

## US Rates Watch

## Weekend homework: Positioning shows rally may continue

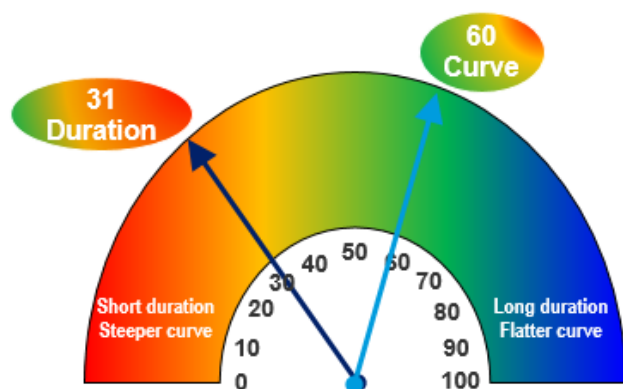
Rates positioning suggests room for the rally to continue with out of the money shorts still outstanding and vulnerable (Exhibit 1). While our top down model does show some covering from CTAs this week, we still see them as quite short and have more covering to go in order to keep up with the swing in momentum.

Flows into fixed income indicate a strong flight to quality bias with notable inflows to US Gov funds and outflows from credit funds. Agg benchmark funds were likely underweight headed into the recent rally given underperformance. Fed data shows that US bank deposits declined the week ending March 8, but half is attributed to the drop in Fed reserves. TIC data suggest foreign selling over the month of January despite the rate rally, but we see room for private investor buying to pickup in months ahead if FX forwards are realized.

## Positioning shows room for rally to continue

## 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 5p 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:** More UST futures positions have been destroyed than created on the week through Thursday; shorts were more prominently covered in TU and TY. A larger degree of longs vs shorts were initiated. Our proxy suggests that rates are biased to continue rallying, with still some OTM shorts outstanding across the curve that are prone to covering (Exhibit 7).

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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:** After being at some of the shortest levels since the middle of last year, CTAs covered positions this week as momentum shifted the other way (Exhibit 10). Our top-down model suggests that CTAs likely have more room to cover shorts vs momentum (Exhibit 8).

**CFTC non-commercial positioning:** Data as of March 7 continues to show that speculative positioning was extremely short in 10y equivalents (Exhibit 4).

## **TIC data shows selling; lower hedge cost in store**

January TIC data released this week adjusted for the change in interest rates indicates that foreign investors were net sellers in January as rates rallied (Exhibit 21). The official sector sold about \$50bn while private sector sold close to \$40bn. China (+ Belgium) was a very notable seller at around \$60bn while Canada and Switzerland were among some of the largest buyers (Exhibit 22). Japan was about flat on the month.

Japan bought about \$7bn in foreign bonds the week ending March 10<sup>th</sup>, which is surprising given how unattractive sovereign bonds look on an FX hedged basis (Exhibit 19 and Exhibit 18). Foreign custodial holdings as of Wednesday were little changed on the week (Exhibit 20).

Because of the narrower interest rate differential, USTs do not look as unattractive 3m/6m forward on an FX hedged basis for UK, EUR, and CAD investors (Exhibit 12). This might encourage private buying from these regions should FX forwards be realized.

## **Fund flows show flight to quality**

US fixed income inflows slowed overall this week, totaling \$1.3bn after averaging about \$4.2bn over the last four weeks (Exhibit 23). Composition of flows reflects strong risk-off behavior. Inflows were strongest across US Govt benchmark funds, in particular short-term UST funds. Outflows were prominent across US HY, IG, and mixed benchmark funds.

Indeed, of the 30 fixed income Agg benchmark funds we track, only one did not deliver underperformance (Exhibit 24). This endorses our view that these funds were likely underweight duration headed into the rate rally. We anticipate that these funds may cover underweights in the weeks ahead if macro-uncertainty increases on the back of the bank risk events.

