

# US Rates Watch

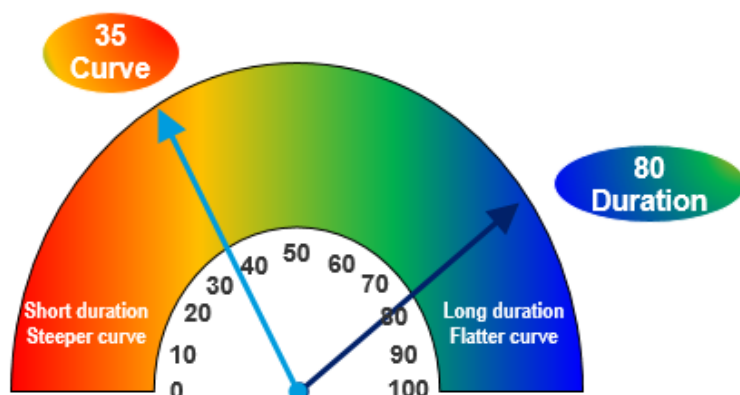
## Longs hang on, YCC tweak another foreign demand headwind

### Longs hang on

While changes in open interest suggest new shorts were created on the week, longs are still largely intact and out of the money. This biases rates higher across the curve. Asset manager and leveraged hedge fund positioning hit new extremes, in part reflecting the growing basis trade. The BoJ's YCC (yield curve control) adjustment on Friday is unlikely to materially change FX-hedged UST bid given how deeply out of the money it already was. However, higher JGB yields are yet another headwind to an already challenged foreign demand backdrop.

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

Longs are prone to covering



**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 are the painful position

Open interest increased on the week with the majority of new positions created in shorts, particularly in FV and TY. Longs were also destroyed, most notably in TU. Our futures positioning proxy (for construction details see: Gauging positioning in Treasury Futures) points to a bias for rates to continue selling off (Exhibit 12). As shown in Exhibit 11, while shorts are prominent in the belly of the curve—they are almost entirely in the money. However, longs across the curve are out of the money.

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 and LF position reach new heights

Asset manager 10y equivalent CFTC positioning hit new historic longs on July 25th. Longs were created in TY and further out the curve but reduced in TU and FV. Taking the other side, leveraged fund futures are at record shorts (Exhibit 7). We continue to think that the leveraged fund futures short for the most part represents a basis trade rather than an outright short view on the rates market (see: [Back to basis](#)). Non-commercial ex-leveraged funds showed a modest pickup in longs as well, to the greatest extent in the back end of the curve.

## CTAs modestly add at the wrong time

Both non-reportable CFTC positioning and our top-down model (see: CTA impact on the rates market) suggest that CTAs may have added duration over the last week (Exhibit 16). This is also consistent with our cross over momentum signal which also points to a recent inflection point in positioning (Exhibit 13). This modest add to duration has come at yet another challenging time, as longs were again pressured on the week in the lead up to the BoJ YCC adjustment.

## Funds outperform alongside rate selloff

Flows into US fixed income overall picked up the week ending Jul 23rd and were concentrated in long term UST funds, IG, and mixed allocation funds (Exhibit 29). Albeit it modest, inflation fund flows saw inflows on the week after over 3 months of steady outflows. This is consistent with recent inflows into TIPS ETFs and may have helped support the recent increase in breakevens alongside the strong 10y TIPS auction.

US total return fixed income funds on an AUM-weighted basis outperformed benchmark alongside the 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 and flatter curve. Specific fund benchmark-relative performance is largely consistent with what we have observed in the last month (Exhibit 30).

## YCC adjustment another headwind to demand

The BoJ's recent YCC 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. After Friday's YCC adjustment this hedged pickup is only slightly worse given the JGB to UST rate increase. However, this adjustment does not materially shift the overall outlook for Japanese investors who FX-hedge foreign bonds.

MoF data shows that Japanese foreign bond buying recently has been more dominated by banks while lifer buying has overall been muted (Exhibit 28). This is consistent with lifer buying predominantly done hedged, while bank buying is likely more mixed and may reflect a directional view. The JGB yield adjustment may weigh on the recent buying from banks and contribute to a challenged foreign investor bid more broadly.

UST foreign flow data largely points to key UST investors side-lined by hedging costs and muted conviction in USD direction. TIC data suggests that China + Belgium and Japan were the largest sellers of USTs in May (Exhibit 26). Despite recent USD depreciation pressures, custodial holdings for the week ending July 19th dropped \$7bn, the largest decline since the banking risk events in March (Exhibit 25). Recent, MoF data shows that Japanese investors sold about \$14bn of foreign bonds from the start of July through the 21<sup>st</sup> (Exhibit 24).

While the 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: [August refunding](#)).

## Primary dealer back-end UST holdings increase

Primary dealers increased cash holdings at the back end of the curve the week ending July 19th and similarly added to futures shorts (Exhibit 37). Since the banking risk events, the PD basis position has largely grown, with cash positions higher in the belly and back-end and futures shorts concentrated in the 7-11y bucket (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, Jul 31	Chicago Purchasing Managers	43	43.5	Senior Loan Officer Opinion Survey Release (SLOOS)	13-week bills	65	0	Security Coupons	-12
					26-week bills	58	0		
Tu, Aug 1	S&P Global US manufacturing PMI	-	-		42-day bills	50	0	Bills	35
	JOLTS Job Openings	-	-						
	Construction Spending (mom)	1.00%	0.60%						
	ISM Manufacturing	45.5	47						
	Total Vehicle Sales	15.9M	15.5M						
W, Aug 2	MBA Mortgage Applications	-	-	Treasury quarterly refunding	17-week bills	NA			
	ADP Employment	170k	185k						
Th, Aug 3	Initial Jobless Claims	228k	-		4-week bills	NA		Bills	18
	Nonfarm Productivity	2.00%	1.20%		8-week bills	NA			
	Unit Labor Costs	2.20%	2.60%						
	S&P Global US services PMI	-	-						
	ISM Services	53	53.1						
	Factory Orders	-	-0.10%						
F, Aug 4	Change in Nonfarm Payrolls	200k	190k						
	Private Payrolls	170k	160k						
	Unemployment Rate	3.60%	3.60%						
	Average Hourly Earnings mom	0.30%	0.30%						
	Average Weekly Hours	34.3	34.4						

