

# US Rates Watch

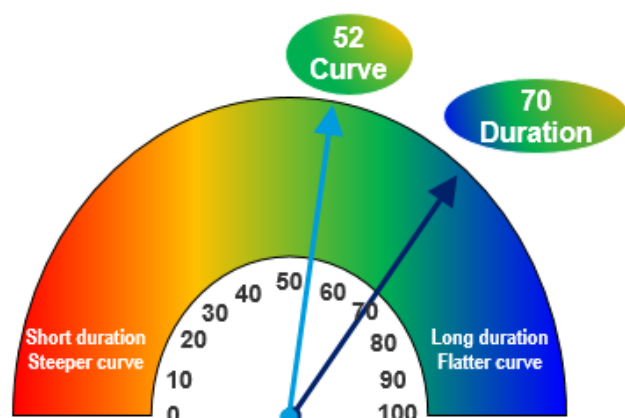
## Weekend homework: Duration long clearer than curve positioning

### Investors directionally long

Our positioning indicators generally suggest that investors are long duration (Exhibit 1). In [Back to basis](#), we discuss how the notable growth in speculative shorts likely represents a pickup in basis trades (short futures, long cash positions) alongside strong demand from the asset manager community. To get a better read on where speculative investors are directionally positioned, we can strip out leveraged funds from this data set which suggests investors are relatively long duration vs the last 5 years (Exhibit 4). This positioning signal tends to be more of a momentum than contrarian indicator: when positioning is long, rates tend to rally over the following weeks (Exhibit 8). Indeed, our futures positioning proxy suggests that across most points on the curve, the bias is for rates to rally with the out of the money position predominantly short.

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

Long duration position clearer than curve positioning



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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### Futures positioning proxy suggests steepening pressure

The futures positioning proxy shows open interest is generally long across most points on the curve and that the out of the money position is short. This suggests more of a bias for rates to rally across FV – UXY. The exception is US and WN where we see more of a bias for rates to sell off. In US our proxy shows no shorts currently outstanding and a higher concentration of in the money shorts in WN. On the week through Thursday, many new positions were created: at the front end they were largely shorts but, in TY through WN there were more longs created.

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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

## CFTC data shows LF shorts added

The leveraged fund (LF) short continued to extend the week ending May 9, largely concentrated in TY and FV (Exhibit 6). Ten-year equivalent asset manager positioning across the curve was little changed but remains historically long, supported by continued inflows to Gov funds (see below) and a bias to be overweight duration (see: [FXRS](#)). Speculators ex-leveraged fund positions are historically long and we see more of that long position in the back-end of the curve vs front-end (Exhibit 5).

## Non-reportable shows CTAs modestly add

Our cross-over momentum signal suggests long duration (Exhibit 12), consistent CFTC non-reportable positioning (viewed as a proxy for CTAs, Exhibit 15). Our top down model is now reflecting the covering which likely occurred several weeks ago (Exhibit 14).

## Primary dealer basis position grows

Primary dealer cash positions continue to increase. On the week ending May 3 dealers saw a build in cash at the front-end, 6-7y and back end of the curve while futures shorts increased in 3-7y and >11y sector (Exhibit 32). The build in the dealer basis position to the largest level since '19 (Exhibit 34) suggests that the leveraged fund short is largely driven by basis trades as well.

## Japan selling, official buying

Since the notable buying from Japanese investors observed in February and March, we have seen about \$17bn in selling over the past 6 weeks (Exhibit 23). Selling in April was predominantly banks which were also the large buyers in prior months, while pensions and lifers activity has been limited since the start of the year. Recent selling from banks may reflect profit taking given the notable rally since they added over Q1. Foreign custodial holdings increased \$8bn on the week ending Wednesday which may reflect demand given recent USD depreciation (Exhibit 24).

## US Gov inflows endorse strong auctions

We continue to see strong inflows to US fixed income funds overall (Exhibit 25). Mixed allocation and long term Gov funds saw the largest inflows while HY funds saw the largest outflow over the week ending May 10. Strong US Gov fund inflows in recent months has likely helped support overall strong auction performance (Exhibit 36). Total return fixed income funds performed in line with the benchmark and 10y rates were little changed on net over the week (Exhibit 26).

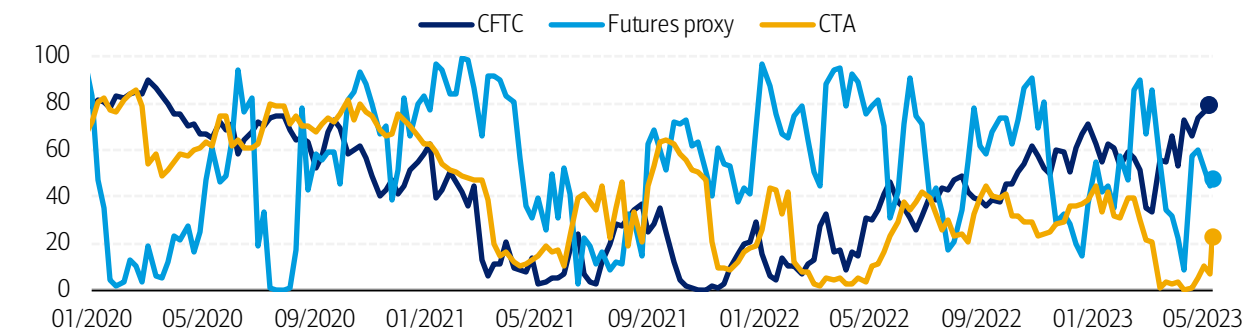
## Increase in bank balance sheet driven by reserves

Over the week ending May 3, domestic bank balance sheets increased by \$28bn led by small banks. The increase on the asset side was driven by higher cash/ deposits, consistent with the \$34bn increase in reserves (Exhibit 30). On the liability side, deposits led the uptick, while other borrowing declined (Exhibit 31). The Fed's balance sheet data this week however, showed an \$11bn increase in borrowing from banks which will be reflected in next week's bank data.