## **Deposit dip partially due to Fed reserve decline**

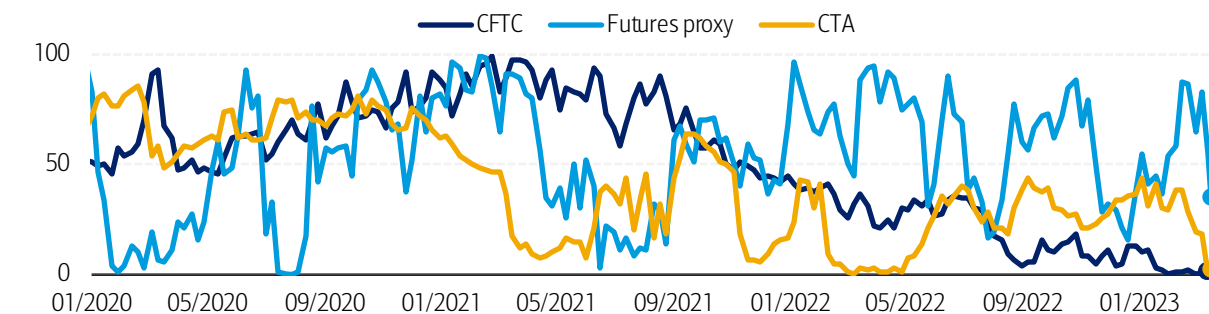
Non-seasonally adjusted US bank deposits dropped by \$56bn the week ending March 8<sup>th</sup> (Exhibit 30). About half of this decline can be explained by the drop in reserves on the Fed's balance sheet which is reflected in the \$26bn bank cash holdings drop (Exhibit 29). For large domestic banks, some of the deposit decline was offset by an increase in "other borrowing" which reflects borrowing from FHLBs (Federal Home Loan Banks) and Fed facilities (Discount Window and eventually Bank Term Funding Program), (Exhibit 30). Banks also saw a decline in assets besides cash including loans and securities holdings, but fluctuations are within recent ranges.

Next Friday, we will discuss the data as of March 16<sup>th</sup>, which will be released by the Fed on Friday March 24<sup>th</sup>.

## 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

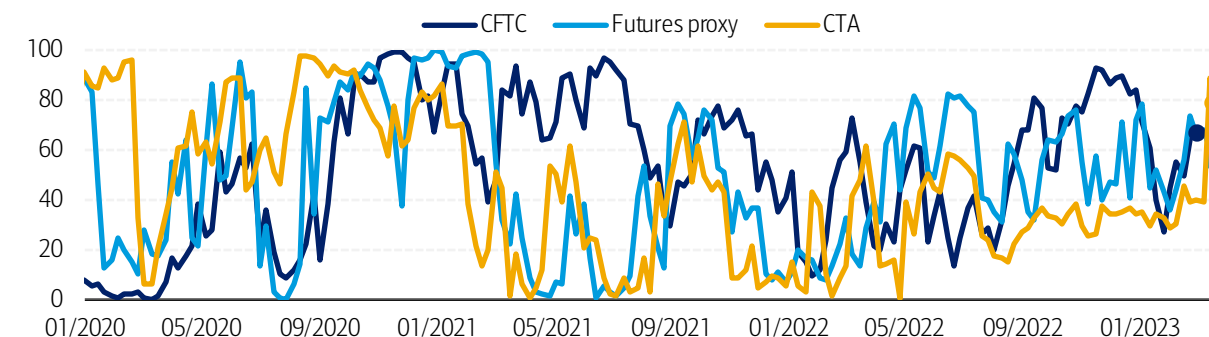


Source: BofA Global Research

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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

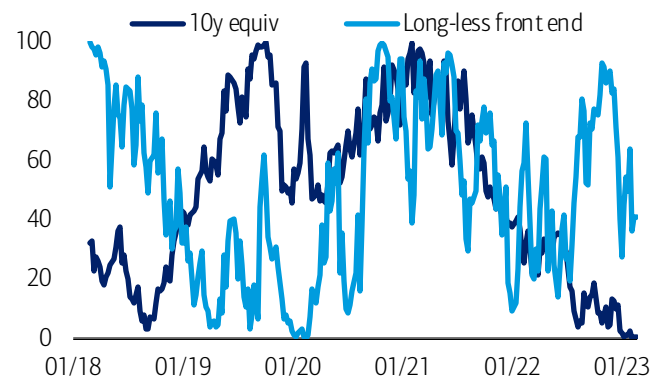


Source: BofA Global Research

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

10y-equivalent positioning across the curve is very short and investors are positioned for neutral curve, as of 3/7