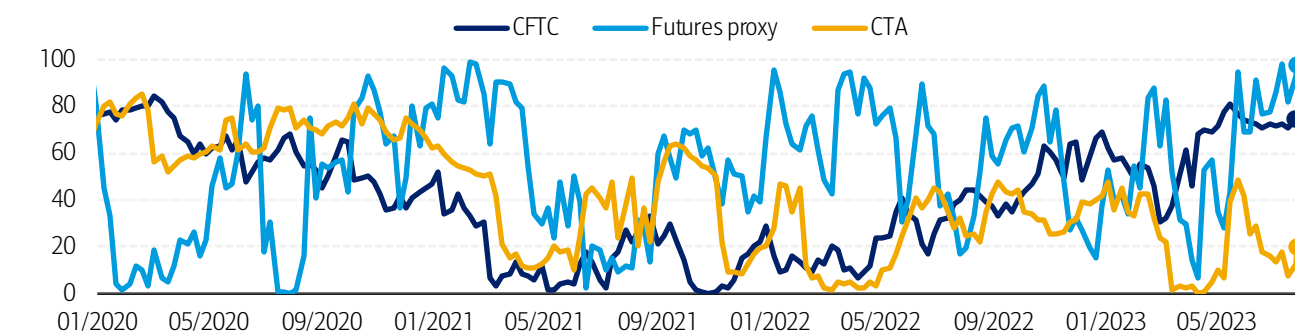
Source: BofA Global Research, Bloomberg, US Treasury

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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

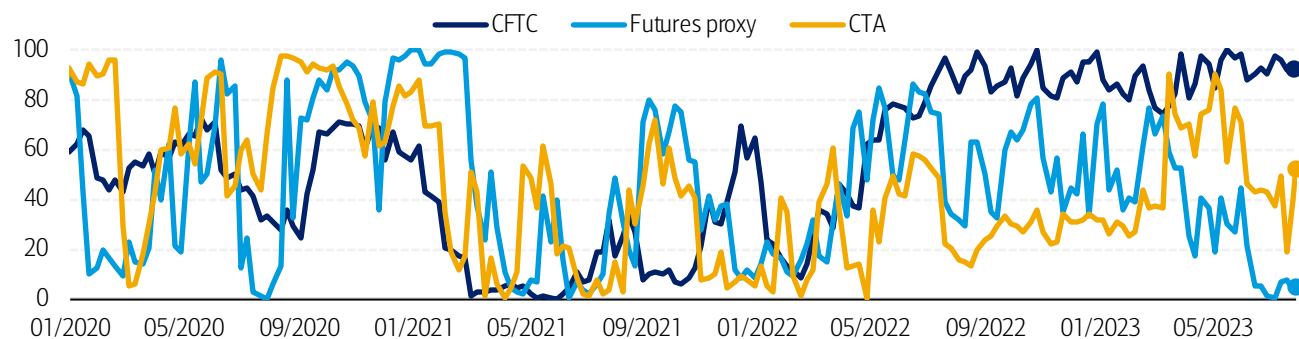


Source: BofA Global Research

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

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

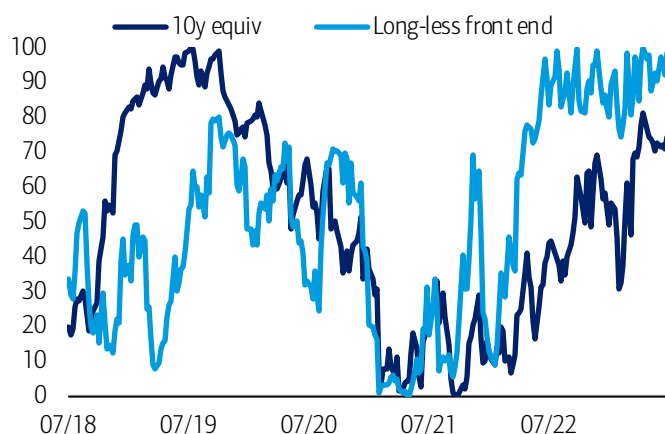


Source: BofA Global Research

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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

