

## US Rates Watch

## Weekend homework: Positioning points to rally, small banks cut balance sheet

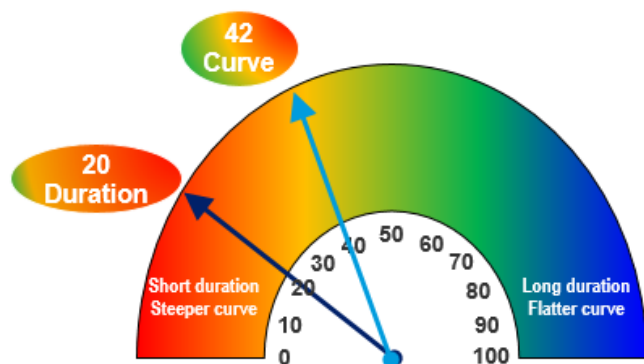
Positioning still points to room for the rally to continue, with shorts largely out of the money, while longs across the curve are in the money. CFTC speculative positioning shows a build in shorts on the week, and in 10y equivalents, positioning is at some of the shortest levels observed over the last five years. While our top-down model that tends to be more lagged shows that CTAs are still short, momentum signals and non-reportable positioning indicates that these shorts have been covered.

Flows into US fixed income were the strongest observed since the first week of the year and were concentrated in credit funds. Japanese investors sold after several weeks of buying which may reflect some profit taking. Data as of Mar 29 shows that US bank deposits have stabilized and that small banks cut the size of their balance sheets by reducing other borrowings and MBS holdings.

## Positioning shows bias for rates to rally

## Exhibit 1: Curve-o-meter

Positioning suggests more OTM shorts that can be covered, rates are more prone to rally, curve positioning is modestly steep



Source: BofA Global Research, Note: dials show 5y percentiles for our proxy of futures positioning for duration and the average of CTA betas and our proxy for futures positioning for the curve. CFTC data excluded due to data reporting issues.

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**Futures positioning proxy:** Our futures positioning proxy still indicates that rates are biased to rally across the curve, particularly in FV (Exhibit 8). As of Thursday, most long positions were ITM while shorts were generally OTM (Exhibit 7). There was a build in open interest on the week, primarily in longs created across FV and SOFR. TU saw the most shorts created and FV saw the most shorts destroyed.

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Refer to important disclosures on page 12 to 13.

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## Abbreviations

TSY= Treasury

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

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

**CTA model:** Our cross-over momentum signal suggests that CTAs are now long, diverging from our top-down model (Exhibit 11). While our top-down model still reflects more limited covering, this may be due to a 3-month lag in the rolling 10yT beta. CFTC non-reportable positioning (viewed as a proxy for CTAs) is no longer short and shows CTAs neutral duration (Exhibit 12).

**CFTC non-commercial positioning:** Showed an add to already historically short positioning, particularly in TY, US, and FV (Exhibit 5). Shorts were covered in SOFR, WN and TU. Curve positioning is relatively neutral.

### Japan profit taking, foreign official liquidity need abates

Japan reduced foreign bond holdings by \$4bn the week ending March 31<sup>st</sup>, after \$41bn of buying since the first week of March (Exhibit 20). Recent selling may reflect some profit taking given the 50bps rally since the start of Japanese inflows. We think buying was likely done without hedging FX risk, given still high costs (Exhibit 19). Recent buying may have reflected investors taking a view on UST vs JGB duration given recent bank stress in the US and an expected hawkish BoJ rate adjustment at some point this year.

Foreign custodial UST holdings continued to recover, increasing by about \$25bn over the prior week (Exhibit 21). Rather than reflecting net buying/ selling recent fluctuations in UST custodial holdings are likely a function of foreign official liquidity need/ repo usage which continues to decline following banking risk events. Since mid-March, custodial holdings are about \$42.6bn lower, while repo usage is \$40bn higher.

### Elevated fixed income inflows concentrated in IG/ HY

US fixed income fund inflows totaled \$10.6bn the week ending April 5<sup>th</sup>, the largest week of inflows since the first week of the year (Exhibit 22). Inflows were concentrated in IG (investment grade) and HY (high yield) credit funds. Inflation funds saw the largest outflows, which were in two medium-term TIPS ETFs, rather than broad-based across the sector.

As rates continued to rally, Agg fixed income funds slightly underperformed benchmark (Exhibit 24). Funds that underperformed the most on the week have been underperformers since the rally started. However, some of the largest outperformers on the week were largely not outperformers over the past four weeks, suggesting some adjustment in positioning alongside the recent rally (Exhibit 23).

### Deposits stabilize, small banks cut balance sheet

Across domestic bank balance sheets for the week ending March 29, non-seasonally adjusted deposits increased \$42bn and borrowings declined \$118bn (Exhibit 28). Since early March, borrowings are still up \$430bn and deposits down \$300bn, though the direction of flow this week continues to indicate signs of stabilization. The decline in borrowings came entirely from small banks' balance sheets. Most of the deposit inflow came to larger banks, however smaller banks did see a modest increase as well.

On the asset side, the small banks that reduced liabilities in the form of borrowings, also had to reduce assets. They largely did this by cutting MBS holdings (Exhibit 27). Large domestic banks that saw a build in their balance sheet increased cash holdings rather than buying securities, consistent with our expectations, discussed in [Funding map: T-tables for Fed, banks, MMF](#).