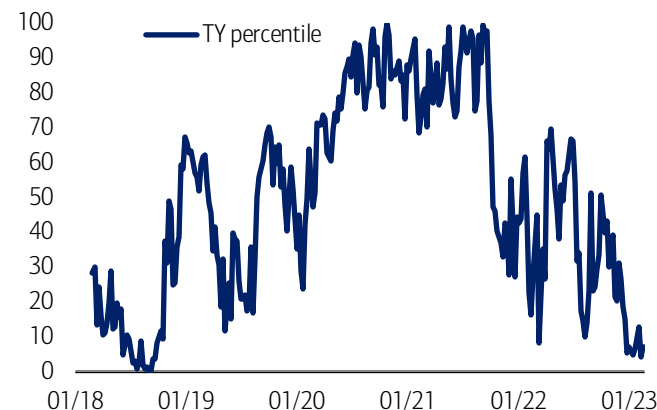


Source: BofA Global Research, Bloomberg

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

Positioning in TY is short vs history, as of 3/7

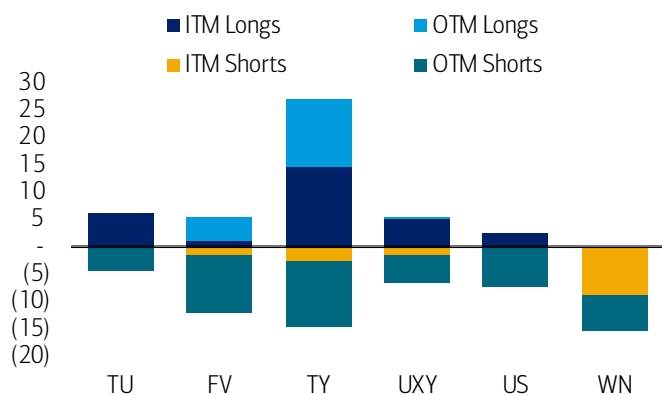


Source: BofA Global Research, Bloomberg

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**Exhibit 6: Proxies for futures positioning**

Some OTM shorts outstanding that are prone to covering

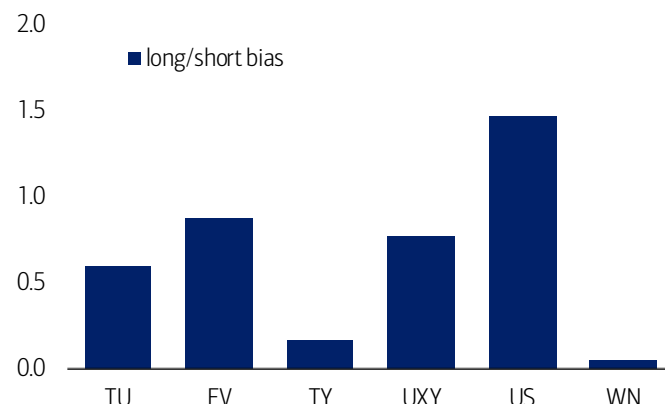


Source: BofA Global Research, Bloomberg

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

Bias is for rates to rally based on positioning

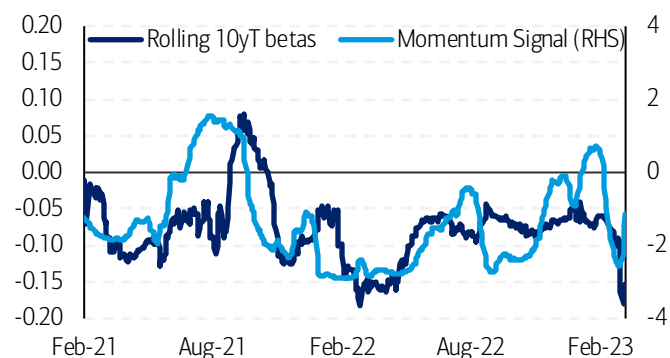


Source: BofA Global Research, Bloomberg

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

Momentum signal turned up after hitting a low the prior week, CTAs reduced shorts but still have room to cover

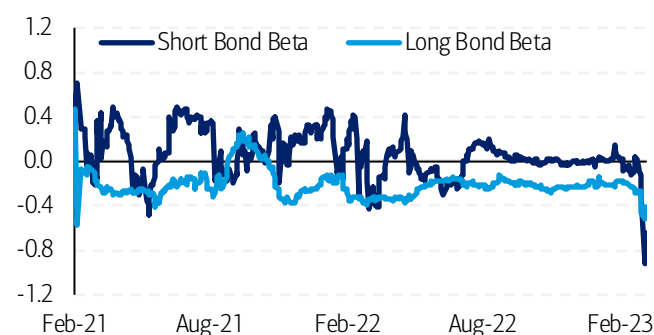


Source: BofA Global Research

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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

