
	Large Domestic	10756	-34	-6	-7	0	-11
	Small Domestic	5258	2	15	9	10	-2
	Foreign	1300	21	4	4	4	0
<b>Other borrowing (\$bn, NSA)</b>	All	2237	17	-11	-21	-21	10
	Domestic	1245	9	-10	-17	-20	9
	Large Domestic	792	11	-5	-12	-13	5
	Small Domestic	453	-2	-5	-6	-7	4
	Foreign	993	8	0	-3	-1	1

Source: BofA Global Research, Federal Reserve, Bloomberg

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**Exhibit 41: YoY change in securities, loans, and deposits**

Securities growth usually only positive when deposit growth is positive

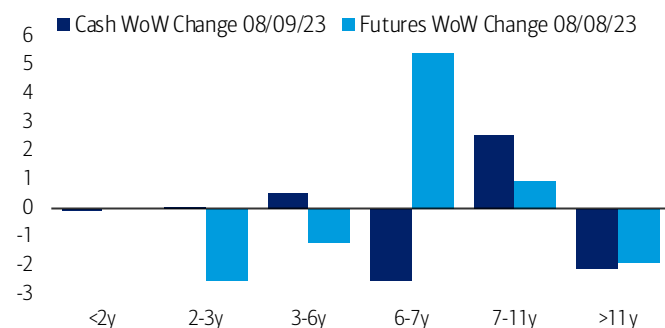


Source: BoFA Global Research, Bloomberg, Federal Reserve

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**Primary dealer balance sheet****Exhibit 42: Dealers WoW change in positions**

10y equivalent, \$bn, futures positions higher in the belly

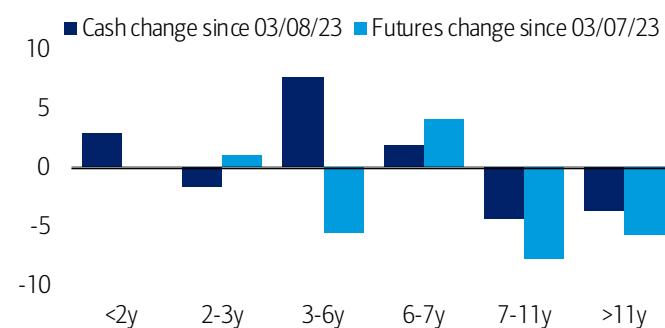


Source: BoFA Global Research, NY Fed, CFTC

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**Exhibit 43: Dealers change in positions since bank risk events**

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

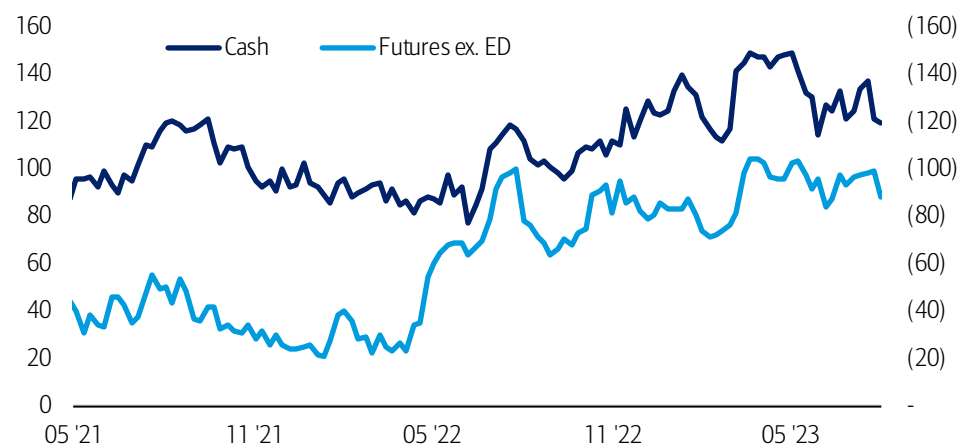


Source: BoFA Global Research, NY Fed, CFTC

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**Exhibit 44: Dealers total sector positions**

10y equivalent, \$bn, cash longs little changed on the week while futures shorts dropped



Source: BoFA Global Research, NY Fed, CFTC

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# Auction statistics

## Exhibit 45: Auction summary statistics

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

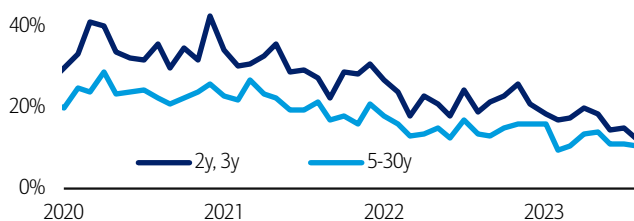
		Primary Dealer	Indirect Bidder	Direct Bidder	Investment Fund	Foreign	Depository Institution
2y	7/31/2023	13.3%	68.5%	18.2%	70.0%	13.7%	0.1%
	MoM Change	0.0%	0.0%	0.0%	-4.8%	4.3%	0.1%
	1Y Z-score	-1.4	1.3	-0.7	1.6	-0.7	1.9
3y	7/17/2023	10.8%	69.4%	19.8%	74.1%	13.4%	0.0%
	MoM Change	-5.9%	7.9%	-1.9%	4.0%	2.3%	0.0%
	1Y Z-score	-1.9	1.2	0.3	2.1	-0.8	-0.4
5y	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	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	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	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 46: Primary dealer – average auction allotment

Dealer participation has declined

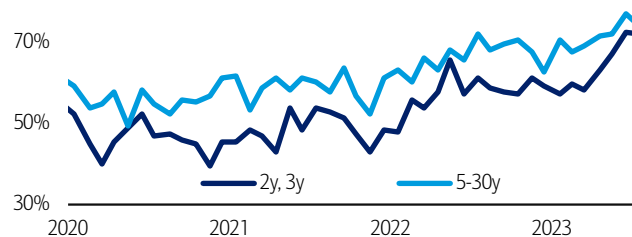


Source: BofA Global Research, Treasury

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## Exhibit 47: Investment fund – average auction allotment

Fund participation still elevated

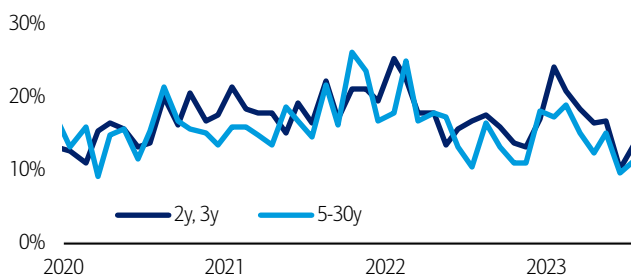


Source: BofA Global Research, Treasury

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## Exhibit 48: Foreign investment – average auction allotment

Foreign participation still below average despite modest uptick in recent weeks

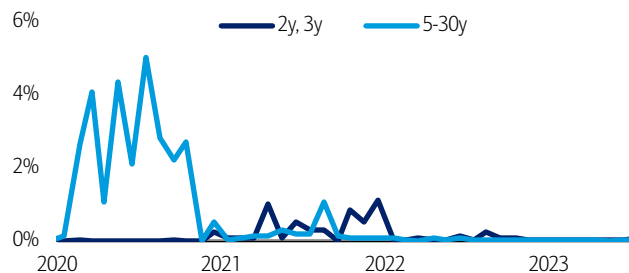


Source: BofA Global Research, Treasury

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## Exhibit 49: Depository institutions – average auction allotment

Participation is minimal



Source: BofA Global Research, Treasury

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