## Positioning indicators

### Exhibit 2: 5y percentile of 10 equivalent duration positioning (percentile: higher = longer)

Futures positioning proxy does not show clear bias, CFTC data adjusted for LFs is long, top down CTA model is lagged and shows historic shorts that have likely already been covered

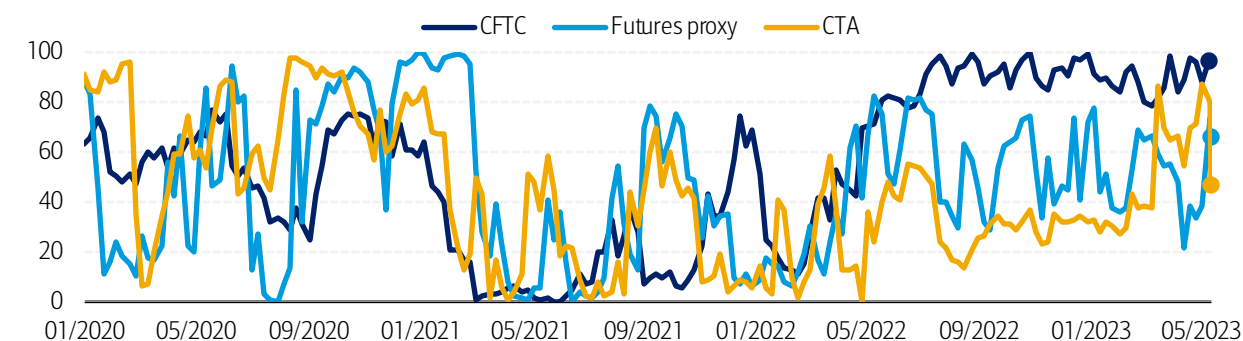


Source: BofA Global Research

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### Exhibit 3: 5y percentile of curve positioning (percentile: higher = longer back-end relative to front end)

Indicators generally point mixed curve positioning

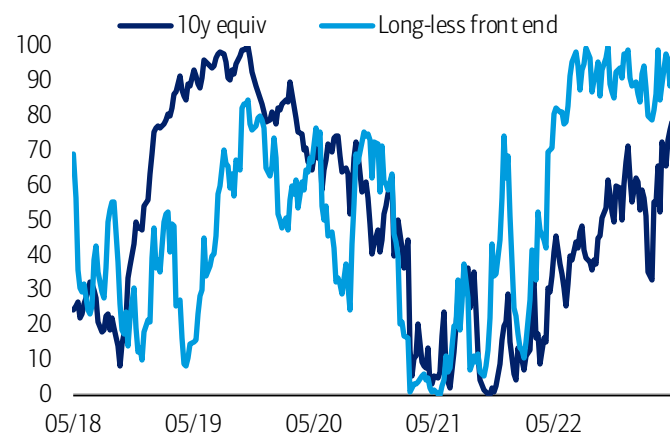


Source: BofA Global Research

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### Exhibit 4: 5y percentile of non-commercial ex LF positioning

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

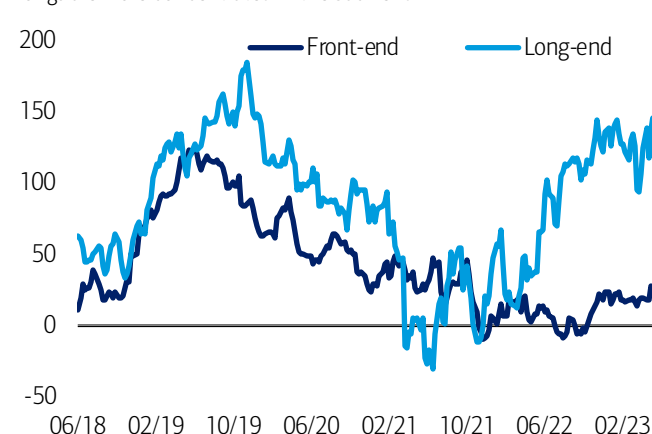


Source: BofA Global Research, Bloomberg

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### Exhibit 5: Non-commercial ex leveraged fund positioning (\$bn, 10y equivalent)

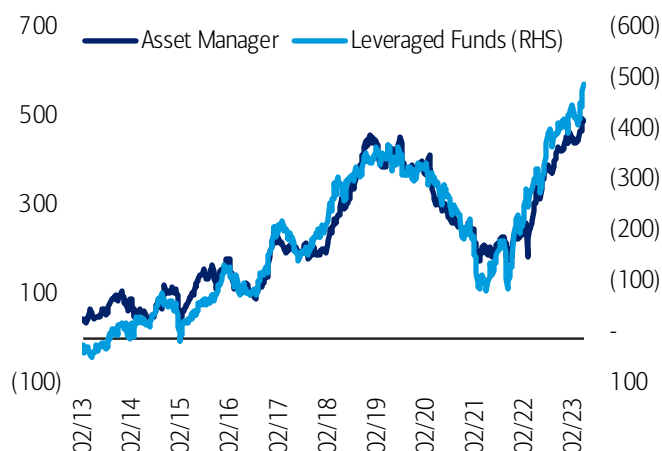
Longs are more concentrated in the back-end