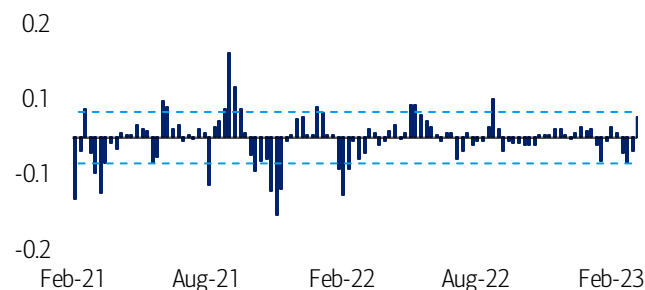


Source: BofA Global Research

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

Betas rebounded on the week

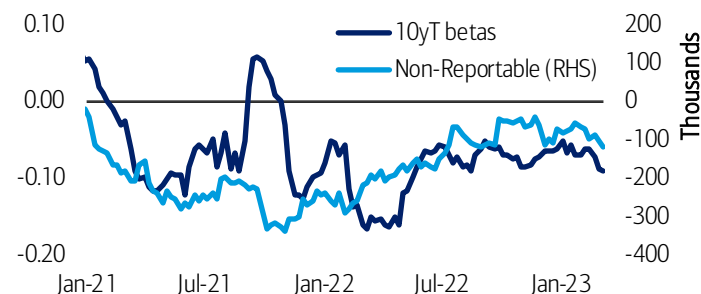


Source: BofA Global Research

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

Beta and non-reportable positioning both suggest CTAs short, as of 3/7



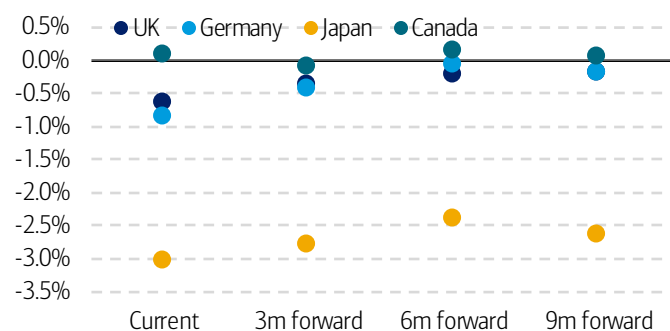
Source: BofA Global Research, Bloomberg

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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

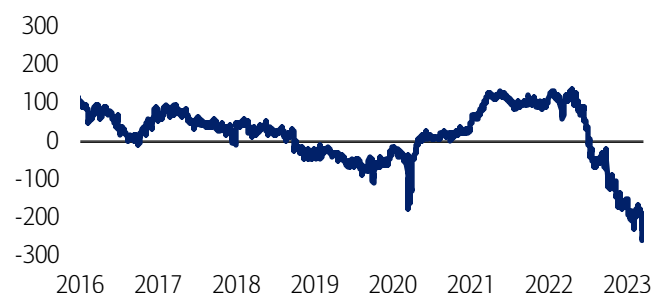


Source: BofA Global Research, Bloomberg

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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

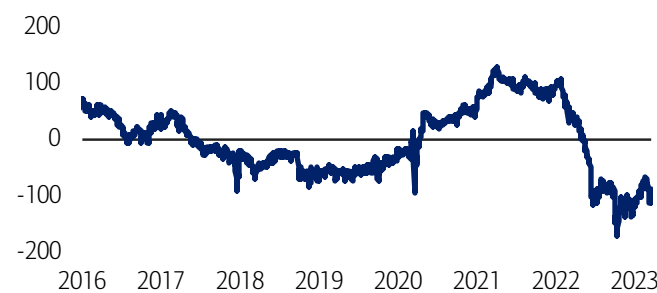


Source: BofA Global Research, Bloomberg

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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

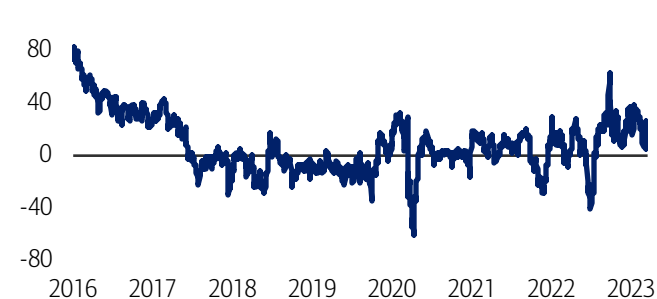


Source: BofA Global Research, Bloomberg

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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