### Dealer cash positions moderate at back-end

As of the week ending March 29, dealers saw an increase in cash positions across the curve, besides the back-end (Exhibit 29). This follows a notable \$20bn 10y equivalent build in the >11y sector since March 8, likely reflecting some de-leveraging following banking risk events (Exhibit 30). Primary dealer basis positions continue to grow to some of the widest levels over the last two years, as dealers take down more collateral (Exhibit 31).

**Exhibit 2: On deck next week**

Calendar of upcoming events

	US Data			Fed Speaker / Event			Treasury Auction			Treasury Settlements	
	Series	BofA	BB Consensus	Speaker	Voter	Bias	Security	Amount	Prior Δ	Security	Amount
M, April 10	Wholesale Trade	--	--	Williams	Y	Neutral	13 week bill	57	--		
							26 week bill	48	--		
Tu, April 11	NFIB Small Biz	--	--	Goolsbee	Y	Dove	3Y note	40	--	Bills	-12
				Harker	Y	Neutral					
				Kashkari	Y	Hawk					
W, April 12	CPI, mom	0.35%	0.20%	Barkin	N	Hawk	10Y note ( r )	32	--		
	Core CPI, mom	0.43%	0.40%	FOMC minutes							
	CPI, NSA	302.668	302.429								
	Real Av Hry Earnings										
Th, April 13	Claims	--	--				30Y bond ( r )	18	--	Bills	+3
	PPI	--	--								
F, April 14	Import Prices	--	--								
	Retail Sales	--	--								
	Industrial Production	--	--								
	U Mich Sentiment	--	--								
	U Mich Inflation	--	--								

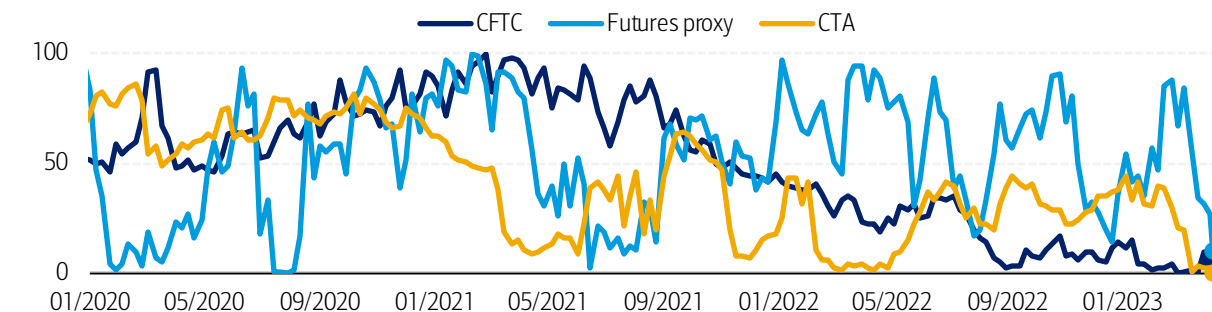
Source: BofA Global Research, Bloomberg

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## Positioning indicators

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

Futures positioning proxy suggests shorts still out of the money and prone to covering, top down CTA model is lagged and shows historic shorts that have likely been covered

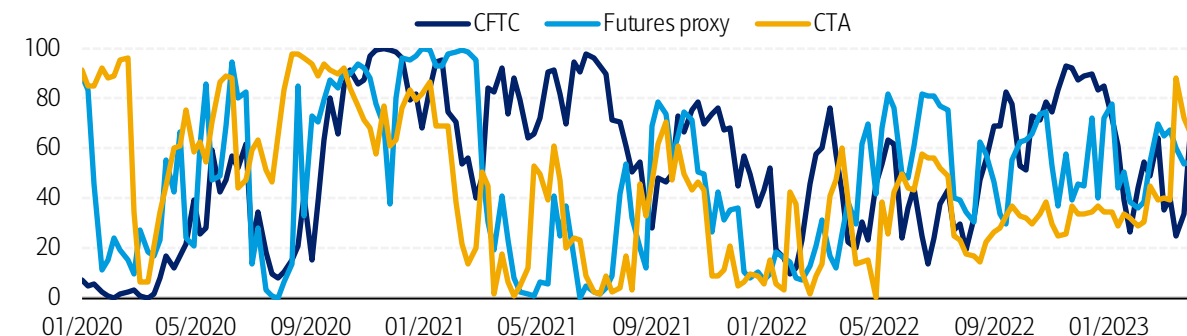


Source: BofA Global Research

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

Indicators generally point to modestly steep curve positioning

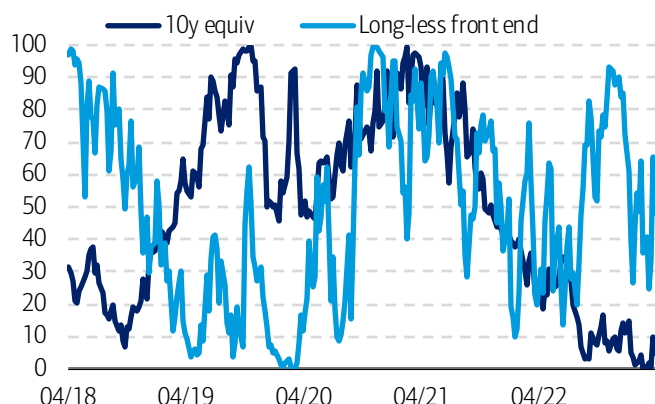


Source: BofA Global Research

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**Exhibit 5: 5y percentile of CFTC non-commercial futures positioning**