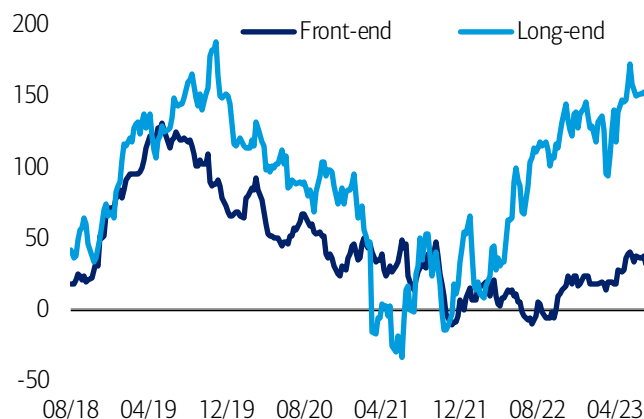


Source: BofA Global Research, Bloomberg

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

Longs are more concentrated in the back-end

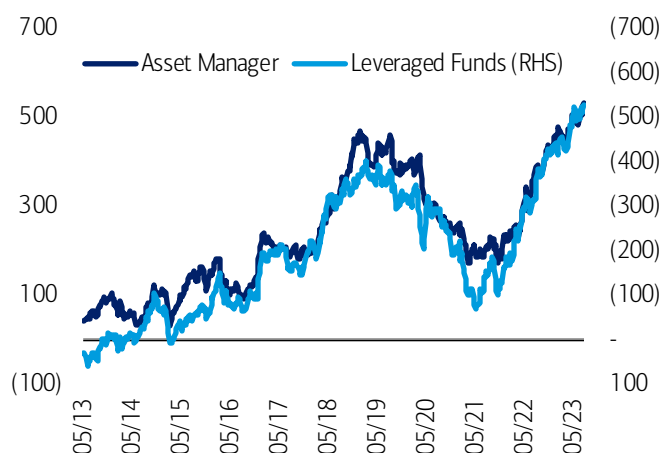


Source: BofA Global Research, Bloomberg

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

Asset manager longs correspond with leveraged fund shorts

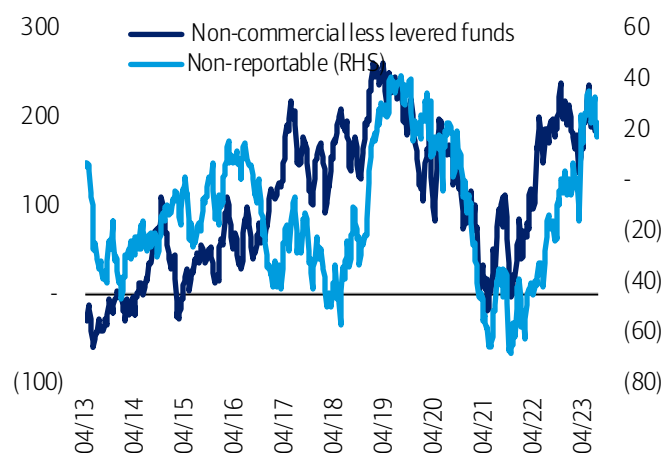


Source: BofA Global Research, Bloomberg

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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	1	-1	0	1	2
10 to 20	20	0	3	3	3	3
20 to 30	30	3	2	2	1	2
30 to 40	40	6	4	3	3	4
40 to 50	50	2	3	2	3	2
50 to 60	60	-2	-1	-1	0	0
60 to 70	70	1	-1	0	0	0
70 to 80	80	-3	-3	-4	-5	-7
80 to 90	90	-3	-2	-2	-3	-5
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

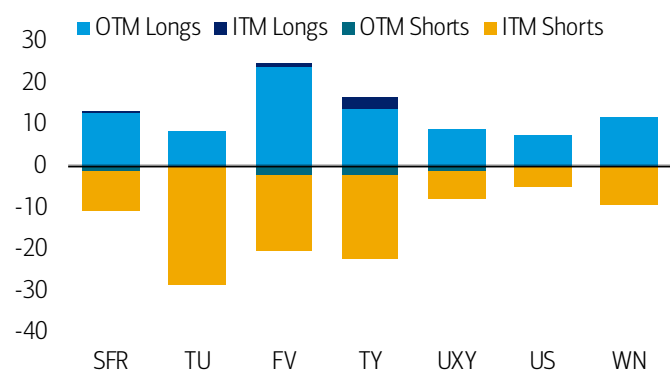
	0	1w	4w	8w	12w	16w
0 to 10	10	0	2	1	1	1
10 to 20	20	0	-4	-2	-2	-2
20 to 30	30	-5	-3	-4	-4	-5
30 to 40	40	-2	-3	-3	-3	-4
40 to 50	50	1	2	1	0	0
50 to 60	60	1	1	1	0	0
60 to 70	70	4	2	2	3	4
70 to 80	80	2	4	4	3	4
80 to 90	90	2	4	4	4	5
90 to 100	100	-1	-2	-1	0	0

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

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### Exhibit 11: Proxies for futures positioning

Longs largely OTM while shorts are ITM

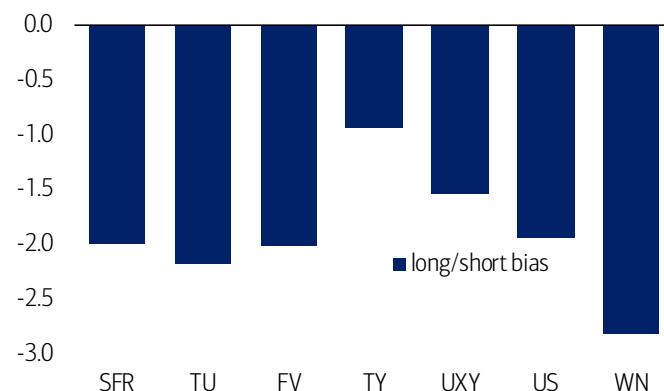


Source: BofA Global Research, Bloomberg

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

Bias for rates to sell off particularly at both wings

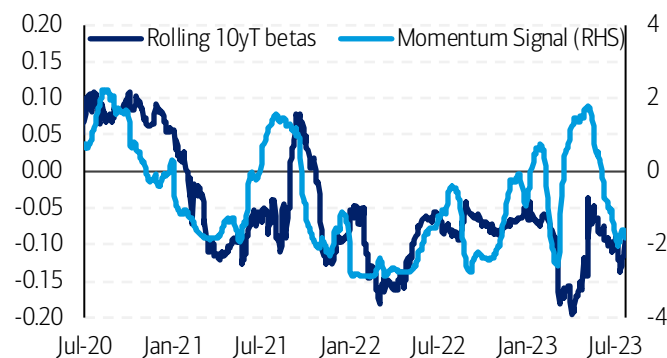


Source: BofA Global Research, Bloomberg. Note: reflects average positioning of futures stack over last 5 days