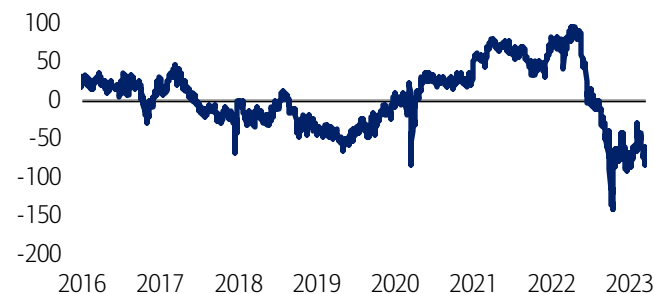


Source: BofA Global Research, Bloomberg

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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

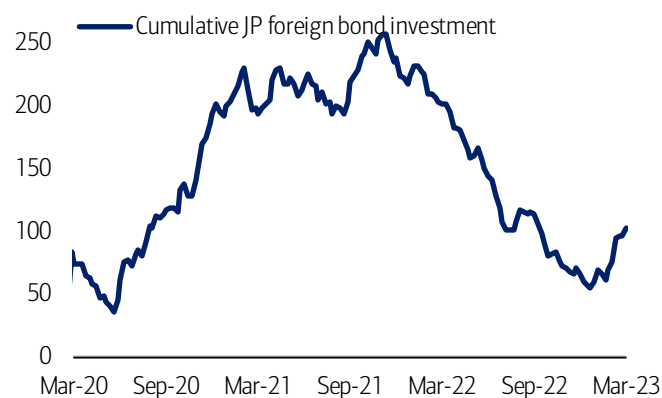
	3/17/2023		As of 1 wk ago		As of 1 mo ago		As of 1 yr ago	
	Pickup to 10y JGB	Pickup to 20Y JGB	Pickup to 10y JGB	Pickup to 20Y JGB	Pickup to 10y JGB	Pickup to 20Y JGB	Pickup to 10y JGB	Pickup to 20Y JGB
10y UST	-2.27%	-3.05%	-2.27%	-3.07%	-1.83%	-2.66%	1.07%	0.60%
10y GER	-1.40%	-2.18%	-1.14%	-1.94%	-1.12%	-1.95%	0.67%	0.19%
10y FRA	-0.83%	-1.61%	-0.64%	-1.44%	-0.66%	-1.49%	1.13%	0.65%
10y BEL	-0.73%	-1.51%	-0.54%	-1.34%	-0.54%	-1.37%	1.18%	0.70%
10y ITA	0.50%	-0.28%	0.66%	-0.14%	0.73%	-0.10%	2.19%	1.72%
10y SPA	-0.30%	-1.08%	-0.11%	-0.91%	-0.15%	-0.99%	1.62%	1.14%
10y UK	-1.61%	-2.39%	-1.44%	-2.24%	-1.36%	-2.19%	0.24%	-0.24%
10y CAN	-2.33%	-3.11%	-2.36%	-3.16%	-2.04%	-2.87%	1.11%	0.64%

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 been roughly flat after picking up in Feb

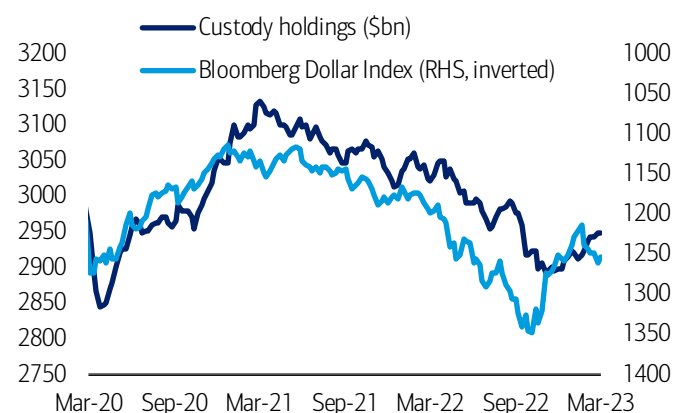


Source: BofA Global Research, Bloomberg

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

Custody holdings have declined since start of '22 & slowly come back in recent weeks