Source: BofA Global Research, Bloomberg

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Asset manager longs correspond with leveraged fund shorts



**Source:** BofA Global Research, Bloomberg

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**Exhibit 8: 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

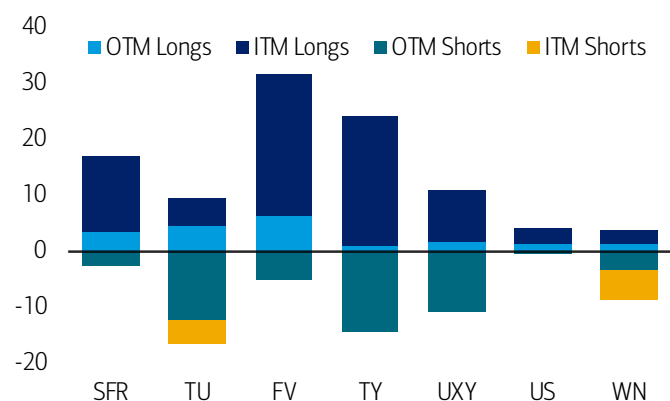
	1w	4w	8w	12w	16w
0 to 10	0	-1	0	1	1
10 to 20	1	3	3	3	3
20 to 30	1	2	1	1	1
30 to 40	6	2	2	3	4
40 to 50	2	5	4	4	4
50 to 60	1	0	0	1	1
60 to 70	1	0	0	0	0
70 to 80	-5	-5	-4	-4	-5
80 to 90	-4	-3	-3	-3	-5
90 to 100	-2	-2	-2	-1	-2

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

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### Exhibit 10: Proxies for futures positioning

Longs ITM, shorts OTM broadly across curve with exception of back-end

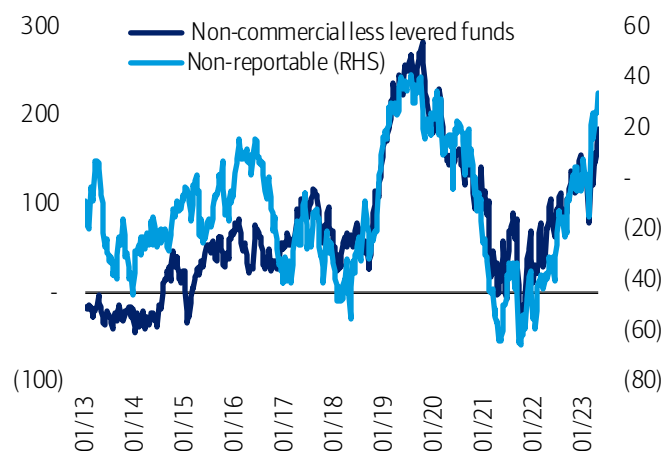


**Source:** BofA Global Research, Bloomberg

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**Exhibit 7: 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 leveraged fund positioning (higher percentile = longer)**

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

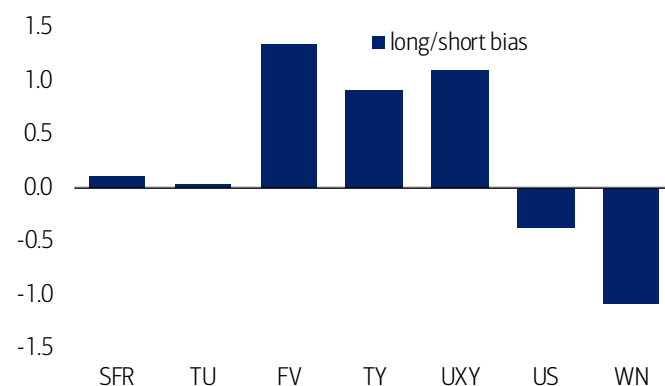
	1w	4w	8w	12w	16w	
0 to 10	-3	-3	-3	-2	-1	-2
10 to 20	1	-3	-3	-3	-3	-3
20 to 30	-5	-3	-4	-4	-4	-5
30 to 40	0	1	0	-1	-2	-2
40 to 50	2	1	1	1	1	1
50 to 60	2	1	1	1	1	1
60 to 70	0	1	2	3	3	5
70 to 80	5	5	4	3	4	4
80 to 90	3	4	4	4	4	4
90 to 100	-1	-2	-1	0	0	0

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

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### Exhibit 11: Analysis of proxies for futures positioning

Strongest bias is for FV, TY, and UXY to rally but for WN to sell off

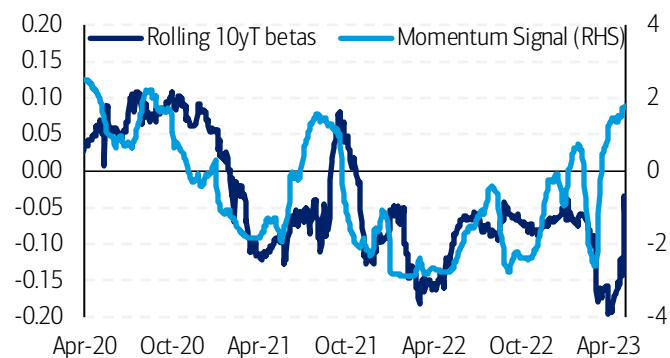


**Source:** BofA Global Research, Bloomberg, Note: reflects average positioning of futures stack over last 5 days

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**Exhibit 12: CTA positioning in 10yT**