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

CTA covered shorts following pickup in momentum signal

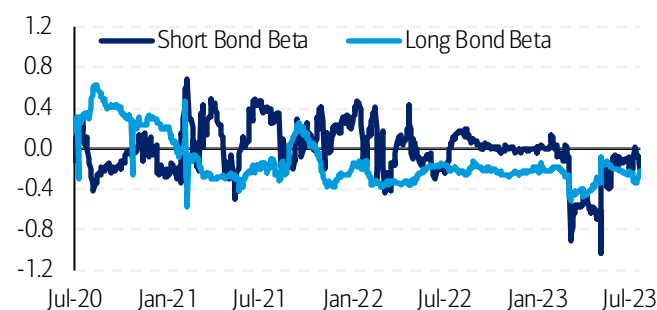


Source: BofA Global Research

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

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

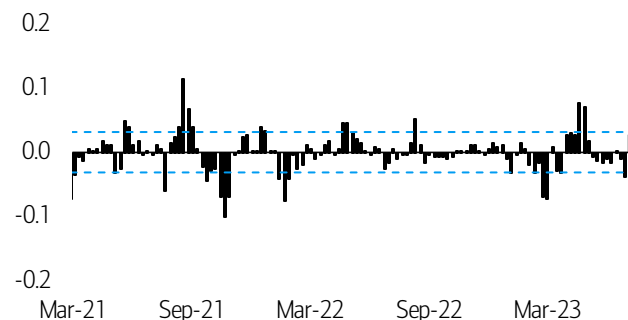


Source: BofA Global Research

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

Change in 10yT beta turned positive on the week

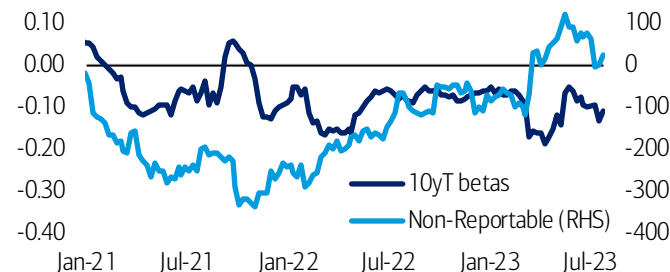


Source: BofA Global Research

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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



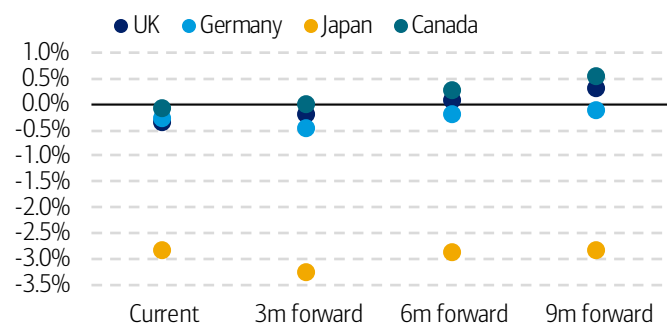
Source: BofA Global Research, Bloomberg

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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

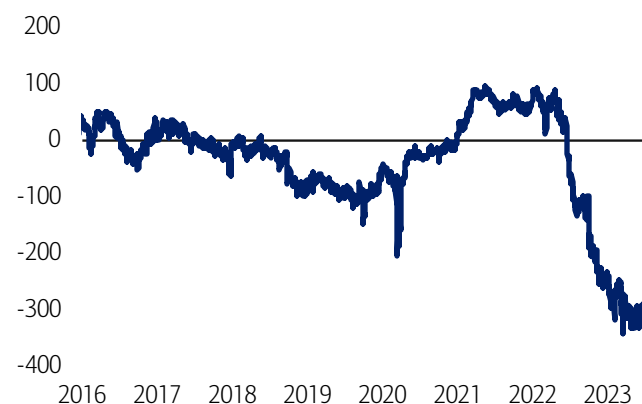


Source: BofA Global Research, Bloomberg. Note: pickup vs 10y local alternative except Japan which is relative to 20y JGB using 3m forward FX hedge

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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

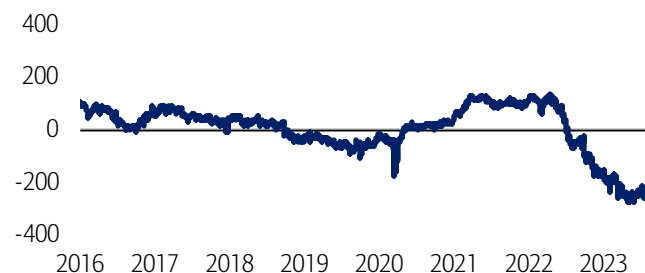


Source: BofA Global Research, Bloomberg

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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

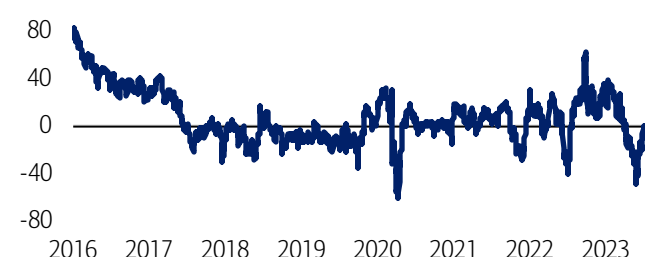


Source: BofA Global Research, Bloomberg

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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

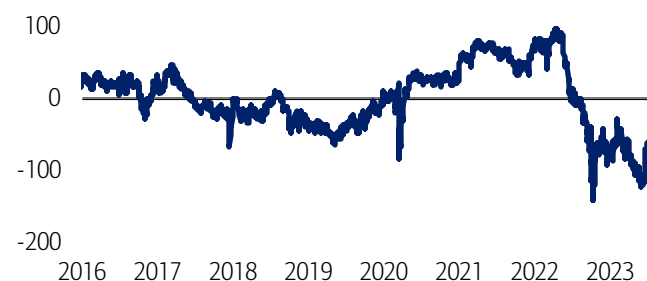


Source: BofA Global Research, Bloomberg

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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