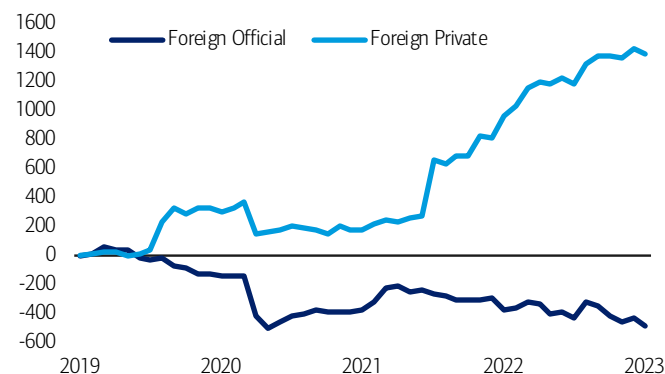


Source: BofA Global Research, NY Fed

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**Exhibit 21: Cumulative chg in foreign official & private UST holdings (\$bn)**

Adjusted for level of rates, change in holdings of foreign official and private holdings declined in January '23

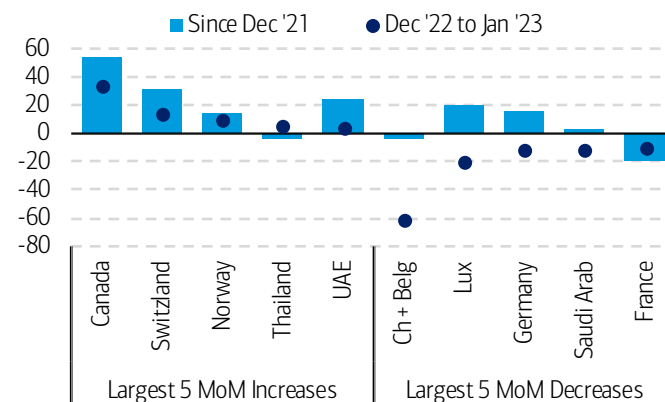


Source: BofA Global Research, TIC

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**Exhibit 22: Largest MoM changes in foreign TSY holdings (\$bn)**

BofA Global Research, TIC, Note: adjusted for level of rates, China + Belgium saw largest outflows



Source: BofA Global Research, TIC

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# Fund flows and returns

## Exhibit 23: 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 govt while corp funds saw outflows

	3/15/2023	Rolling 4w average	Rolling 8w average	Rolling 12w average	Rolling 52w average
Gov: short	4,387	4,575	2,164	1,912	1,347
Gov: intermediate	1,987	16	234	155	574
Gov: long	2,452	1,155	883	945	1,079
Corp: IG	(1,502)	(82)	(87)	503	377
Corp:HY	(1,941)	(2,563)	(1,842)	(1,170)	(512)
Corp: all quality	(91)	(18)	20	30	(14)
MBS	346	235	292	225	(211)
Inflation	(455)	(360)	(613)	(494)	(426)
Muni	(377)	(700)	(185)	(114)	(913)
Mixed allocation	(1,715)	2,805	3,257	2,658	(1,228)
All US FI	1,324	4,219	3,362	4,073	(100)

Source: BofA Global Research, EPFR

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## Exhibit 24: Total return FI fund performance vs benchmark