10y equivalent positioning covered modestly, generally short

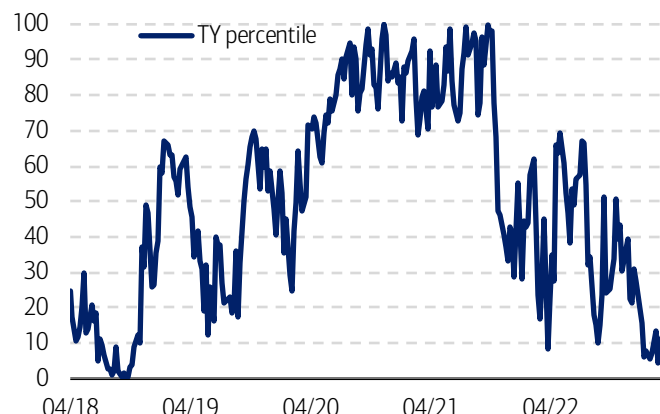


Source: BofA Global Research, Bloomberg

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**Exhibit 6: 5y percentile of CFTC non-commercial futures positioning**

Positioning in TY still extremely short

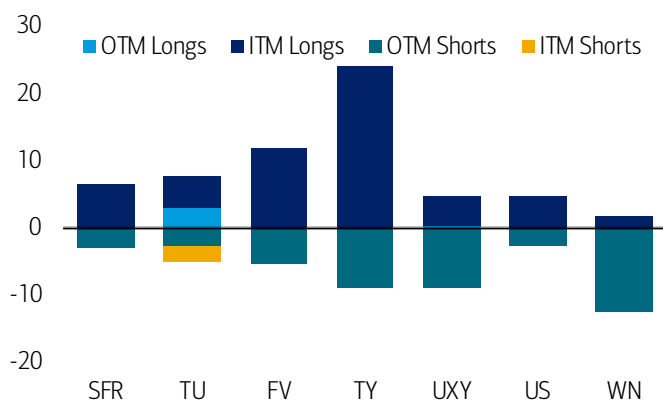


Source: BofA Global Research, Bloomberg

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**Exhibit 7: Proxies for futures positioning**

Shorts are now OTM while longs are ITM, positioning mixed in TU

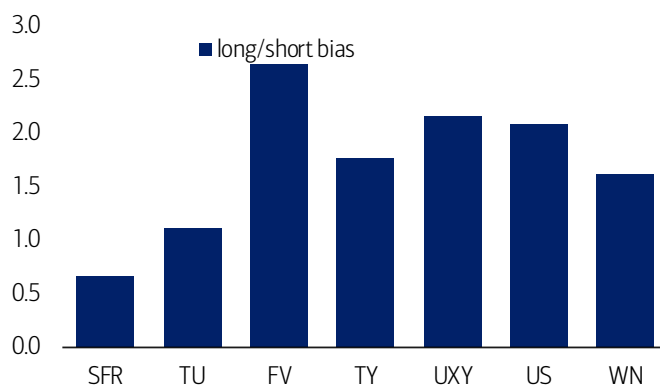


Source: BofA Global Research, Bloomberg

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**Exhibit 8: Analysis of proxies for futures positioning**

Bias is for rates to rally across the curve

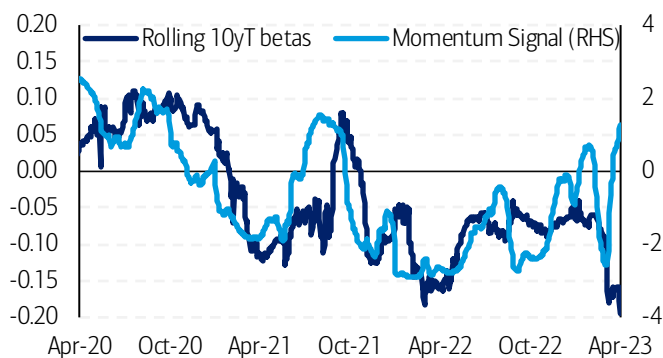


Source: BofA Global Research, Bloomberg. Note: reflects average positioning of futures stack over last 5 days

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**Exhibit 9: CTA positioning in 10yT**

CTAs added more shorts despite momentum signal suggests long

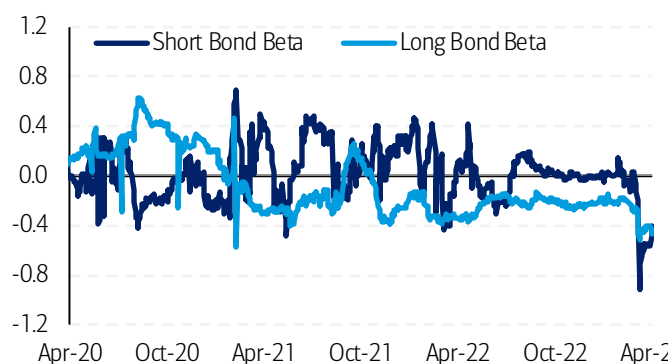


Source: BofA Global Research

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**Exhibit 10: CTA positioning in longer duration and shorter duration bonds**