CTA top down model implies short covering, momentum signal leading

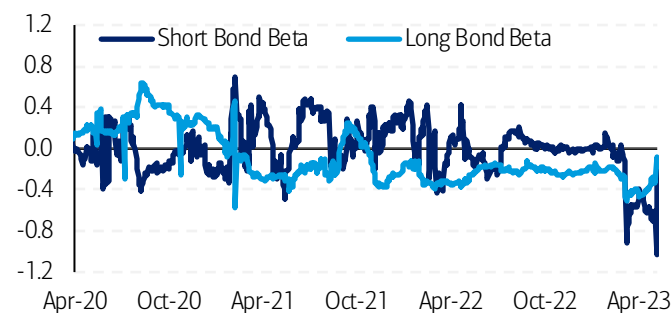


Source: BofA Global Research

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**Exhibit 13: CTA positioning in longer duration and shorter duration bonds**

Top-down model suggests CTAs saw moderate short covering in long duration bonds

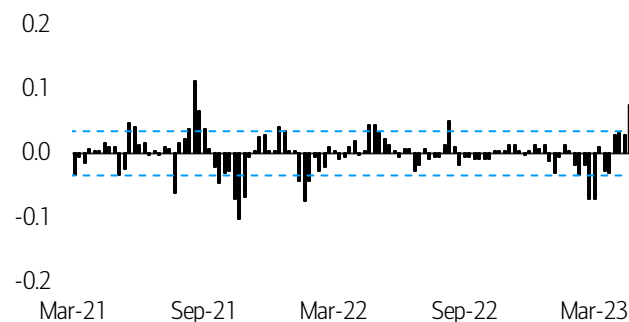


Source: BofA Global Research

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**Exhibit 14: Changes in CTA 10yT beta**

Change in 10yT beta increased in recent weeks

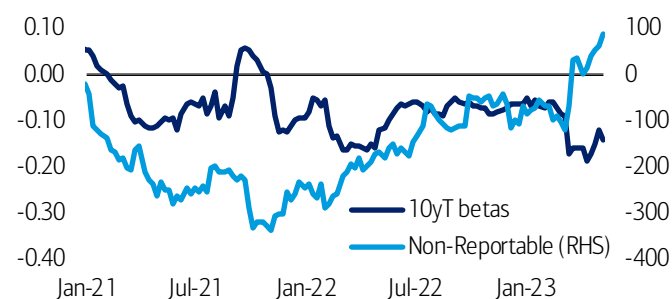


Source: BofA Global Research

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**Exhibit 15: CTA 10y TSY beta and non-reportable positions**

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



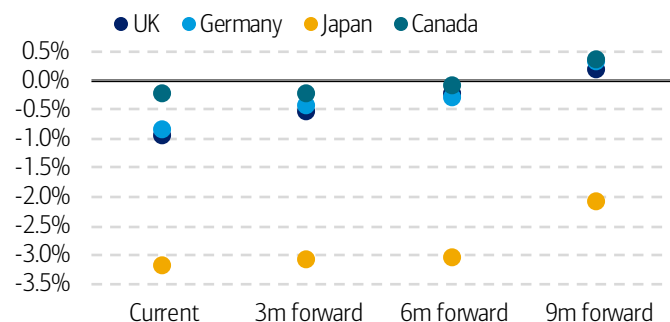
Source: BofA Global Research, Bloomberg

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## FX hedged pickup and foreign flows

**Exhibit 16: 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 17: 10Y UST pickup to 20Y JGB, with 3m fx hedge (bps)**