Over the last week, AUM weighted fund underperformed benchmark

	AUM (\$Bn)	3/16/2023	Vs. Agg	Last 4w	Vs. Agg
Vanguard Total Bond Market II Index Fund	238	1.77%	-0.21%	1.29%	-0.09%
Vanguard Total Bond Market Index Fund	197	1.75%	-0.23%	1.17%	-0.21%
PIMCO Income fund	116	0.60%	-1.38%	-0.57%	-1.95%
The Bond Fund of America	75	1.66%	-0.32%	0.78%	-0.60%
MetWest Total Return Bond Fund	64	1.85%	-0.13%	0.84%	-0.54%
PIMCO Total Return Fund	55	1.25%	-0.73%	0.53%	-0.85%
Dodge & Cox Income Fund	55	0.89%	-1.09%	0.16%	-1.22%
PGIM Total Return Bond Fund	40	1.01%	-0.97%	0.41%	-0.97%
BlackRock Strategic Income Opportunities Fund	38	-0.02%	-2.00%	-0.52%	-1.90%
Baird Aggregate Bond Fund	37	1.35%	-0.63%	0.78%	-0.60%
JPMorgan Core Bond Fund	36	1.57%	-0.41%	1.32%	-0.06%
DoubleLine Total Return Bond Fund	34	1.70%	-0.28%	1.24%	-0.14%
Fidelity Series Investment Grade Bond Fund	33	1.09%	-0.89%	0.60%	-0.78%
Fidelity Total Bond Fund	29	0.72%	-1.26%	0.31%	-1.07%
Western Asset Core Plus Bond Portfolio	26	0.83%	-1.15%	-0.21%	-1.59%
Baird Core Plus Bond Fund	24	1.21%	-0.77%	0.68%	-0.70%
John Hancock Bond Fund	21	0.90%	-1.08%	0.47%	-0.91%
TIAA-CREF Bond Index Fund	20	1.64%	-0.34%	1.07%	-0.31%
BlackRock Total Return Fund	18	1.59%	-0.39%	1.00%	-0.38%
JPMorgan Core Plus Bond Fund	17	1.40%	-0.58%	0.98%	-0.40%
Bridge Builder Core Bond Fund	16	1.42%	-0.56%	0.96%	-0.42%
T Rowe Price New Income Fund	16	1.44%	-0.55%	0.90%	-0.48%
Western Asset Core Bond Fund	14	1.10%	-0.88%	0.27%	-1.11%
CREF Bond Market Account	11	1.16%	-0.82%	0.58%	-0.80%
Fidelity Investment Grade Bond Fund	8	1.19%	-0.79%	0.69%	-0.69%
DoubleLine Core Fixed Income Fund	7	1.30%	-0.68%	0.81%	-0.57%
TCW Total Return Bond Fund	3	2.20%	0.22%	1.18%	-0.20%
Janus Henderson Flexible Bond Fund	3	1.47%	-0.51%	0.73%	-0.65%
Weighted avg	1249	1.37%	-0.61%	0.72%	-0.66%
Agg		1.98%		1.38%	
10y return		3.26%		2.84%	

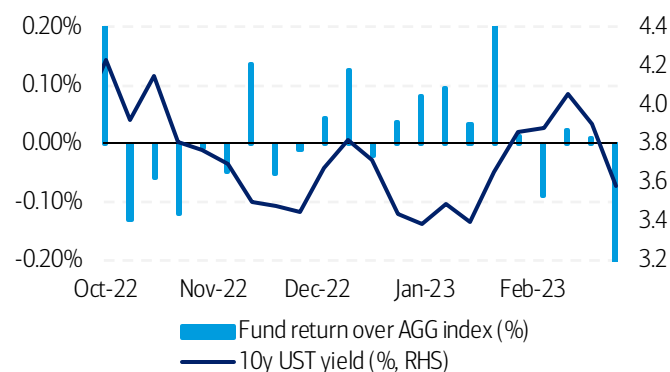
Source: BofA Global Research, Bloomberg. Note: Excess returns are fund total returns over Bloomberg Bardays Agg Index

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**Exhibit 25: Total return funds, excess return vs. 10y rate**

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

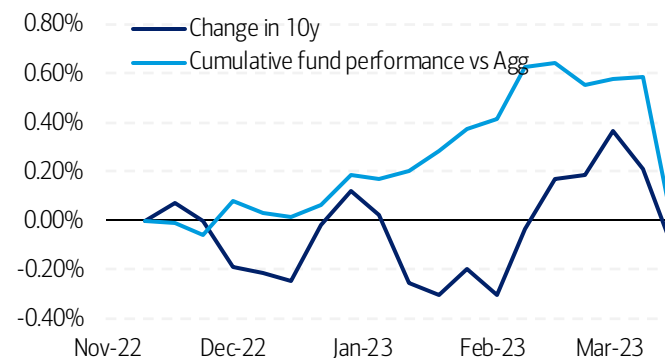


Source: BofA Global Research, Bloomberg. Note: Excess returns are fund total returns over Bloomberg Barclays Agg index

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**Exhibit 26: Cumulative return of TR FI funds over benchmark vs 10yT**

Funds have modestly outperformed since start of the year and now roughly in line with benchmark from the recent drawdown



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' 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	74.9	-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	37.5	-9.9	-14.6	-4.7
Baird Aggregate Bond Fund	37.1	-15.1	-17.7	-2.6
JPMorgan Core Bond Fund	35.9	-12.8	-7.3	5.5
DoubleLine Total Return Bond Fund	33.9	-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	23.6	-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	17.6	-33.0	21.3	54.2
JPMorgan Core Plus Bond Fund	16.5	-15.4	-7.6	7.8
Bridge Builder Core Bond Fund	16.0	-21.9	-22.6	-0.7
T Rowe Price New Income Fund	15.6	-15.7	-11.2	4.5
Western Asset Core Bond Fund	14.1	-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	7.2	-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>1249.2</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 28: Aggregated bank balance sheet (\$bn)