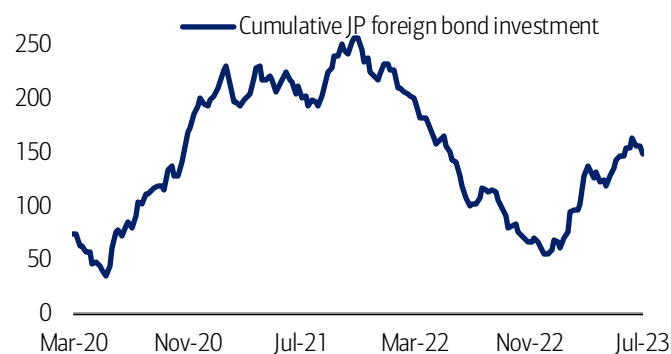
	7/27/2023		As of 1 wk ago		As of 1 mo ago		As of 1 yr ago	
	Pickup to 10y JGB	Pickup to 20Y JGB	Pickup to 10y JGB	Pickup to 20Y JGB	Pickup to 10y JGB	Pickup to 20Y JGB	Pickup to 10y JGB	Pickup to 20Y JGB
10y UST	-2.25%	-2.85%	-2.40%	-3.03%	-2.31%	-2.91%	-0.55%	-1.18%
10y GER	-1.96%	-2.56%	-1.97%	-2.60%	-1.90%	-2.50%	0.32%	-0.30%
10y FRA	-1.44%	-2.04%	-1.45%	-2.08%	-1.37%	-1.97%	0.91%	0.29%
10y BEL	-1.32%	-1.92%	-1.33%	-1.96%	-1.25%	-1.85%	0.95%	0.33%
10y ITA	-0.38%	-0.98%	-0.38%	-1.01%	-0.24%	-0.84%	2.70%	2.08%
10y SPA	-0.96%	-1.57%	-0.97%	-1.60%	-0.92%	-1.52%	1.52%	0.89%
10y UK	-1.85%	-2.46%	-1.90%	-2.53%	-1.69%	-2.29%	-0.47%	-1.10%
10y CAN	-2.16%	-2.76%	-2.34%	-2.97%	-2.29%	-2.89%	-0.64%	-1.26%

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 dropped on the week

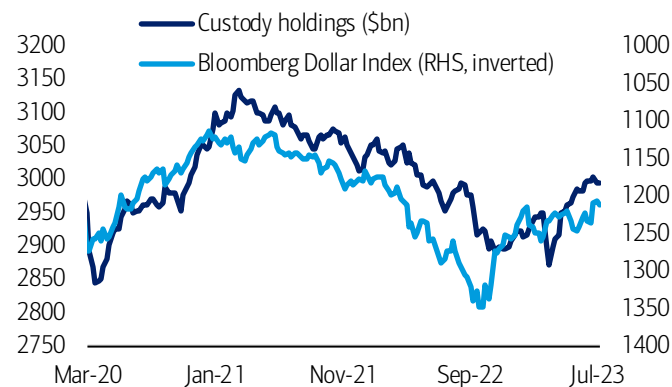


Source: BofA Global Research, Bloomberg

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

Custody holdings unchanged on the week

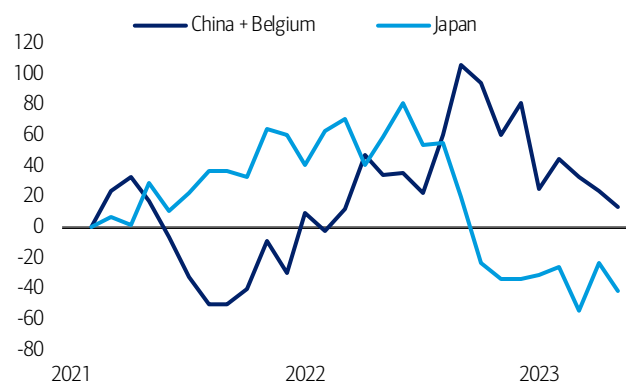


Source: BofA Global Research, NY Fed

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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

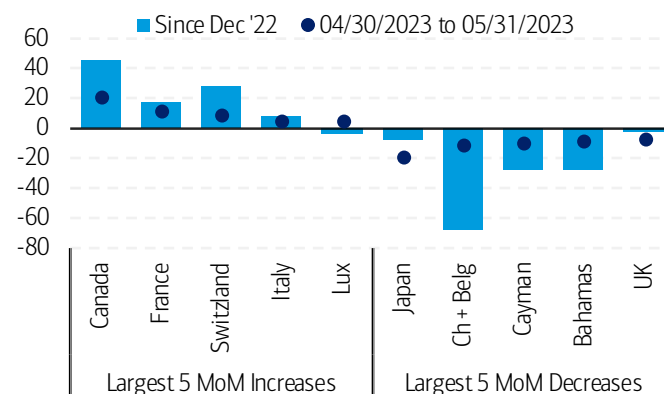


Source: BofA Global Research, Bloomberg, TIC, note: references the valuation-adjusted flow

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

Canada was largest buyer, Japan largest seller in May

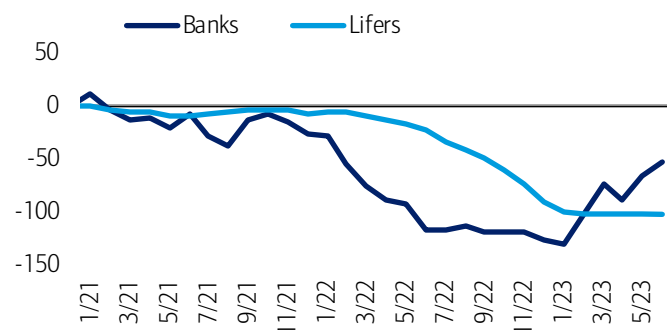


Source: BofA Global Research, TIC, Note: adjusted for level of rates

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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, corp IG & mixed allocation funds

	7/26/2023	Rolling 4w average	Rolling 8w average	Rolling 12w average	Rolling 52w average
<b>Gov: short</b>	856	679	506	378	1,211
<b>Gov: intermediate</b>	(932)	(10)	155	324	359
<b>Gov: long</b>	3,353	1,926	1,464	1,694	1,164
<b>Corp: IG</b>	1,772	944	638	696	395
<b>Corp:HY</b>	(380)	581	572	120	(176)
<b>Corp: all quality</b>	59	105	73	60	18
<b>MBS</b>	369	328	462	374	94
<b>Inflation</b>	624	(100)	(233)	(326)	(509)
<b>Muni</b>	733	452	450	215	(397)
<b>Mixed allocation</b>	1,179	2,186	2,383	2,521	1,008
<b>All US FI</b>	7,248	6,901	6,103	5,523	2,628