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

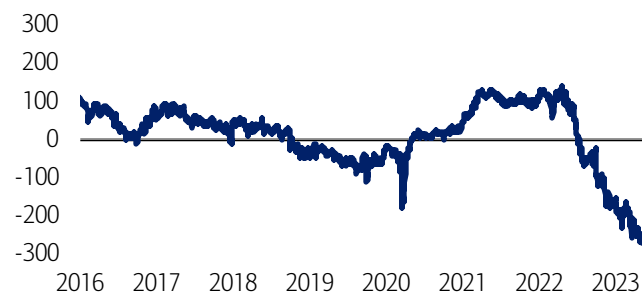


Source: BofA Global Research, Bloomberg

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

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

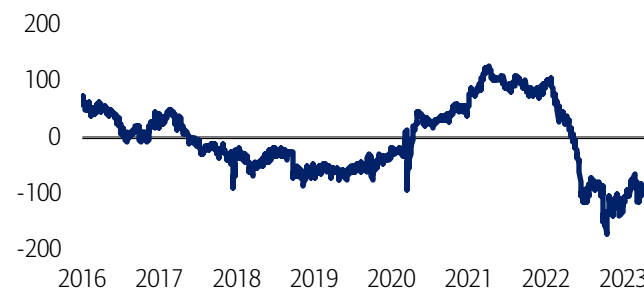


Source: BofA Global Research, Bloomberg

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

10y TSY offers negative pickup vs 10y Bund

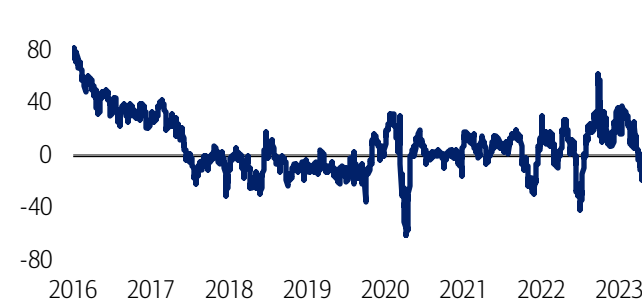


Source: BofA Global Research, Bloomberg

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

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

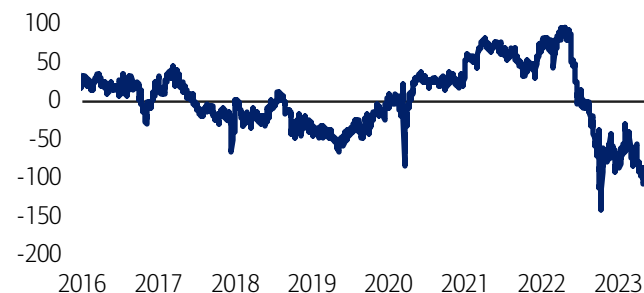


Source: BofA Global Research, Bloomberg

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**Exhibit 21: 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 22: 3m rolling JPY currency hedge**

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

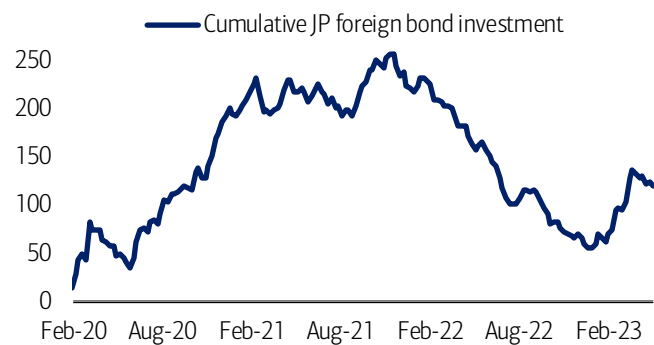
	5/11/2023		As of 1 wk ago		As of 1 mo ago		As of 1 yr ago	
	Pickup to 10y JGB	Pickup to 20Y JGB	Pickup to 10y JGB	Pickup to 20Y JGB	Pickup to 10y JGB	Pickup to 20Y JGB	Pickup to 10y JGB	Pickup to 20Y JGB
10y UST	-2.63%	-3.23%	-2.61%	-3.22%	-2.40%	-3.00%	0.95%	0.44%
10y GER	-1.77%	-2.38%	-1.71%	-2.32%	-1.50%	-2.11%	1.01%	0.50%
10y FRA	-1.20%	-1.81%	-1.13%	-1.74%	-0.94%	-1.54%	1.52%	1.01%
10y BEL	-1.08%	-1.68%	-1.01%	-1.62%	-0.83%	-1.44%	1.59%	1.08%
10y ITA	0.10%	-0.50%	0.18%	-0.44%	0.34%	-0.26%	2.91%	2.40%
10y SPA	-0.70%	-1.31%	-0.63%	-1.25%	-0.47%	-1.08%	2.06%	1.55%
10y UK	-1.64%	-2.25%	-1.57%	-2.18%	-1.50%	-2.11%	0.07%	-0.44%
10y CAN	-2.40%	-3.00%	-2.38%	-2.99%	-2.22%	-2.83%	0.92%	0.41%

Source: BofA Global Research, Bloomberg

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**Exhibit 23: Japan investment in foreign bonds, cumulative weekly (\$bn)**

Long & medium term bonds (\$bn) holdings have declined after increasing in Feb and March

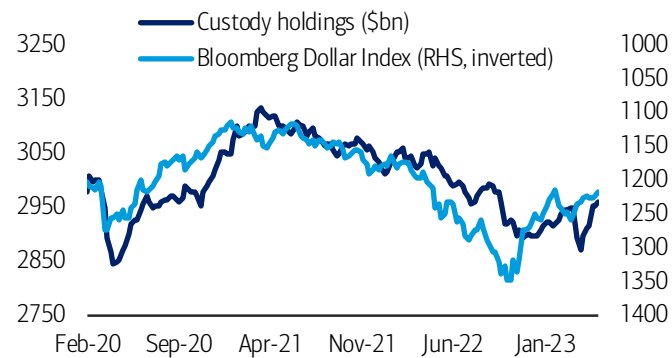


Source: BofA Global Research, Bloomberg

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**Exhibit 24: Weekly UST custody holdings, foreign official (\$bn)**

Custody holdings have recovered drop around banking risk events in March



Source: BofA Global Research, NY Fed

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## Fund flows and returns

### Exhibit 25: US fixed income fund flows (\$million)

US fixed income funds continue to see inflows, this week was led by mixed allocation funds

	5/10/2023	Rolling 4w average	Rolling 8w average	Rolling 12w average	Rolling 52w average
Gov: short	984	411	1,119	2,271	1,281
Gov: intermediate	826	214	703	474	566
Gov: long	2,276	1,192	1,480	1,372	1,196
Corp: IG	(527)	(567)	(41)	(55)	318
Corp:HY	(1,476)	306	304	(652)	(350)
Corp: all quality	25	41	23	9	(7)
MBS	436	196	245	242	(103)
Inflation	(153)	(381)	(476)	(437)	(447)
Muni	151	(180)	(176)	(351)	(629)
Mixed allocation	3,305	2,976	2,102	2,336	(272)
All US FI	4,801	3,598	4,538	4,431	1,062

Source: BofA Global Research, EPFR

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### Exhibit 26: Total return FI fund performance vs benchmark