While deposits have declined since start of QT, banks have supplemented balance sheet with borrowing

### Aggregate bank balance sheet data (\$bn)

		Total	Assets						Liabilities			
			Cash	UST & Agy	MBS	Repo & FF	Loans & Leases	Other	Deposits	Borrowings	Net due to foreign offices	Other
All	3/8/2023	22,860	3,058	1,623	2,735	610	12,021	2,814	17,595	1,994	338	2,934
Banks	Change from end '22	(98)	(31)	(29)	(38)	1	(75)	74	(325)	126	56	45
	Chg from Jun '22 (QT)	163	(304)	(109)	(174)	37	718	(5)	(487)	350	233	67
Domestic	3/8/2023	19,725	1,677	1,512	2,709	267	10,992	2,569	16,226	1,063	(344)	2,780
Banks	Change from end '22	(248)	(179)	(35)	(27)	(51)	(46)	90	(376)	70	(4)	62
	Chg from Jun '22 (QT)	(156)	(465)	(116)	(164)	(11)	617	(17)	(568)	373	(3)	42
Large Domestic	3/8/2023	12,973	1,251	1,204	2,053	220	6,463	1,781	10,706	655	(376)	1,988
Banks	Change from end '22	(209)	(163)	(25)	(8)	(45)	(54)	85	(340)	74	1	56
	Chg from Jun '22 (QT)	(333)	(277)	(127)	(113)	(6)	212	(23)	(556)	205	2	15
Foreign	3/8/2023	3,135	1,381	111	25	343	1,030	245	1,369	931	682	154
Banks	Change from end '22	150	148	5	(11)	53	(29)	(16)	50	56	60	(17)
	Chg from Jun '22 (QT)	319	161	7	(10)	48	101	12	81	(23)	237	25

Source: BofA Global Research, Federal Reserve, Bloomberg

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## Exhibit 29: Changes to bank balance sheet assets (\$bn)

Last week, commercial banks in the US overall have seen a decline in assets, reduction have been primarily 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
All (\$bn, NSA)	Total Assets	22860	-30	-24	-20	-23	1
	Cash	3058	-18	-13	-19	-18	-15
	UST & Agency	1623	-5	-8	-4	-4	-2
	MBS	2735	-10	-4	-1	-4	-5
	Loans and Leases	12021	-21	-5	0	-1	22
	Other	3424	25	6	4	4	1
Large Domestic (\$bn, NSA)	Total Assets	12973	-35	-3	-18	-26	-9
	Cash	1251	-26	4	-14	-16	-11
	UST & Agency	1204	2	-6	-3	-3	-3
	MBS	2053	-7	-2	1	-1	-3
	Loans and Leases	6463	-10	0	-1	-4	8
	Other	2001	5	1	-1	-1	0
Domestic (\$bn, NSA)	Total Assets	19725	-51	-6	-21	-27	-5
	Cash	1677	-39	4	-17	-18	-18
	UST & Agency	1512	0	-8	-5	-4	-2
	MBS	2709	-11	-5	0	-3	-5
	Loans and leases	10992	-10	3	2	0	19
	Other	2836	8	0	-2	-1	0
Foreign (\$bn, NSA)	Total Assets	3135	21	-19	1	3	6
	Cash	1381	21	-16	-3	0	2
	UST & Agency	111	-6	-1	0	0	0
	MBS	25	1	0	-1	-1	0
	Loans and leases	1030	-11	-7	-2	-1	3
	Other	588	16	5	7	5	1

Source: BofA Global Research, Federal Reserve, Bloomberg

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**Exhibit 30: Select bank balance sheet liabilities (\$bn, NSA)**

Deposits declined, large domestic bank other borrowing (from FHLBs or Fed facilities) increased

		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	17595	-42	0	-22	-30	-10
	Domestic	16226	-56	-2	-28	-32	-13
	Large Domestic	10706	-57	-6	-25	-28	-13
	Foreign	1369	14	3	6	2	2
<b>Other borrowing (\$bn, NSA)</b>	All	1994	-15	5	9	10	6
	Domestic	1063	-1	2	6	8	8
	Large Domestic	655	10	3	6	6	5
	Foreign	931	-15	3	3	2	-2

Source: BofA Global Research, Federal Reserve, Bloomberg

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