Top-down model suggests CTAs now have similar short exposure in longer and shorter duration bonds

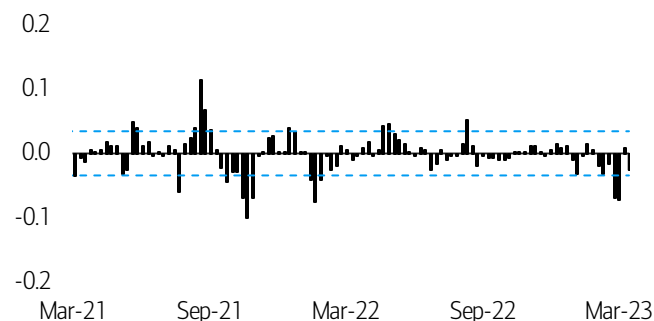


Source: BofA Global Research

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**Exhibit 11: Changes in CTA 10yT beta**

10yT beta turned negative on the week

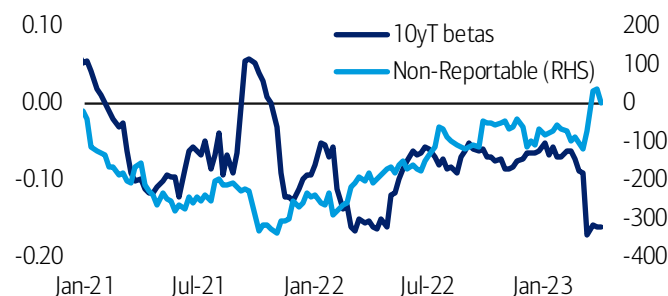


Source: BofA Global Research

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**Exhibit 12: CTA 10y TSY beta and non-reportable positions**

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



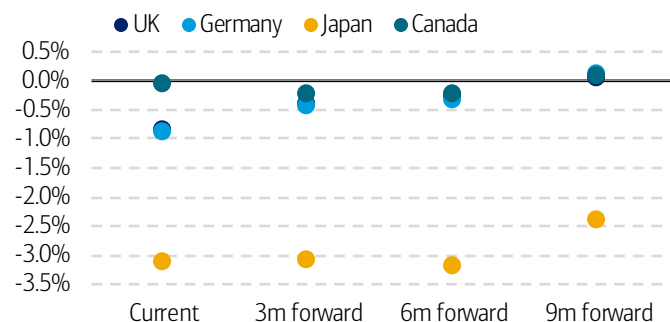
Source: BofA Global Research, Bloomberg

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## FX hedged pickup and foreign flows

**Exhibit 13: 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

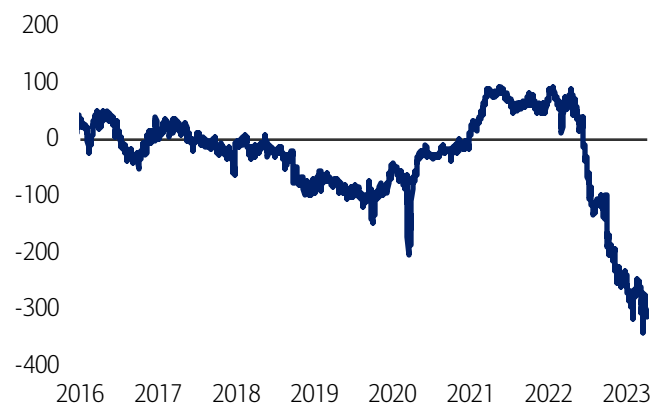


Source: BofA Global Research, Bloomberg. Note: pickup vs 10y local alternative except Japan which is relative to 20y JGB using 3m forward FX hedge

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**Exhibit 14: 10Y UST pickup to 20Y JGB, with 3m fx hedge (bps)**

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

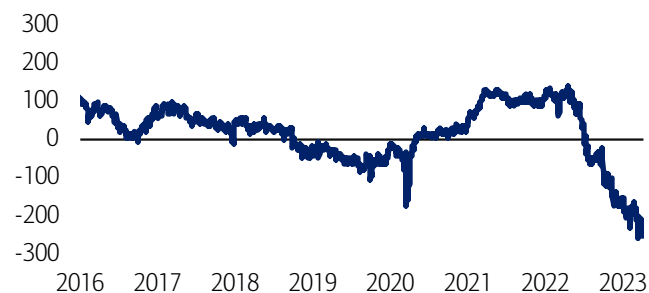


Source: BofA Global Research, Bloomberg

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**Exhibit 15: 10Y UST pickup to 10Y JGB, with 3m fx hedge (bps)**