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

	AUM (\$Bn)	5/11/2023	Vs. Agg	Last 4w	Vs. Agg
Vanguard Total Bond Market II Index Fund	247	-0.05%	-0.03%	0.33%	0.02%
Vanguard Total Bond Market Index Fund	205	-0.05%	-0.03%	0.32%	0.01%
PIMCO Income fund	121	0.21%	0.23%	0.60%	0.29%
The Bond Fund of America	78	-0.19%	-0.17%	0.35%	0.04%
MetWest Total Return Bond Fund	65	-0.03%	-0.01%	0.41%	0.10%
PIMCO Total Return Fund	56	-0.05%	-0.03%	0.29%	-0.02%
Dodge & Cox Income Fund	57	0.08%	0.10%	0.16%	-0.15%
PGIM Total Return Bond Fund	41	-0.08%	-0.06%	0.33%	0.02%
BlackRock Strategic Income Opportunities Fund	37	0.09%	0.11%	0.35%	0.04%
Baird Aggregate Bond Fund	38	0.00%	0.02%	0.37%	0.06%
JPMorgan Core Bond Fund	38	-0.10%	-0.08%	0.40%	0.08%
DoubleLine Total Return Bond Fund	34	0.00%	0.02%	0.76%	0.45%
Fidelity Series Investment Grade Bond Fund	34	-0.02%	0.00%	0.40%	0.09%
Fidelity Total Bond Fund	31	-0.03%	-0.01%	0.21%	-0.11%
Western Asset Core Plus Bond Portfolio	25	0.08%	0.10%	0.21%	-0.10%
Baird Core Plus Bond Fund	24	0.00%	0.02%	0.28%	-0.03%
John Hancock Bond Fund	22	-0.07%	-0.05%	0.08%	-0.23%
TIAA-CREF Bond Index Fund	21	-0.05%	-0.03%	0.32%	0.01%
BlackRock Total Return Fund	18	-0.02%	0.00%	0.31%	0.00%
JPMorgan Core Plus Bond Fund	17	0.00%	0.02%	0.48%	0.17%
Bridge Builder Core Bond Fund	17	-0.04%	-0.02%	0.40%	0.09%
T Rowe Price New Income Fund	16	-0.17%	-0.15%	0.41%	0.10%
Western Asset Core Bond Fund	15	0.07%	0.09%	0.19%	-0.13%
CREF Bond Market Account	11	-0.06%	-0.04%	0.32%	0.00%
Fidelity Investment Grade Bond Fund	9	-0.07%	-0.05%	0.27%	-0.05%
DoubleLine Core Fixed Income Fund	7	0.00%	0.02%	0.45%	0.14%
TCW Total Return Bond Fund	3	0.00%	0.02%	0.81%	0.49%
Janus Henderson Flexible Bond Fund	3	-0.14%	-0.12%	0.40%	0.09%
Weighted avg	1289	-0.02%	0.00%	0.36%	0.05%
Agg		-0.02%		0.31%	
10y return		-0.06%		0.61%	

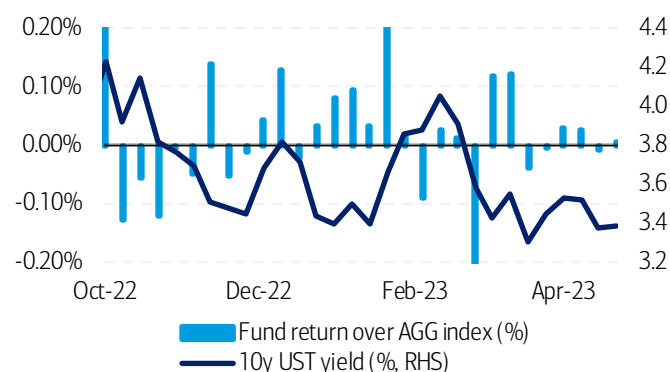
Source: BofA Global Research, Bloomberg. Note: Excess returns are fund total returns over Bloomberg Barclays Agg Index

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**Exhibit 27: 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

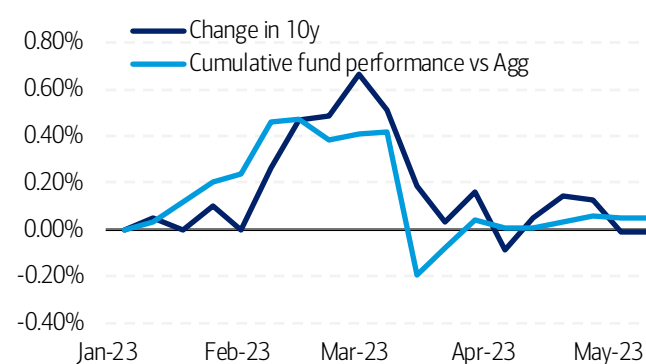


Source: BofA Global Research, Bloomberg. Note: Excess returns are fund total returns over Bloomberg Barclays Agg index

