

# US Rates Watch

## Weekend homework: Deposit outflow as anticipated, positioning biases rates lower

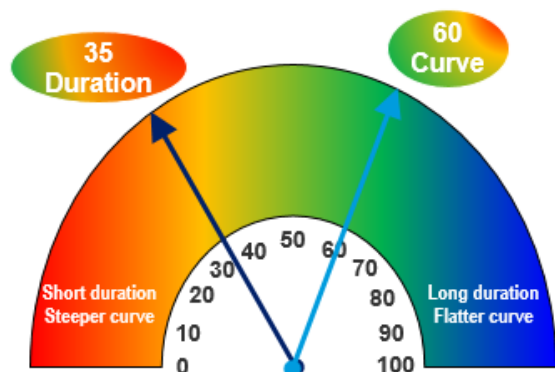
We still see a bias for rates to rally at the front-end and belly of the curve as out of the money shorts get covered. CFTC speculative positioning shows some covering, but suggests that shorts are still prominent. While our top-down model that tends to be more lagged shows that CTAs are still short, momentum signals and non-reportable positioning suggests that these shorts have been covered.

Flows into fixed income still indicate a strong flight to quality bias with notable inflows to US Gov funds and outflows from HY credit funds. Japanese investors continue to buy foreign bonds, likely unhedged on FX given high hedging costs. Data as of Mar 22 shows that US bank deposits declined by about \$100bn which is consistent with the uptick in the Fed's Overnight Reverse Repo Facility (ON RRP) and what we had anticipated given MMF flows. We think that deposits have stabilized since then.

### Positioning shows more OTM shorts to cover

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

Positioning suggests more OTM shorts that can be covered, rates are more prone to rally



**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 continues to reflect that rates are biased to rally across contracts except in WN. On the week through Thursday, we saw open interest increase with more shorts created across the curve vs longs. In terms of positions closed, we saw more longs destroyed vs shorts particularly in SOFR and FV.

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Timestamp: 31 March 2023 08:05PM EDT

31 March 2023

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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

**CTA model:** Our cross-over momentum signal further increased on the week following last week's notable swing to modestly long duration (Exhibit 10). Our top-down model still reflects more limited covering which may be due to a 3-month lag in rolling 10yT beta. Non-reportable CFTC positions suggest covering CTAs over the week ending March 28<sup>th</sup> and now puts them modestly net long (Exhibit 11).

**CFTC non-commercial positioning:** While some covering transpired the week ending March 28, overall positioning is still quite short: 10y equivalent duration positioning across the curve is at the 12<sup>th</sup> percentile over the past 5 years (Exhibit 4). Duration weighted, TY, SOFR, and WN saw the largest amount of short covering, while TU and FV saw more shorts added. Speculative curve positioning shifted flatter on the week.

## Custody holdings reflect lower liquidity need

Japan purchased \$9bn in foreign bonds the week ending March 24<sup>th</sup>. We think this likely represents continued real money buying on a non-FX hedged basis given how expensive hedging costs remain and also could be some window dressing behavior ahead of Japanese year end (Exhibit 18 and Exhibit 19).

We anticipate that Japanese investors may return to the UST market if they have greater conviction in a bullish rates outlook in Treasuries vs greater uncertainty around the near term direction of JGBs, especially alongside expectations for a hawkish BoJ rate adjustment at some point this year (see: [BoJ review: Governor gone, challenges remain](#)).

While foreign custodial holdings declined \$22bn on average over the last week vs week prior (Exhibit 20), the Wednesday level increased \$19bn. The divergence likely represents higher usage of USTs for repo with the Fed to access USD cash earlier in the reporting week. The build in custody holdings on a Wednesday level corresponds with a drop in foreign repo usage. We take this as another sign of stabilization and represents lower liquidity need from foreign central banks.

## Fixed income inflows, largely into USTs

US fixed income inflows totaled \$3.3bn this week, after averaging about \$4bn over the last four weeks (Exhibit 21). These inflows continue to reflect a strong preference for UST funds versus credit, with notable outflows from high yield credit funds.

The 30 Agg benchmark funds outperformed for the second week in a row despite the modest reversal in the 10y (Exhibit 24). While last week's outperformance alongside the rally suggested that funds may have covered underweights, this week's picture suggests less confidence around net positioning. We know that these funds were underweight to start the year (Exhibit 25) and significantly under-performed on the rally in rates the week ending 16 March (Exhibit 23).