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)	7/27/2023	Vs. Agg	Last 4w	Vs. Agg
Vanguard Total Bond Market II Index Fund	252	-0.68%	0.07%	-0.19%	0.11%
Vanguard Total Bond Market Index Fund	203	-0.67%	0.08%	-0.29%	0.00%
PIMCO Income fund	124	-0.35%	0.41%	0.89%	1.18%
The Bond Fund of America	76	-0.72%	0.03%	-0.25%	0.05%
MetWest Total Return Bond Fund	62	-0.68%	0.07%	-0.11%	0.18%
PIMCO Total Return Fund	55	-0.74%	0.01%	-0.05%	0.24%
Dodge & Cox Income Fund	57	-0.40%	0.35%	0.16%	0.46%
PGIM Total Return Bond Fund	42	-0.42%	0.34%	0.09%	0.39%
BlackRock Strategic Income Opportunities Fund	36	-0.02%	0.74%	0.57%	0.87%
Baird Aggregate Bond Fund	40	-0.63%	0.12%	-0.12%	0.18%
JPMorgan Core Bond Fund	39	-0.71%	0.05%	-0.31%	-0.02%
DoubleLine Total Return Bond Fund	34	-0.91%	-0.15%	-0.55%	-0.26%
Fidelity Series Investment Grade Bond Fund	34	-0.63%	0.13%	-0.09%	0.20%
Fidelity Total Bond Fund	31	-0.56%	0.20%	0.01%	0.30%
Western Asset Core Plus Bond Portfolio	24	-0.76%	-0.01%	0.22%	0.51%
Baird Core Plus Bond Fund	25	-0.60%	0.16%	0.00%	0.30%
John Hancock Bond Fund	22	-0.59%	0.16%	-0.05%	0.24%
TIAA-CREF Bond Index Fund	21	-0.68%	0.08%	-0.20%	0.10%
BlackRock Total Return Fund	18	-0.82%	-0.06%	-0.28%	0.01%
JPMorgan Core Plus Bond Fund	17	-0.66%	0.09%	-0.25%	0.05%
Bridge Builder Core Bond Fund	16	-0.60%	0.15%	-0.05%	0.24%
T Rowe Price New Income Fund	16	-0.55%	0.21%	-0.20%	0.09%
Western Asset Core Bond Fund	15	-0.68%	0.07%	-0.09%	0.20%
CREF Bond Market Account	11	-0.57%	0.19%	-0.04%	0.25%
Fidelity Investment Grade Bond Fund	9	-0.49%	0.26%	0.00%	0.29%
DoubleLine Core Fixed Income Fund	7	-0.65%	0.11%	-0.15%	0.14%
TCW Total Return Bond Fund	3	-0.86%	-0.10%	-0.62%	-0.32%
Janus Henderson Flexible Bond Fund	3	-0.78%	-0.03%	-0.22%	0.07%
Weighted avg	1289	-0.61%	0.14%	-0.04%	0.26%
Agg		-0.76%		-0.29%	
10y return		-1.48%		-1.60%	

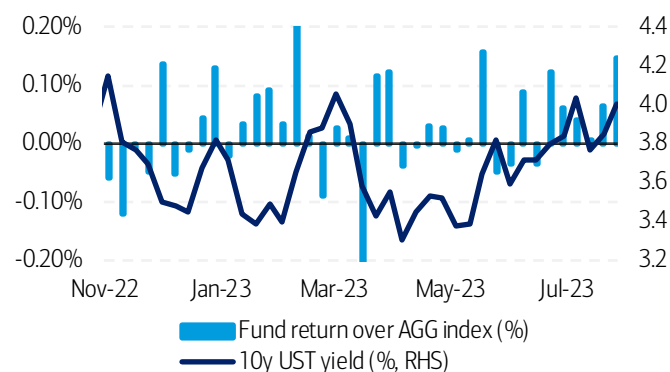
Source: BofA Global Research, Bloomberg, Note: Excess returns are fund total returns over Bloomberg Barclays Agg Index

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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

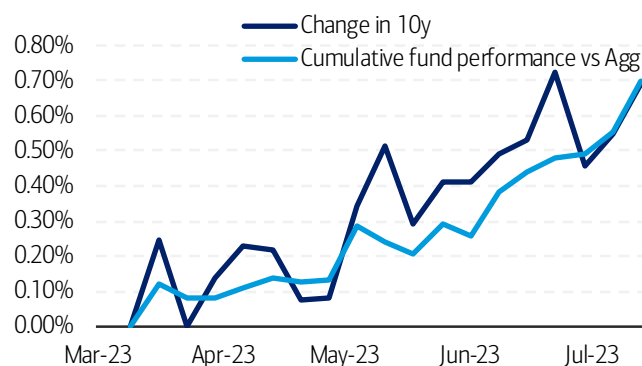


Source: BofA Global Research, Bloomberg. Note: Excess returns are fund total returns over Bloomberg Barclays Agg index

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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 Q3 and Q4 '22**

Funds remained underweight USTs in Q1 and overall increased underweight vs end of '22