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**Exhibit 28: 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 29: 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	243.8	1.6	2.4	0.8
VBMFX	Vanguard Total Bond Market Index Fund	202.6	1.2	1.7	0.5
PIMIX	PIMCO Income fund	120.8	-37.7	-43.4	-5.7
ABNDX	The Bond Fund of America	77.5	-9.7	-11.3	-1.6
MWTIX	MetWest Total Return Bond Fund	64.6	-17.4	-16.5	0.9
DODIX	Dodge & Cox Income Fund	56.0	-31.2	-28.1	3.1
PTTRX	PIMCO Total Return Fund	55.7	-15.2	-15.4	-0.2
PDBAX	PGIM Total Return Bond Fund	40.9	-33.8	-33.7	0.1
BAGIX	Baird Aggregate Bond Fund	38.5	-17.7	-16.9	0.8
PGBOX	JPMorgan Core Bond Fund	38.1	-7.3	-5.0	2.3
BSIIX	BlackRock Strategic Income Opportunities Fund	37.6	-14.6	-17.3	-2.7
DBLTX	DoubleLine Total Return Bond Fund	34.1	-32.4	-32.7	-0.3
FSIGX	Fidelity Series Investment Grade Bond Fund	33.9	-10.4	-7.5	3.0
FTBFX	Fidelity Total Bond Fund	30.6	-18.3	-12.0	6.3
WACPX	Western Asset Core Plus Bond Portfolio	25.5	-29.1	-33.7	-4.6
BCOIX	Baird Core Plus Bond Fund	24.3	-20.0	-18.5	1.4
JHBIX	John Hancock Bond Fund	21.6	-26.1	-22.8	3.3
TBIIX	TIAA-CREF Bond Index Fund	20.8	0.9	0.8	-0.1
MAHQX	BlackRock Total Return Fund	17.7	21.3	-13.7	-35.0
ONIAI	JPMorgan Core Plus Bond Fund	17.1	-7.6	-5.1	2.5
BBTBX	Bridge Builder Core Bond Fund	16.6	-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	15.3	-23.6	-30.7	-7.1
QCBMIX	CREF Bond Market Account	10.9	-22.3	-21.1	1.2
FBNDX	Fidelity Investment Grade Bond Fund	8.7	-8.6	-5.7	2.9
DBLFX	DoubleLine Core Fixed Income Fund	7.2	-20.3	-16.9	3.4
TGLMX	TCW Total Return Bond Fund	3.0	-40.6	-38.5	2.1
JFLEX	Janus Henderson Flexible Bond Fund	2.9	-9.5	-11.3	-1.8
<b>AUM weighted</b>		<b>1282.3</b>	<b>-12.8</b>	<b>-13.3</b>	<b>-0.5</b>

Source: BofA Global Research, funds' publicly available reports

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# Bank balance sheets

## Exhibit 30: Changes to bank balance sheet assets (\$bn)

Domestic bank asset increase led by cash

		Current	1w change	Rolling 4w avg wkly chg	Rolling 8w avg wkly chg	Rolling 12w avg wkly chg	Rolling 52w avg wkly chg
<b>All (\$bn, NSA)</b>	<b>Total Assets</b>	22832	-16	-41	-5	-10	6
	Cash	3197	2	-47	17	7	-3
	UST & Agency	1549	-8	-1	-9	-9	-3
	MBS	2624	0	0	-14	-11	-6
	Loans and Leases	12117	4	13	11	6	19
	Other	3346	-13	-7	-9	-4	-1
<b>Large Domestic (\$bn, NSA)</b>	<b>Total Assets</b>	13219	3	-38	22	14	0
	Cash	1458	12	-47	23	17	-1
	UST & Agency	1149	-7	-2	-7	-7	-3
	MBS	1964	-1	0	1	0	-2
	Loans and Leases	6696	-2	4	9	5	7
	Other	1951	2	7	-4	-2	-1
<b>Small Domestic (\$bn, NSA)</b>	<b>Total Assets</b>	6641	24	6	-8	-6	3
	Cash	484	13	2	9	6	-3
	UST & Agency	290	-2	0	-2	-2	0
	MBS	634	1	0	-15	-11	-3
	Loans and leases	4389	4	12	2	3	9
	Other	844	8	-8	-2	-1	0
<b>All Domestic (\$bn, NSA)</b>	<b>Total Assets</b>	19860	28	-32	14	8	3
	Cash	1943	25	-45	32	22	-3
	UST & Agency	1440	-10	-1	-9	-9	-3
	MBS	2598	0	0	-14	-11	-6
	Loans and leases	11086	2	16	10	8	16
	Other	2795	10	-1	-5	-3	-1
<b>Foreign (\$bn, NSA)</b>	<b>Total Assets</b>	2971	-44	-10	-19	-19	4
	Cash	1254	-23	-2	-15	-15	1
	UST & Agency	109	2	0	0	0	0
	MBS	26	-1	0	0	0	0
	Loans and leases	1031	2	-2	0	-2	2
	Other	552	-23	-6	-4	-1	1

Source: BofA Global Research, Federal Reserve, Bloomberg

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## Exhibit 31: Select bank balance sheet liabilities (\$bn, NSA)

Deposits increased while other borrowings declined

		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	17158	67	-67	-57	-38	-17
	Domestic	15924	74	-63	-41	-28	-15
	Large Domestic	10689	56	-47	-11	-9	-11
	Small Domestic	5235	18	-17	-30	-19	-4
	Foreign	1234	-7	-4	-16	-10	-2
<b>Other borrowing (\$bn, NSA)</b>	All	2453	19	23	59	41	16
	Domestic	1493	-10	13	54	37	16
	Large Domestic	924	-12	4	33	23	10
	Small Domestic	569	3	9	22	14	7
	Foreign	960	28	10	5	4	0