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

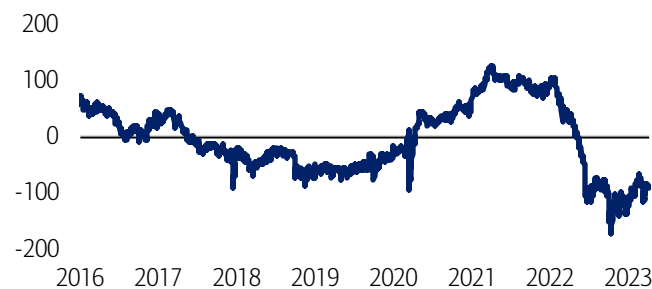


Source: BofA Global Research, Bloomberg

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**Exhibit 16: 10Y UST pickup to 10Y Bund, with 3m fx hedge (bps)**

10y TSY offers negative pickup vs 10y Bund

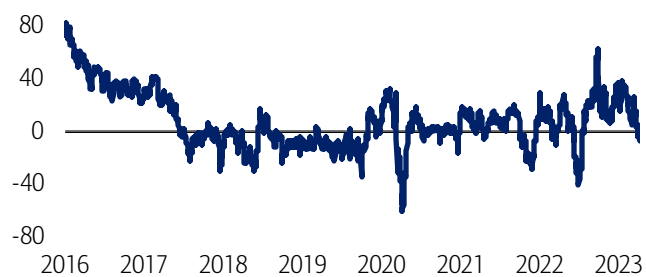


Source: BofA Global Research, Bloomberg

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**Exhibit 17: 10Y UST pickup to 10Y CAD govie, with 3m fx hedge (bps)**

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

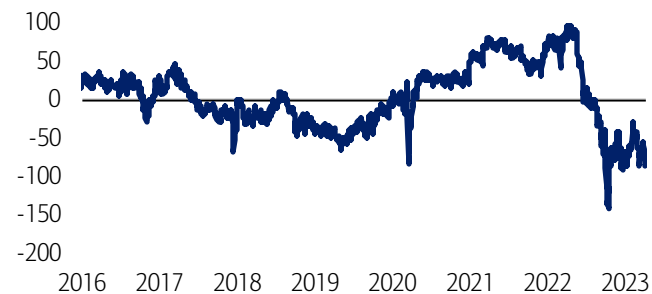


Source: BofA Global Research, Bloomberg

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

10y TSY offers negative pickup vs 10y Gilt



Source: BofA Global Research, Bloomberg

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**Exhibit 19: 3m rolling JPY currency hedge**

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

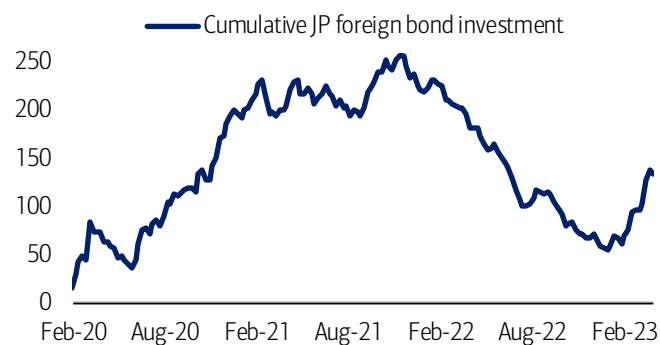
	4/6/2023		As of 1 wk ago		As of 1 mo ago		As of 1 yr ago	
	Pickup to 10y JGB	Pickup to 20Y JGB	Pickup to 10y JGB	Pickup to 20Y JGB	Pickup to 10y JGB	Pickup to 20Y JGB	Pickup to 10y JGB	Pickup to 20Y JGB
10y UST	-2.53%	-3.15%	-2.28%	-2.96%	-2.27%	-3.07%	1.25%	0.73%
10y GER	-1.63%	-2.25%	-1.39%	-2.07%	-1.14%	-1.94%	0.86%	0.33%
10y FRA	-1.11%	-1.74%	-0.90%	-1.57%	-0.64%	-1.44%	1.41%	0.89%
10y BEL	-0.94%	-1.56%	-0.73%	-1.41%	-0.54%	-1.34%	1.41%	0.88%
10y ITA	0.21%	-0.42%	0.40%	-0.28%	0.66%	-0.14%	2.55%	2.02%
10y SPA	-0.59%	-1.21%	-0.39%	-1.07%	-0.11%	-0.91%	1.85%	1.33%
10y UK	-1.69%	-2.31%	-1.56%	-2.23%	-1.44%	-2.24%	0.30%	-0.23%
10y CAN	-2.46%	-3.08%	-2.26%	-2.93%	-2.36%	-3.16%	1.07%	0.55%

Source: BofA Global Research, Bloomberg

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**Exhibit 20: Japan investment in foreign bonds, cumulative weekly (\$bn)**

Long and medium term bonds (\$bn) holdings have picked up since Feb. & took a pause on the week

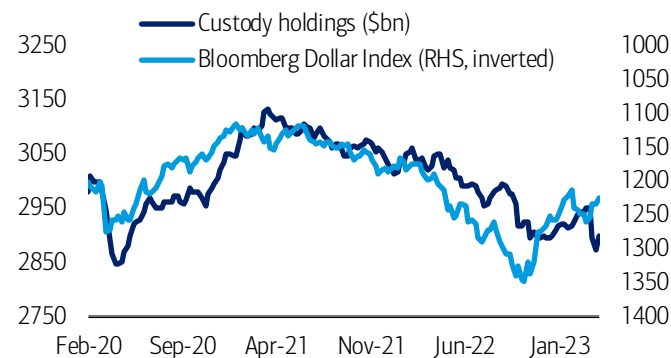


Source: BofA Global Research, Bloomberg

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**Exhibit 21: Weekly UST custody holdings, foreign official (\$bn)**