## Deposit outflows from banking system

Bank data as of March 22<sup>nd</sup> (Exhibit 27) show that deposit flow has shifted from movement within the banking system (week ending Mar 15) to moving out of the banking system (week ending March 22). This deposit flow out of large banks and into MMFs, reflected in the latest H8 data release, was as we had anticipated from our read of the higher frequency data and as discussed in [Funding map: T-tables for Fed, banks, MMF](#).

Over the week ending March 22<sup>nd</sup>, NSA deposits declined by \$133bn across the banking system (\$100bn across US banks). This is consistent with the \$140bn build in ON RRP from March 15-22, as we saw institutional flows out of larger banks and into MMFs (see: [MMF update](#)). On the asset side (Exhibit 26), large banks largely cut their cash balance but also reduced UST holdings to compliment the decline in liabilities.

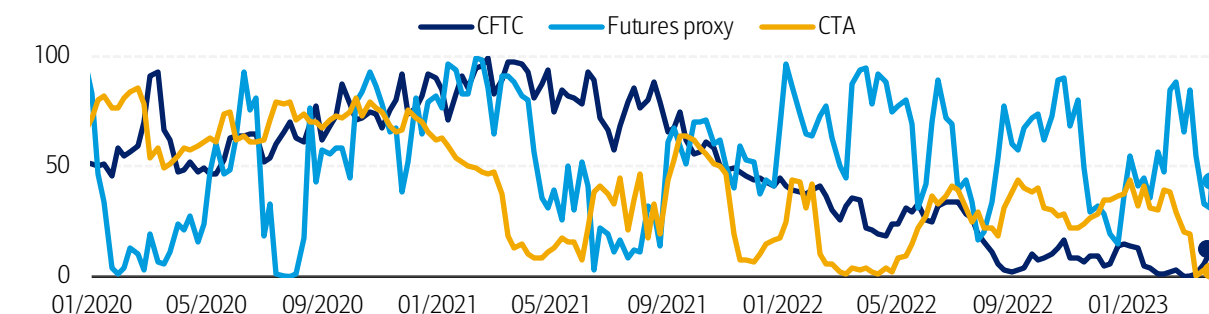
More timely Fed balance sheet data (for week ending Mar 29), daily FHLB borrowing, and ON RRP balances ex quarter end all suggest that deposits have likely stabilized. We

look to the start of Q1 bank earnings as a potential catalyst for concerns around the sustainability of bank balance sheet preservation.

## Positioning indicators

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

Futures positioning proxy suggests shorts still out of the money and prone to covering, CTAs likely have more covering to do