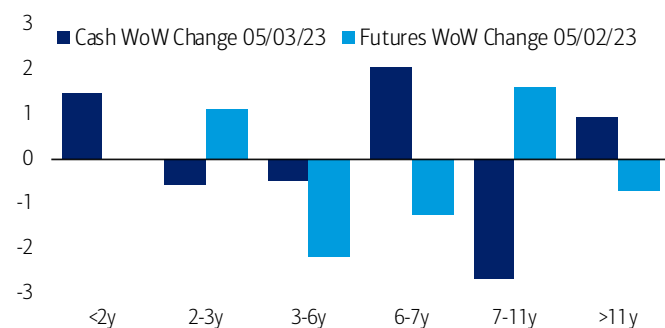
Source: BofA Global Research, Federal Reserve, Bloomberg

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# Primary dealer balance sheet

## Exhibit 32: Dealers WoW change in positions

10y equivalent, \$bn, cash positions increased

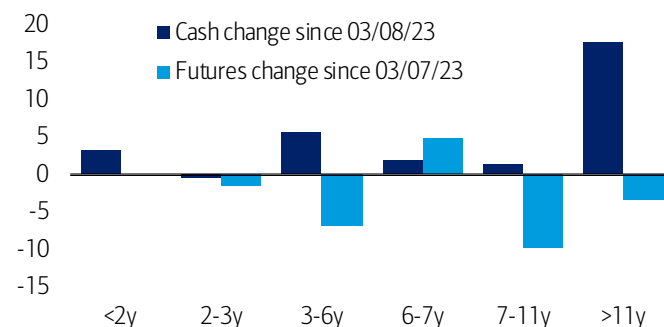


Source: BofA Global Research, NY Fed, CFTC

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## Exhibit 33: Dealers change in positions since bank risk events

10y equivalent, \$bn, cash positions still higher

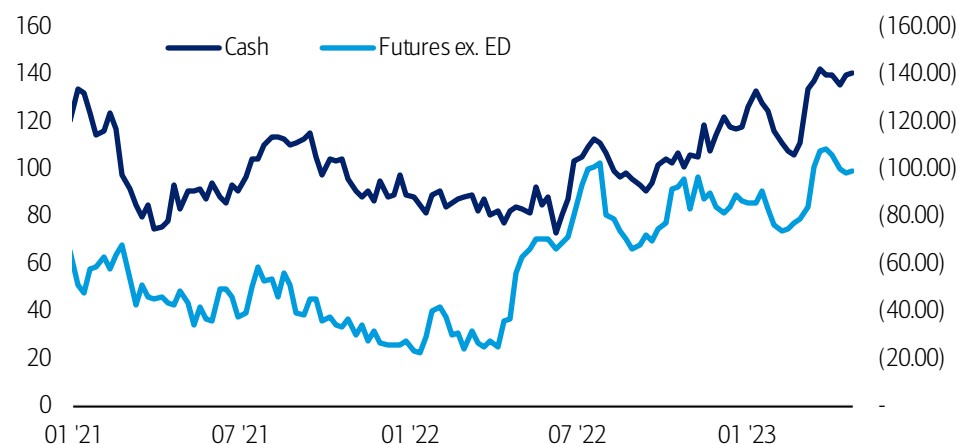


Source: BofA Global Research, NY Fed, CFTC

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## Exhibit 34: Dealers total sector positions

10y equivalent, \$bn, both cash longs & futures shorts positioning since mid '22

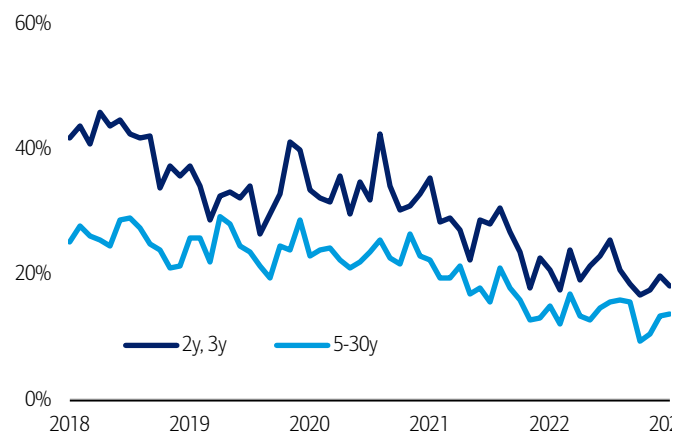


Source: BofA Global Research, NY Fed, CFTC

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## Exhibit 35: Primary dealer auction allotment

Take-up has declined

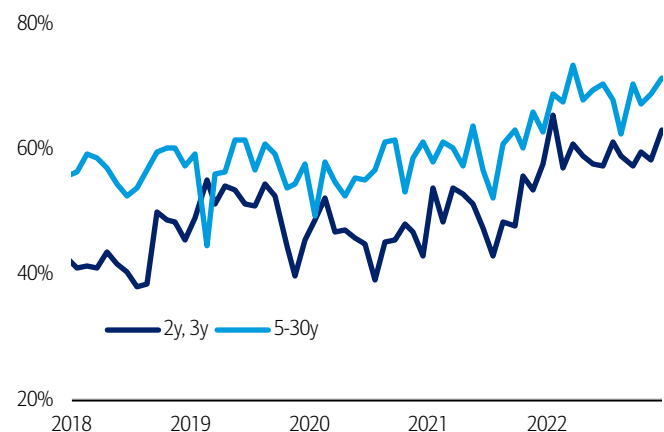


Source: BofA Global Research, Bloomberg

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## Exhibit 36: Investment fund auction allotment

Take-up has increased



Source: BofA Global Research, Bloomberg

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