Custody holdings have declined since start of '22 and picked up on the week



Source: BofA Global Research, NY Fed

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## Fund flows and returns

### Exhibit 22: US fixed income fund flows (\$million)

US fixed income saw significant inflows over the past week. Inflows to govt funds moderated and more cash flows into corp funds. Inflation funds saw some outflows

	4/5/2023	Rolling 4w average	Rolling 8w average	Rolling 12w average	Rolling 52w average
Gov: short	1,406	2,875	3,363	2,157	1,547
Gov: intermediate	(109)	1,578	612	495	641
Gov: long	953	2,128	1,523	1,194	1,135
Corp: IG	4,097	58	(159)	210	386
Corp:HY	4,529	(39)	(1,433)	(1,028)	(460)
Corp: all quality	55	(10)	(1)	17	(13)
MBS	276	299	261	266	(168)
Inflation	(1,874)	(695)	(574)	(652)	(510)
Muni	(237)	(212)	(391)	(42)	(837)
Mixed allocation	2,168	399	2,522	2,523	(1,004)
All US FI	10,614	5,206	4,822	4,398	371

Source: BofA Global Research, EPFR

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### Exhibit 23: Total return FI fund performance vs benchmark

Over the last week, AUM weighted fund performance was in line with benchmark

	AUM (\$Bn)	4/6/2023	Vs. Agg	Last 4w	Vs. Agg
Vanguard Total Bond Market II Index Fund	244	1.65%	0.11%	3.89%	0.04%
Vanguard Total Bond Market Index Fund	203	1.63%	0.09%	3.84%	-0.01%
PIMCO Income fund	119	0.76%	-0.79%	2.17%	-1.68%
The Bond Fund of America	77	1.71%	0.17%	4.00%	0.15%
MetWest Total Return Bond Fund	65	1.62%	0.08%	4.45%	0.60%
PIMCO Total Return Fund	56	1.78%	0.23%	3.44%	-0.41%
Dodge & Cox Income Fund	55	1.29%	-0.26%	2.86%	-0.99%
PGIM Total Return Bond Fund	41	1.51%	-0.03%	3.04%	-0.81%
BlackRock Strategic Income Opportunities Fund	38	0.78%	-0.77%	1.16%	-2.69%
Baird Aggregate Bond Fund	38	1.64%	0.09%	3.51%	-0.34%
JPMorgan Core Bond Fund	37	1.55%	0.00%	3.50%	-0.35%
DoubleLine Total Return Bond Fund	34	1.58%	0.03%	3.19%	-0.66%
Fidelity Series Investment Grade Bond Fund	34	1.60%	0.05%	3.37%	-0.48%
Fidelity Total Bond Fund	30	1.48%	-0.07%	2.79%	-1.06%
Western Asset Core Plus Bond Portfolio	27	1.57%	0.02%	3.44%	-0.41%
Baird Core Plus Bond Fund	24	1.59%	0.05%	3.44%	-0.41%
John Hancock Bond Fund	21	1.55%	0.01%	3.00%	-0.85%
TIAA-CREF Bond Index Fund	21	1.64%	0.09%	3.85%	0.00%
BlackRock Total Return Fund	18	1.67%	0.12%	3.74%	-0.11%
JPMorgan Core Plus Bond Fund	17	1.65%	0.11%	3.52%	-0.33%
Bridge Builder Core Bond Fund	17	1.66%	0.12%	3.60%	-0.25%
T Rowe Price New Income Fund	16	1.56%	0.02%	3.54%	-0.31%
Western Asset Core Bond Fund	15	1.56%	0.02%	3.49%	-0.36%
CREF Bond Market Account	11	1.51%	-0.03%	3.31%	-0.54%
Fidelity Investment Grade Bond Fund	9	1.62%	0.08%	3.40%	-0.45%
DoubleLine Core Fixed Income Fund	7	1.46%	-0.09%	3.11%	-0.74%
TCW Total Return Bond Fund	3	1.65%	0.10%	3.89%	0.04%
Janus Henderson Flexible Bond Fund	3	1.69%	0.14%	3.55%	-0.30%
Weighted avg	1277	1.51%	-0.04%	3.44%	-0.41%
Agg		1.55%		3.85%	
10y return		2.44%		5.98%	

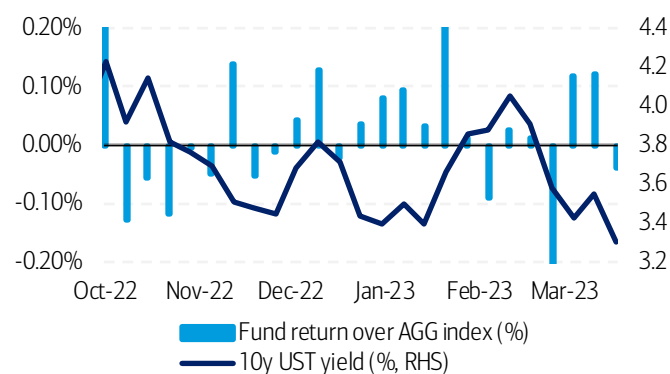
Source: BofA Global Research, Bloomberg. Note: Excess returns are fund total returns over Bloomberg Barclays Agg Index