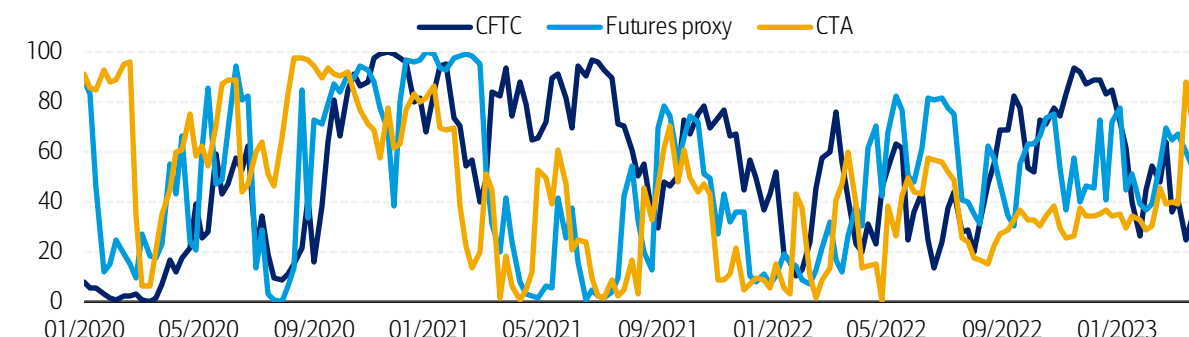


Source: BofA Global Research

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

Indicators generally point to more neutral curve positioning

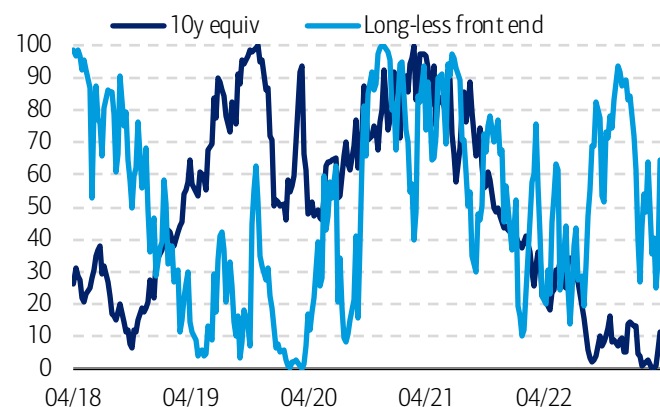


Source: BofA Global Research

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### Exhibit 4: 5y percentile of CFTC non-commercial futures positioning

10y equivalent positioning covered modestly, generally short

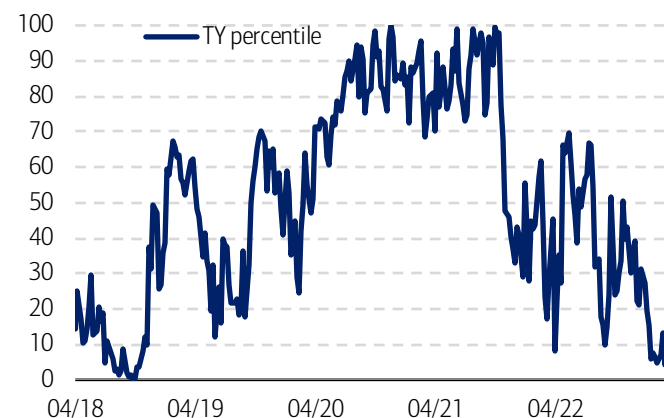


Source: BofA Global Research, Bloomberg

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

Positioning in TY still extremely short

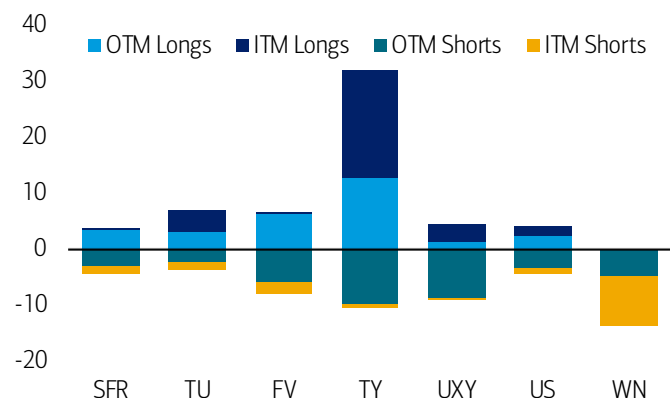


Source: BofA Global Research, Bloomberg

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**Exhibit 6: Proxies for futures positioning**

Shorts mostly OTM except at back-end while longs are mixed

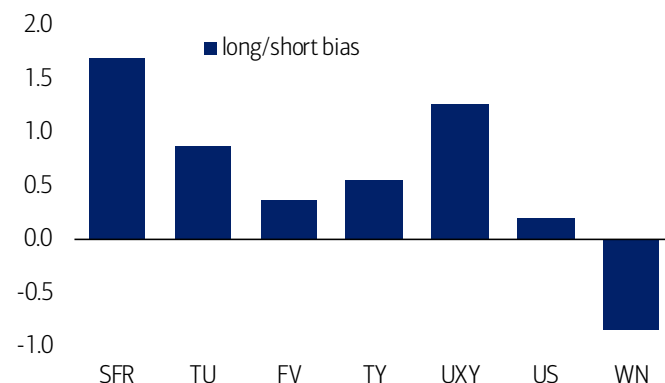


Source: BofA Global Research, Bloomberg

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**Exhibit 7: Analysis of proxies for futures positioning**

Bias is for rates to rally across the curve except 30y

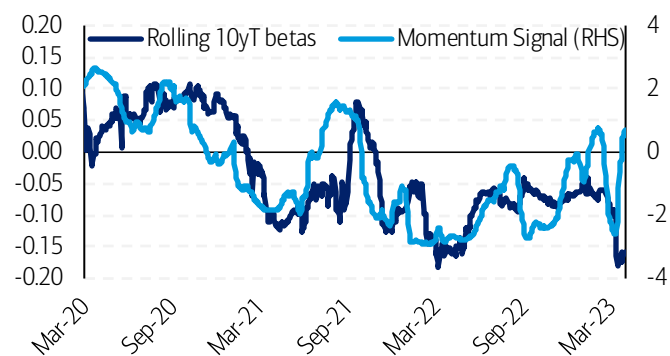


Source: BofA Global Research, Bloomberg, Note: reflects average positioning of futures stack over last 5 days