		AUM (\$bn)	Q4 '22 (%)	Q1 '23 (%)	Change (PPTS)
VTBIX	Vanguard Total Bond Market II Index Fund	251.8	1.6	2.4	0.8
VBMFX	Vanguard Total Bond Market Index Fund	202.9	1.2	1.7	0.5
PIMIX	PIMCO Income fund	123.7	-37.7	-43.4	-5.7
ABNDX	The Bond Fund of America	76.2	-9.7	-11.3	-1.6
MWTIX	MetWest Total Return Bond Fund	61.7	-17.4	-16.5	0.9
DODIX	Dodge & Cox Income Fund	56.9	-31.2	-28.1	3.1
PTTRX	PIMCO Total Return Fund	54.6	-15.2	-15.4	-0.2
PDBAX	PGIM Total Return Bond Fund	41.5	-33.8	-33.7	0.1
BAGIX	Baird Aggregate Bond Fund	39.6	-17.7	-16.9	0.8
PGBOX	JPMorgan Core Bond Fund	39.3	-7.3	-5.0	2.3
BSIIX	BlackRock Strategic Income Opportunities Fund	35.6	-14.6	-17.3	-2.7
DBLTX	DoubleLine Total Return Bond Fund	33.7	-32.4	-32.7	-0.3
FSIGX	Fidelity Series Investment Grade Bond Fund	33.5	-10.4	-7.5	3.0
FTBFX	Fidelity Total Bond Fund	31.1	-18.3	-12.0	6.3
BCOIX	Baird Core Plus Bond Fund	24.6	-20.0	-18.5	1.4
WACPX	Western Asset Core Plus Bond Portfolio	24.5	-29.1	-33.7	-4.6
JHBIX	John Hancock Bond Fund	22.0	-26.1	-22.8	3.3
TBIIX	TIAA-CREF Bond Index Fund	20.7	0.9	0.8	-0.1
MAHQX	BlackRock Total Return Fund	18.0	21.3	-13.7	-35.0
ONIAI	JPMorgan Core Plus Bond Fund	17.4	-7.6	-5.1	2.5
BBTBX	Bridge Builder Core Bond Fund	16.3	-22.6	-22.1	0.5
PRCIX	T Rowe Price New Income Fund	15.9	-11.2	-16.2	-4.9
WATFX	Western Asset Core Bond Fund	15.0	-23.6	-30.7	-7.1
QCBMIX	CREF Bond Market Account	10.7	-22.3	-21.1	1.2
FBNDX	Fidelity Investment Grade Bond Fund	8.8	-8.6	-5.7	2.9
DBLFX	DoubleLine Core Fixed Income Fund	7.0	-20.3	-16.9	3.4
JFLEX	Janus Henderson Flexible Bond Fund	2.9	-9.5	-11.3	-1.8
TGLMX	TCW Total Return Bond Fund	2.8	-40.6	-38.5	2.1
<b>AUM weighted</b>		1288.6	-12.7	-13.2	-0.5

Source: BofA Global Research, funds' publicly available reports

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# Bank balance sheets

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

Modest 3omestic bank assets decline driven by cash and MBS

		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>	22824	27	-6	-9	-2	1
	Cash	3307	53	11	-2	8	1
	UST & Agency	1507	-3	-2	-1	-4	-4
	MBS	2584	12	-3	-3	-4	-6
	Loans and Leases	12090	0	-6	0	-1	12
	Other	3335	-36	-6	-3	-2	-1
<b>Large Domestic (\$bn, NSA)</b>	<b>Total Assets</b>	13273	8	-13	-12	-9	-4
	Cash	1530	22	0	-5	3	0
	UST & Agency	1105	3	-2	-1	-4	-4
	MBS	1951	15	-1	-1	-3	-2
	Loans and Leases	6722	-4	-7	-4	-4	3
	Other	1966	-27	-4	-2	-2	-2
<b>Small Domestic (\$bn, NSA)</b>	<b>Total Assets</b>	6487	-2	-1	2	3	3
	Cash	451	-2	-1	1	1	0
	UST & Agency	291	0	0	0	0	0
	MBS	607	-2	-2	-2	-1	-3
	Loans and leases	4347	3	1	4	4	7
	Other	790	-1	0	-1	0	0
<b>All Domestic (\$bn, NSA)</b>	<b>Total Assets</b>	19761	6	-15	-10	-6	-1
	Cash	1981	20	-1	-4	4	0
	UST & Agency	1396	2	-2	-1	-4	-4
	MBS	2558	13	-3	-3	-4	-5
	Loans and leases	11069	-1	-5	1	0	10
	Other	2756	-28	-4	-2	-2	-2
<b>Foreign (\$bn, NSA)</b>	<b>Total Assets</b>	3063	21	9	1	4	3
	Cash	1326	33	11	2	4	1
	UST & Agency	111	-5	0	0	0	0
	MBS	25	-1	0	0	0	0
	Loans and leases	1021	1	0	-1	-1	1
	Other	580	-8	-2	-1	0	1

Source: BofA Global Research, Federal Reserve, Bloomberg

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

Deposit drop offset by other borrowing increase

		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	17235	-24	10	15	11	-13
	Domestic	15950	-26	5	11	8	-13
	Large Domestic	10754	-24	-1	2	2	-11
	Small Domestic	5195	-1	6	8	6	-2
	Foreign	1285	1	4	4	3	0
<b>Other borrowing (\$bn, NSA)</b>	All	2302	21	-24	-24	-11	12
	Domestic	1296	9	-19	-23	-18	10
	Large Domestic	823	11	-13	-16	-13	6
	Small Domestic	473	-1	-6	-7	-5	4
	Foreign	1006	11	-5	-1	6	2

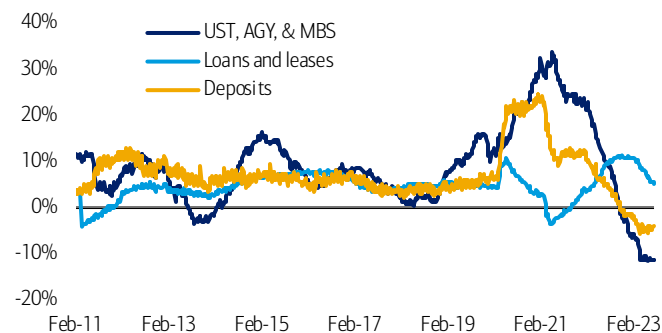
Source: BofA Global Research, Federal Reserve, Bloomberg

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

Securities growth usually only positive when deposit growth is positive



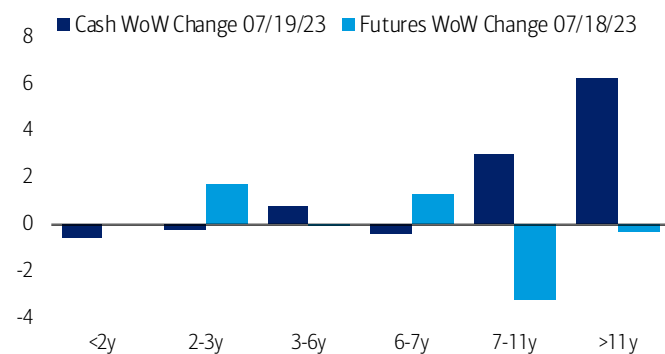
Source: BofA Global Research, Bloomberg, Federal Reserve