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**Exhibit 24: Total return funds, excess return vs. 10y rate**

Weekly asset-weighted total returns for total return funds. Funds return in line with benchmark on the week

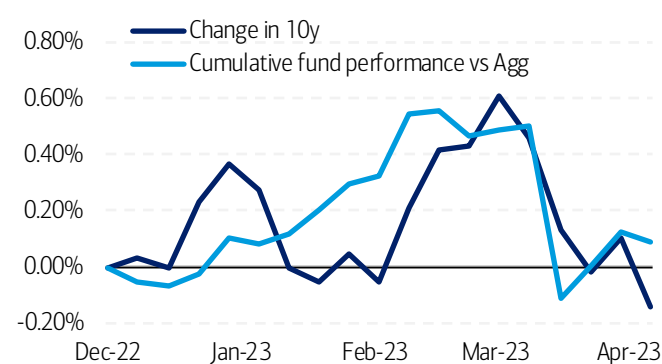


Source: BofA Global Research, Bloomberg. Note: Excess returns are fund total returns over Bloomberg Barclays Agg index

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**Exhibit 25: 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 26: Total return funds' published UST allocations from Q3 and Q4 '22**

Funds were underweight duration at the start of the year

	AUM (\$bn)	Q3 (%)	Q4 (%)	Change (PPTS)
Vanguard Total Bond Market II Index Fund	243.8	1.5	1.6	0.1
Vanguard Total Bond Market Index Fund	202.6	1.3	1.2	-0.1
PIMCO Income fund	119.3	-41.5	-37.7	3.8
The Bond Fund of America	76.8	-11.2	-9.7	1.5
MetWest Total Return Bond Fund	64.8	-16.7	-17.4	-0.7
PIMCO Total Return Fund	55.6	-12.8	-15.2	-2.4
Dodge & Cox Income Fund	55.4	-29.4	-31.2	-1.8
PGIM Total Return Bond Fund	40.8	-	-33.8	-
Baird Aggregate Bond Fund	38.0	-15.1	-17.7	-2.6
BlackRock Strategic Income Opportunities Fund	37.7	-9.9	-14.6	-4.7
JPMorgan Core Bond Fund	37.1	-12.8	-7.3	5.5
DoubleLine Total Return Bond Fund	34.2	-32.2	-32.4	-0.2
Fidelity Series Investment Grade Bond Fund	33.7	-12.2	-10.4	1.8
Fidelity Total Bond Fund	30.0	-18.4	-18.3	0.0
Western Asset Core Plus Bond Portfolio	26.6	-29.8	-29.1	0.6
Baird Core Plus Bond Fund	24.1	-17.9	-20.0	-2.0
John Hancock Bond Fund	21.3	-24.7	-26.1	-1.4
TIAA-CREF Bond Index Fund	20.8	0.3	0.9	0.6
BlackRock Total Return Fund	17.6	-33.0	21.3	54.2
JPMorgan Core Plus Bond Fund	16.9	-15.4	-7.6	7.8
Bridge Builder Core Bond Fund	16.6	-21.9	-22.6	-0.7
T Rowe Price New Income Fund	15.9	-15.7	-11.2	4.5
Western Asset Core Bond Fund	14.7	-29.7	-23.6	6.1
CREF Bond Market Account	10.9	-22.8	-22.3	0.5
Fidelity Investment Grade Bond Fund	8.5	-10.1	-8.6	1.5
DoubleLine Core Fixed Income Fund	7.3	-21.3	-20.3	1.1
TCW Total Return Bond Fund	3.0	-38.6	-40.6	-2.0
Janus Henderson Flexible Bond Fund	2.9	-10.6	-9.5	1.1
<b>AUM weighted</b>	<b>1276.9</b>	<b>-13.2</b>	<b>-12.7</b>	<b>0.5</b>