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**Exhibit 8: CTA positioning in 10yT**

Momentum signal further increased on the week, suggesting CTAs have more room for short covering

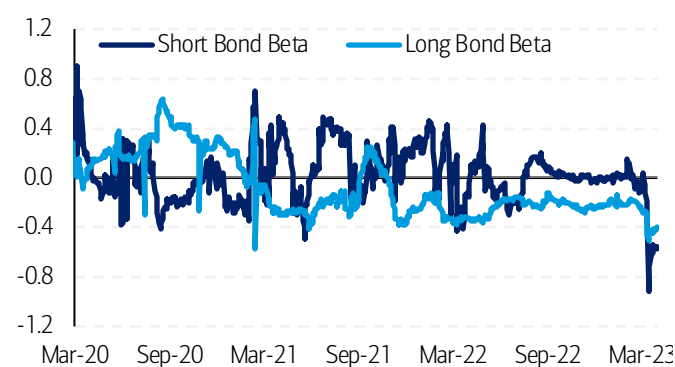


Source: BofA Global Research

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**Exhibit 9: CTA positioning in longer duration and shorter duration bonds**

Top-down model suggests CTAs were very short front-end of curve before rally

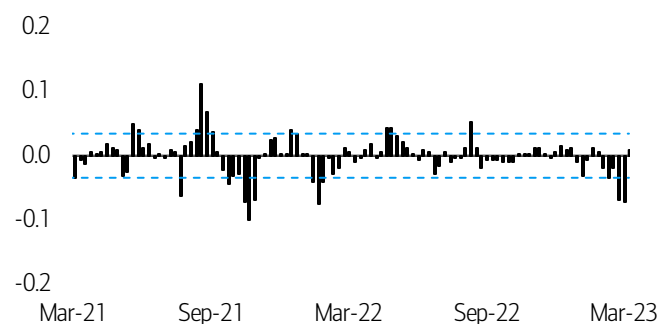


Source: BofA Global Research

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

10yT beta barely changed on the week

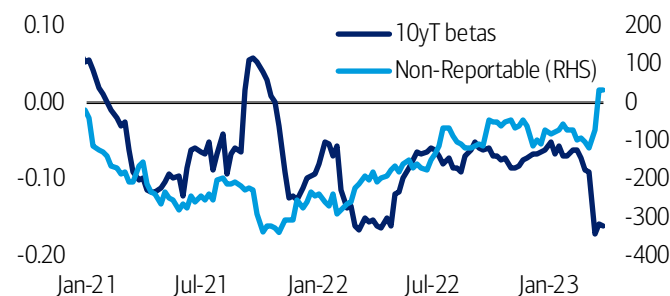


Source: BofA Global Research

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**Exhibit 11: CTA 10y TSY beta and non-reportable positions**

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



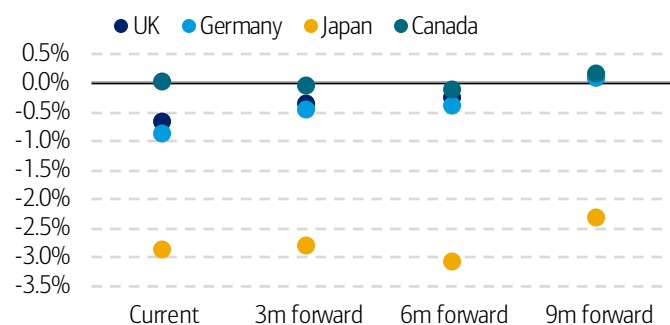
Source: BofA Global Research, Bloomberg

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# FX hedged pickup and foreign flows

## Exhibit 12: 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 13: 10Y UST pickup to 20Y JGB, with 3m fx hedge (bps)