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## Primary dealer balance sheet

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

10y equivalent, \$bn, cash positions increased in belly &amp; backend, futures positions dropped in belly

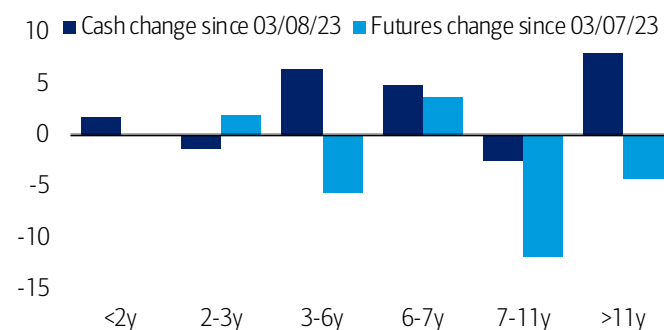


Source: BofA Global Research, NY Fed, CFTC

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

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

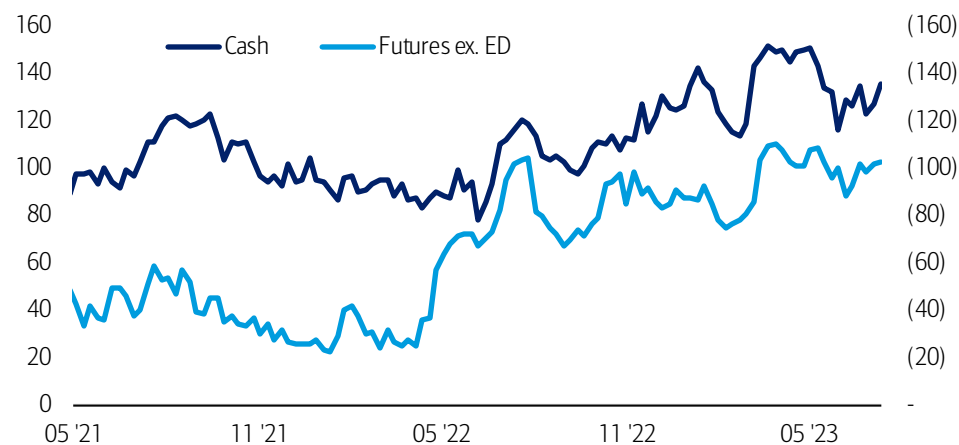


Source: BofA Global Research, NY Fed, CFTC

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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

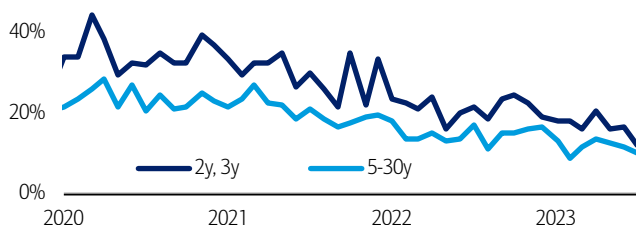
		Primary Dealer	Indirect Bidder	Direct Bidder	Investment Fund	Foreign	Depository Institution
2y	6/30/2023	13.3%	68.5%	18.2%	74.8%	9.3%	0.0%
	MoM Change	-2.9%	0.3%	2.6%	9.7%	-7.5%	0.0%
	1Y Z-score	-1.7	1.5	-0.9	2.8	-1.8	-0.5
3y	7/17/2023	10.8%	69.4%	19.8%	74.1%	13.4%	0.0%
	MoM Change	-5.9%	7.9%	-1.9%	4.0%	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

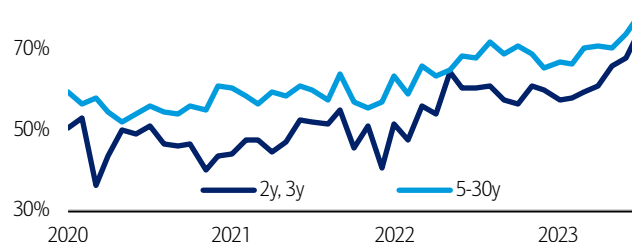


Source: BofA Global Research, Treasury

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## Exhibit 42: Investment fund – average auction allotment

Fund participation moderated recently after increasing in 2022

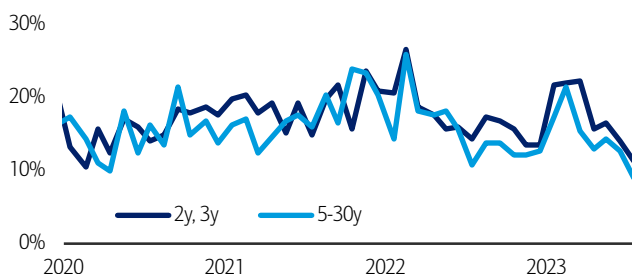


Source: BofA Global Research, Treasury

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## Exhibit 43: Foreign investment – average auction allotment

Foreign participation has been more muted

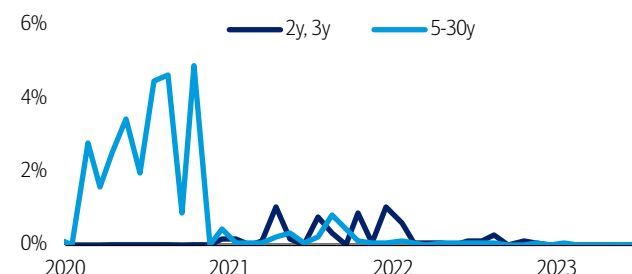


Source: BofA Global Research, Treasury

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## Exhibit 44: Depository institutions – average auction allotment

Participation is minimal



Source: BofA Global Research, Treasury

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