Source: BofA Global Research, funds' publicly available reports

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# Bank balance sheets

## Exhibit 27: Changes to bank balance sheet assets (\$bn)

Small banks cut MBS holdings, large banks add to cash positions

		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>	23096	-23	50	11	9	7
	Cash	3459	73	95	43	25	-5
	UST & Agency	1556	-19	-18	-13	-8	-3
	MBS	2609	-97	-34	-19	-11	-7
	Loans and Leases	12066	2	3	0	0	20
	Other	3406	19	4	1	4	2
<b>Large Domestic (\$bn, NSA)</b>	<b>Total Assets</b>	13254	83	76	31	12	0
	Cash	1632	90	85	44	18	-2
	UST & Agency	1147	-18	-11	-9	-6	-3
	MBS	1954	-3	-3	-3	1	-3
	Loans and Leases	6559	19	8	4	1	8
	Other	1961	-5	-4	-5	-2	0
<b>Small Domestic (\$bn, NSA)</b>	<b>Total Assets</b>	6752	-142	-25	-14	-12	2
	Cash	525	-13	22	11	4	-4
	UST & Agency	299	-3	-6	-3	-3	0
	MBS	627	-95	-32	-17	-11	-4
	Loans and leases	4456	-21	-8	-2	-1	9
	Other	845	-11	-1	-2	-1	0
<b>All Domestic (\$bn, NSA)</b>	<b>Total Assets</b>	20006	-59	52	17	0	1
	Cash	2157	77	108	55	22	-6
	UST & Agency	1446	-20	-16	-13	-9	-3
	MBS	2581	-98	-35	-20	-11	-7
	Loans and leases	11015	-2	0	2	0	18
	Other	2807	-16	-5	-7	-3	0
<b>Foreign (\$bn, NSA)</b>	<b>Total Assets</b>	3090	36	-2	-6	9	5
	Cash	1302	-4	-13	-11	2	1
	UST & Agency	111	1	-1	0	0	0
	MBS	27	1	1	0	-1	0
	Loans and leases	1051	4	3	-2	-1	3
	Other	599	34	8	8	7	2

Source: BofA Global Research, Federal Reserve, Bloomberg

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## Exhibit 28: Select bank balance sheet liabilities (\$bn, NSA)

Deposits increase, other borrowings 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	17350	42	-78	-40	-47	-17
	Domestic	16120	74	-48	-28	-41	-17
	Large Domestic	10748	49	5	-4	-20	-13
	Small Domestic	5371	26	-53	-24	-21	-4
	Foreign	1230	-32	-30	-11	-6	0
<b>Other borrowing (\$bn, NSA)</b>	All	2410	-118	104	57	43	16
	Domestic	1497	-105	111	54	41	17
	Large Domestic	929	24	72	36	29	11
	Small Domestic	568	-129	39	18	13	7
	Foreign	914	-13	-6	3	2	-1

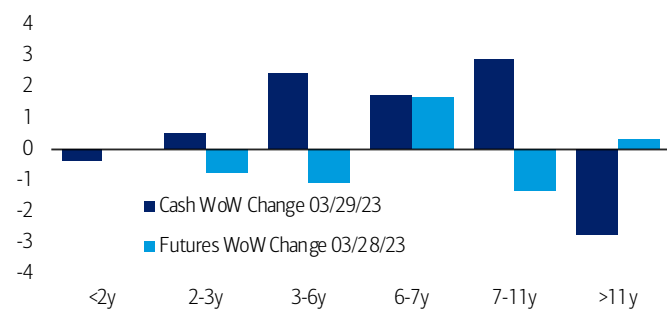
Source: BofA Global Research, Federal Reserve, Bloomberg

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# Primary dealer balance sheet

## Exhibit 29: Dealers WoW change in positions

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

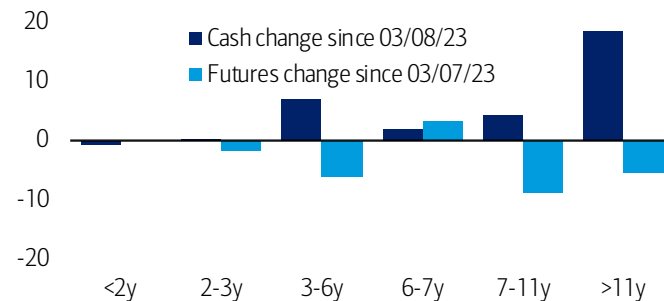


Source: BofA Global Research, NY Fed, CFTC

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## Exhibit 30: Dealers change in positions since bank risk events

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

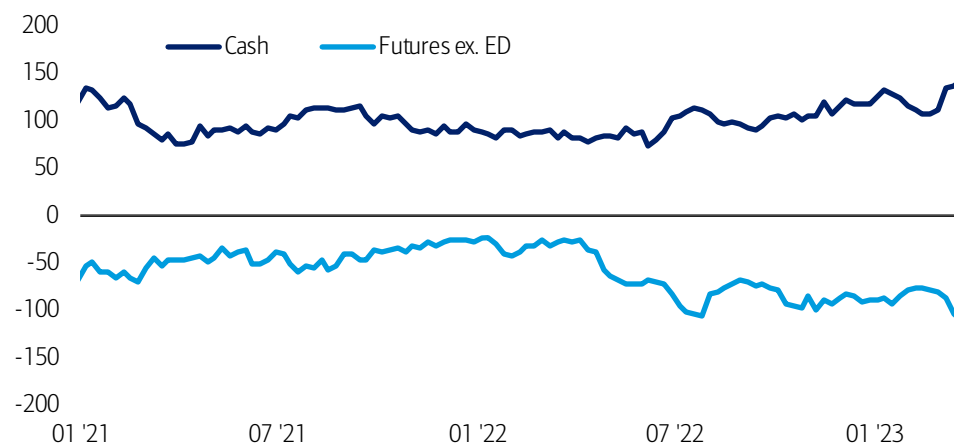


Source: BofA Global Research, NY Fed, CFTC

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## Exhibit 31: Dealers total sector positions

10y equivalent, \$bn, cash longs and futures shorts have increased in recent weeks



Source: BofA Global Research, NY Fed, CFTC

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