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

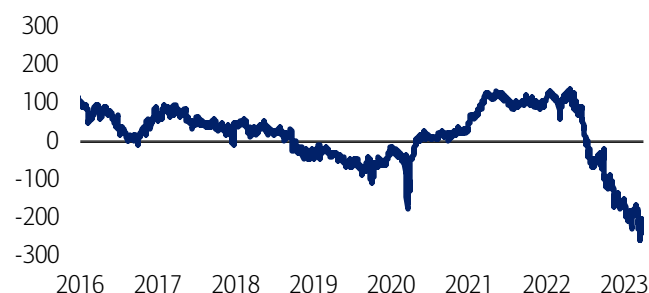


Source: BofA Global Research, Bloomberg

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

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

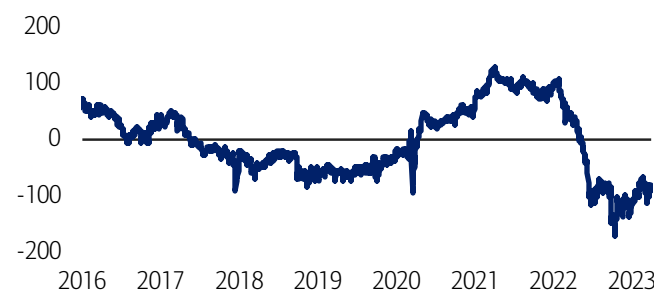


Source: BofA Global Research, Bloomberg

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

10y TSY offers negative pickup vs 10y Bund

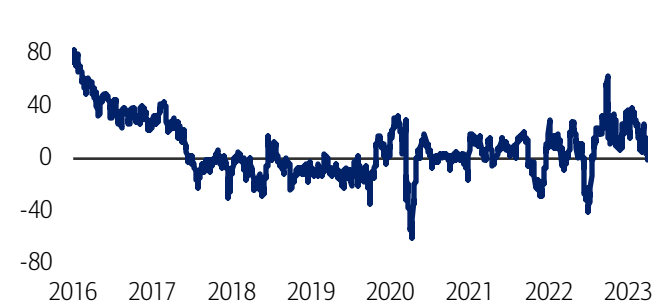


Source: BofA Global Research, Bloomberg

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## Exhibit 16: 10Y UST pickup to 10Y CAD govie, with 3m fx hedge (bps)

10y TSY offers modestly positive pickup to 10y CAD gov bond

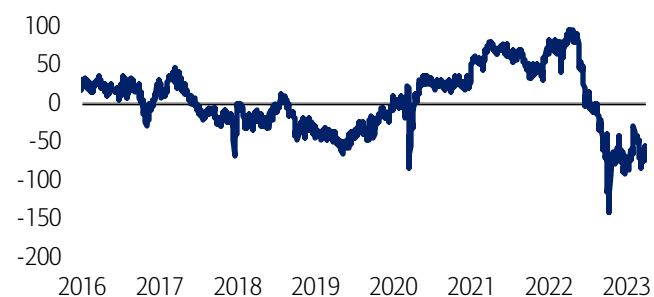


Source: BofA Global Research, Bloomberg

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## Exhibit 17: 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 18: 3m rolling JPY currency hedge**

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

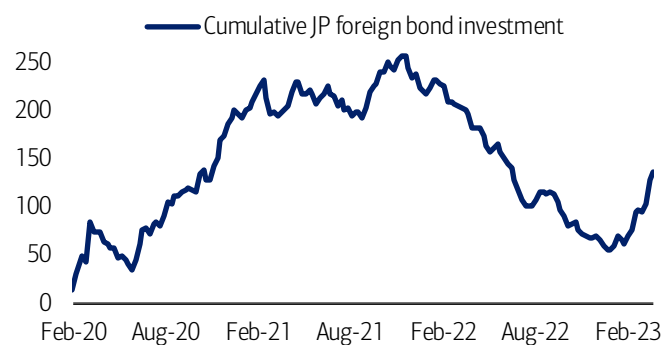
	3/31/2023		As of 1 wk ago		As of 1 mo ago		As of 1 yr ago	
	Pickup to 10y JGB	Pickup to 20Y JGB	Pickup to 10y JGB	Pickup to 20Y JGB	Pickup to 10y JGB	Pickup to 20Y JGB	Pickup to 10y JGB	Pickup to 20Y JGB
10y UST	-2.24%	-2.92%	-2.31%	-3.06%	-1.90%	-2.63%	1.12%	0.62%
10y GER	-1.36%	-2.03%	-1.42%	-2.17%	-1.03%	-1.76%	0.78%	0.28%
10y FRA	-0.86%	-1.54%	-0.89%	-1.65%	-0.55%	-1.28%	1.24%	0.74%
10y BEL	-0.70%	-1.37%	-0.72%	-1.48%	-0.45%	-1.18%	1.28%	0.78%
10y ITA	0.44%	-0.24%	0.45%	-0.31%	0.77%	0.04%	2.32%	1.82%
10y SPA	-0.35%	-1.03%	-0.37%	-1.12%	-0.09%	-0.83%	1.69%	1.19%
10y UK	-1.53%	-2.21%	-1.71%	-2.46%	-1.21%	-1.94%	0.26%	-0.24%
10y CAN	-2.24%	-2.91%	-2.34%	-3.10%	-2.00%	-2.73%	1.06%	0.56%

Source: BofA Global Research, Bloomberg

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**Exhibit 19: Japan investment in foreign bonds, cumulative weekly (\$bn)**

Long & medium term bonds (\$bn) holdings have seen gradual pickup since February

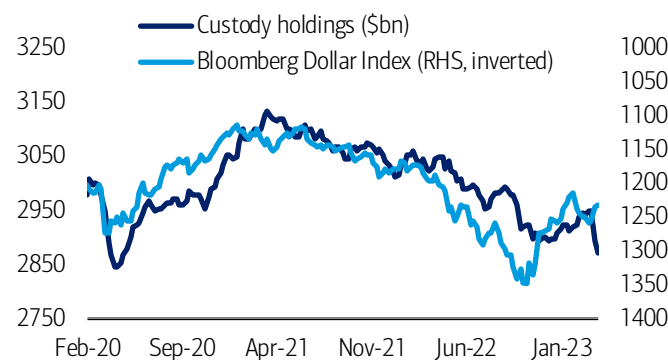


Source: BofA Global Research, Bloomberg

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**Exhibit 20: Weekly UST custody holdings, foreign official (\$bn)**

Custody holdings have declined since start of '22 & continued to drop in recent weeks



Source: BofA Global Research, NY Fed

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# Fund flows and returns

## Exhibit 21: US fixed income fund flows (\$million)

US fixed income seeing an acceleration in pace of inflows over last 52w. Govt funds saw inflows on the week particularly in short & long govt while corp funds saw outflows

	3/29/2023	Rolling 4w average	Rolling 8w average	Rolling 12w average	Rolling 52w average
Gov: short	2,080	3,150	3,054	1,889	1,452
Gov: intermediate	901	1,476	691	479	633
Gov: long	3,489	2,254	1,580	1,284	1,110
Corp: IG	455	(970)	(709)	255	303
Corp:HY	(2,001)	(1,070)	(1,997)	(1,250)	(537)
Corp: all quality	3	(15)	(6)	18	(15)
MBS	102	298	290	366	(174)
Inflation	(282)	(220)	(426)	(503)	(462)
Muni	71	(168)	(298)	150	(870)
Mixed allocation	(1,006)	326	2,679	2,679	(1,114)
All US FI	3,257	3,920	3,947	4,555	33

Source: BofA Global Research, EPFR

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## Exhibit 22: Total return FI fund performance vs benchmark

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

	AUM (\$Bn)	3/30/2023	Vs. Agg	Last 4w	Vs. Agg
Vanguard Total Bond Market II Index Fund	238	-0.78%	0.05%	3.03%	0.08%
Vanguard Total Bond Market Index Fund	197	-0.87%	-0.04%	2.99%	0.04%
PIMCO Income fund	116	-0.18%	0.65%	1.33%	-1.62%
The Bond Fund of America	75	-0.96%	-0.13%	2.86%	-0.08%
MetWest Total Return Bond Fund	64	-0.89%	-0.06%	3.54%	0.59%
PIMCO Total Return Fund	55	-0.85%	-0.02%	2.43%	-0.52%
Dodge & Cox Income Fund	55	-0.47%	0.36%	2.21%	-0.74%
PGIM Total Return Bond Fund	40	-0.67%	0.16%	2.27%	-0.67%
BlackRock Strategic Income Opportunities Fund	37	-0.12%	0.71%	0.58%	-2.37%
Baird Aggregate Bond Fund	37	-0.84%	-0.01%	2.70%	-0.25%
JPMorgan Core Bond Fund	36	-0.91%	-0.08%	2.73%	-0.22%
DoubleLine Total Return Bond Fund	34	-1.10%	-0.27%	2.51%	-0.43%
Fidelity Series Investment Grade Bond Fund	33	-0.72%	0.11%	2.54%	-0.41%
Fidelity Total Bond Fund	29	-0.66%	0.17%	2.03%	-0.92%
Western Asset Core Plus Bond Portfolio	26	0.08%	0.91%	2.69%	-0.26%
Baird Core Plus Bond Fund	24	-0.79%	0.04%	2.54%	-0.41%
John Hancock Bond Fund	21	-0.59%	0.24%	2.19%	-0.76%
TIAA-CREF Bond Index Fund	20	-0.87%	-0.04%	2.99%	0.05%
BlackRock Total Return Fund	17	-0.81%	0.02%	2.84%	-0.11%
JPMorgan Core Plus Bond Fund	17	-0.93%	-0.10%	2.70%	-0.25%
Bridge Builder Core Bond Fund	16	-0.82%	0.01%	2.67%	-0.28%
T Rowe Price New Income Fund	16	-0.78%	0.05%	2.53%	-0.42%
Western Asset Core Bond Fund	14	-0.30%	0.53%	2.74%	-0.21%
CREF Bond Market Account	11	-0.73%	0.10%	2.49%	-0.45%
Fidelity Investment Grade Bond Fund	8	-0.76%	0.07%	2.54%	-0.40%
DoubleLine Core Fixed Income Fund	7	-0.74%	0.09%	2.40%	-0.55%
TCW Total Return Bond Fund	3	-1.30%	-0.47%	3.08%	0.13%
Janus Henderson Flexible Bond Fund	3	-0.97%	-0.14%	2.56%	-0.39%
Weighted avg	1250	-0.71%	0.12%	2.59%	-0.36%
Agg		-0.83%		2.95%	
10y return		-1.22%		5.07%	

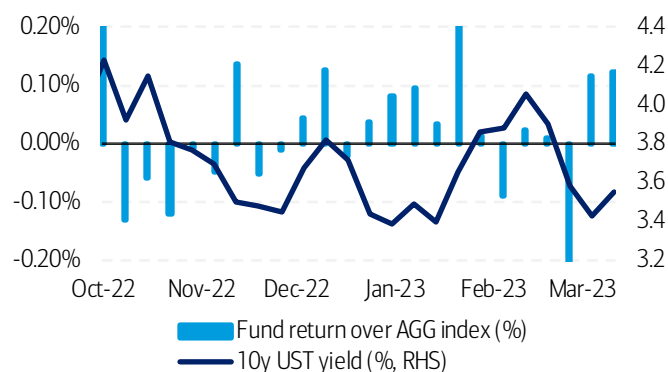
Source: BofA Global Research, Bloomberg, Note: Excess returns are fund total returns over Bloomberg Barclays Agg Index

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**Exhibit 23: 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

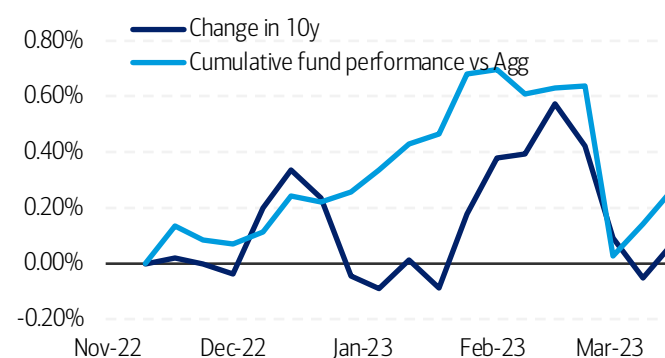


Source: BofA Global Research, Bloomberg. Note: Excess returns are fund total returns over Bloomberg Barclays Agg index

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**Exhibit 24: 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 25: 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	237.9	1.5	1.6	0.1
Vanguard Total Bond Market Index Fund	197.1	1.3	1.2	-0.1
PIMCO Income fund	116.3	-41.5	-37.7	3.8
The Bond Fund of America	74.8	-11.2	-9.7	1.5
MetWest Total Return Bond Fund	63.7	-16.7	-17.4	-0.7
Dodge & Cox Income Fund	55.4	-29.4	-31.2	-1.8
PIMCO Total Return Fund	55.2	-12.8	-15.2	-2.4
PGIM Total Return Bond Fund	40.0	-	-33.8	-
BlackRock Strategic Income Opportunities Fund	37.4	-9.9	-14.6	-4.7
Baird Aggregate Bond Fund	37.3	-15.1	-17.7	-2.6
JPMorgan Core Bond Fund	36.5	-12.8	-7.3	5.5
DoubleLine Total Return Bond Fund	33.8	-32.2	-32.4	-0.2
Fidelity Series Investment Grade Bond Fund	32.7	-12.2	-10.4	1.8
Fidelity Total Bond Fund	29.1	-18.4	-18.3	0.0
Western Asset Core Plus Bond Portfolio	26.3	-29.8	-29.1	0.6
Baird Core Plus Bond Fund	23.7	-17.9	-20.0	-2.0
John Hancock Bond Fund	20.7	-24.7	-26.1	-1.4
TIAA-CREF Bond Index Fund	20.2	0.3	0.9	0.6
BlackRock Total Return Fund	17.3	-33.0	21.3	54.2
JPMorgan Core Plus Bond Fund	16.6	-15.4	-7.6	7.8
Bridge Builder Core Bond Fund	16.3	-21.9	-22.6	-0.7
T Rowe Price New Income Fund	15.5	-15.7	-11.2	4.5
Western Asset Core Bond Fund	14.3	-29.7	-23.6	6.1
CREF Bond Market Account	10.7	-22.8	-22.3	0.5
Fidelity Investment Grade Bond Fund	8.3	-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>1250.1</b>	<b>-13.3</b>	<b>-12.8</b>	<b>0.5</b>

Source: BofA Global Research, funds' publicly available reports

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# Bank balance sheets

## Exhibit 26: Changes to bank balance sheet assets (\$bn)

Bank balance sheets contracted led by a decline in 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>	23170	-96	52	31	16	9
	Cash	3372	-82	72	36	23	-6
	UST & Agency	1579	-34	-14	-11	-6	-3
	MBS	2721	-2	-8	-3	-4	-5
	Loans and Leases	12105	14	16	9	0	22
	Other	3393	8	-13	0	4	0
<b>Large Domestic (\$bn, NSA)</b>	<b>Total Assets</b>	13180	-100	58	25	5	-1
	Cash	1542	-79	66	31	11	-3
	UST & Agency	1165	-27	-8	-7	-4	-3
	MBS	1957	1	-2	-1	0	-3
	Loans and Leases	6542	3	5	3	-3	8
	Other	1973	3	-4	0	2	-1
<b>Small Domestic (\$bn, NSA)</b>	<b>Total Assets</b>	6936	-11	21	15	5	6
	Cash	524	-10	24	13	6	-4
	UST & Agency	304	-3	-6	-3	-2	0
	MBS	738	-2	-7	-2	-3	-2
	Loans and leases	4516	3	9	6	4	11
	Other	855	1	0	0	1	1
<b>All Domestic (\$bn, NSA)</b>	<b>Total Assets</b>	20116	-112	78	40	10	5
	Cash	2066	-89	91	44	16	-7
	UST & Agency	1469	-31	-13	-10	-7	-3
	MBS	2695	-1	-9	-3	-3	-5
	Loans and leases	11058	6	14	9	1	19
	Other	2828	3	-4	0	2	0
<b>Foreign (\$bn, NSA)</b>	<b>Total Assets</b>	3054	16	-26	-9	7	4
	Cash	1306	8	-19	-8	7	1
	UST & Agency	110	-4	-1	-1	0	0
	MBS	26	-1	1	0	-1	0
	Loans and leases	1047	8	2	0	-1	3
	Other	565	5	-9	0	1	1

Source: BofA Global Research, Federal Reserve, Bloomberg

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## Exhibit 27: Select bank balance sheet liabilities (\$bn, NSA)

Bank balance sheet decline driven by deposits leaving banking system and moving into MMFs

		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	17354	-133	-60	-34	-49	-15
	Domestic	16092	-97	-34	-26	-45	-15
	Large Domestic	10700	-96	7	-6	-25	-12
	Small Domestic	5392	-1	-41	-20	-19	-3
	Foreign	1262	-35	-25	-8	-4	0
<b>Other borrowing (\$bn, NSA)</b>	All	2529	47	133	72	56	18
	Domestic	1602	10	134	68	52	20
	Large Domestic	905	26	64	33	27	10
	Small Domestic	697	-16	70	35	24	9
	Foreign	927	37	0	4	5	-2

Source: BofA Global Research, Federal Reserve, Bloomberg

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