

US Rates Watch

Weekend homework: Positioning mixed after volatile week, UST inflows accelerate

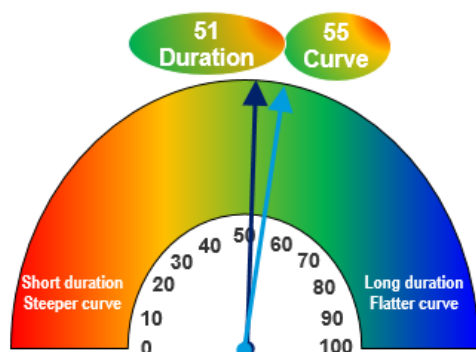
Given the recent swing in rates, positioning appears to be more mixed (Exhibit 1). Through Thursday, our futures positioning proxy indicates that moneyness is more balanced across shorts and longs, suggesting that there is less of a directional bias from out of the money positions. After today's rally, we would generally expect any remaining shorts to be out of the money, which ahead of Friday were the more dominant positions across the curve. According to our model, CTAs in particular extended shorts over recent weeks, which are likely to get covered should momentum push the other way.

Inflows to US fixed income accelerated vs the pace observed in prior months, with strong flows into UST and mixed allocation benchmark funds. We anticipate that the recent risk-off move has likely only amplified these flows over recent days. Agg funds are unlikely overweight duration based on their recent performance, and so still may have room to add. The foreign official sector likely bought USTs the week ending March 8 and UST auction data indicates that their participation has likely rebounded from last year. A continued depreciation of USD will likely see their bid continue.

Positioning mixed on volatile week

Exhibit 1: Curve-o-meter

Positioning does not indicate a strong directional bias given mixed money-ness



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 suggests that rates have generally been biased to sell off based on required covering in out-of-the money long positions (Exhibit 7). However, moneyness has shifted notably in the stack, and now appears to be more mixed. Through Thursday, we saw more shorts destroyed vs longs and a roughly similar amount of longs vs shorts created.

10 March 2023

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TSY= Treasury

CFTC = Commodity Futures Trading Commission

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

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Timestamp: 10 March 2023 05:32PM EST

CTA model: Through Thursday, both momentum and CTA positioning shifted further short (Exhibit 8). Shorts have meaningfully been added over recent weeks (Exhibit 10), suggesting that on the recent swing in momentum between Thursday and Friday, shorts may be prone to covering.

CFTC non-commercial positioning: Remains delayed, latest data is from Feb 14 which continued to show strong short base.

Official sector bid picks up

Foreign official sector added to Treasury holdings, with NY Fed custody levels increasing about \$7bn the week ending March 8. Foreign investor participation at auctions has remained relatively elevated vs last year particularly at the front-end of the curve (Exhibit 21). This suggests that demand from the foreign official sector, which was largely absent last year, remains supportive despite recent USD volatility (Exhibit 20). If the USD continues to moderate, we would expect the foreign central bank bid to remain strong.

Japanese buying of foreign bonds continues to show signs of moderating from the strong pace observed in February (Exhibit 19). More detailed data reflects that the bulk of buying observed was driven by banks, which had previously been net sellers over 2022. Selling from life insurance companies has likely moderated, but we still do not expect Japanese private investors to be strong buyers until FX-hedging costs abate somewhat. USTs are still generally unattractive on a hedged basis across major developed markets (Exhibit 12).

Fund inflows show signs of accelerating

Inflows to US fixed income continue to show signs of accelerating versus the pace we have observed over prior weeks (Exhibit 22). Inflows have been concentrated in short term government and mixed allocation funds, but we also saw a pickup of flows into longer term government funds.

As yields declined over the last week, the 30 Agg funds that we track with a total AUM of about \$1.25tn performed in line with benchmark (Exhibit 23). This continues to suggest to us that these funds likely have room to add duration and are not yet long vs benchmark.

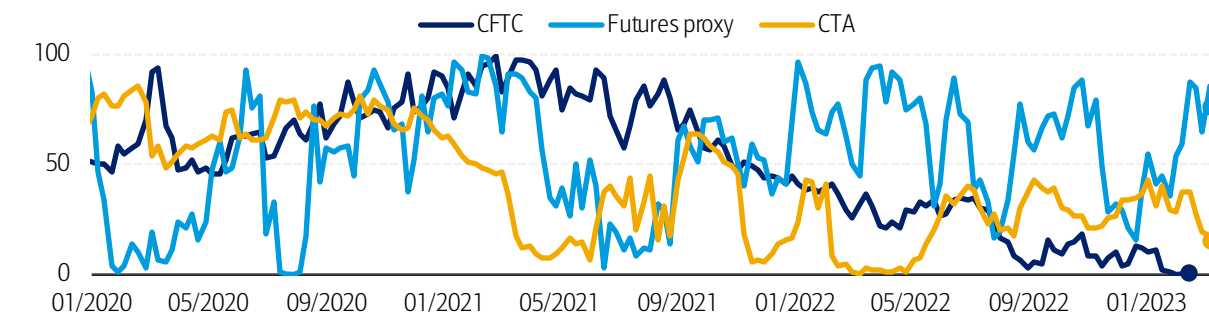
Reserve drain continues to pressure banks

Bank assets continued to decline the week ending Feb 22, led by cash holdings (Exhibit 28). The decline in cash levels was likely driven by a fall in reserves which dropped by over \$100bn over that period. This occurred alongside a modest build in TGA. Since then, reserves have leveled off with TGA declining by about \$140bn to around \$311bn, which has been offset by an increase in ON RRP. We expect that as TGA continues to drain, we will likely see a further build in ON RRP (see our report: [Bill supply swings due to debt limit dynamics](#)).

Positioning indicators

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

Futures positioning proxy suggests longs may get covered, CTAs cut duration

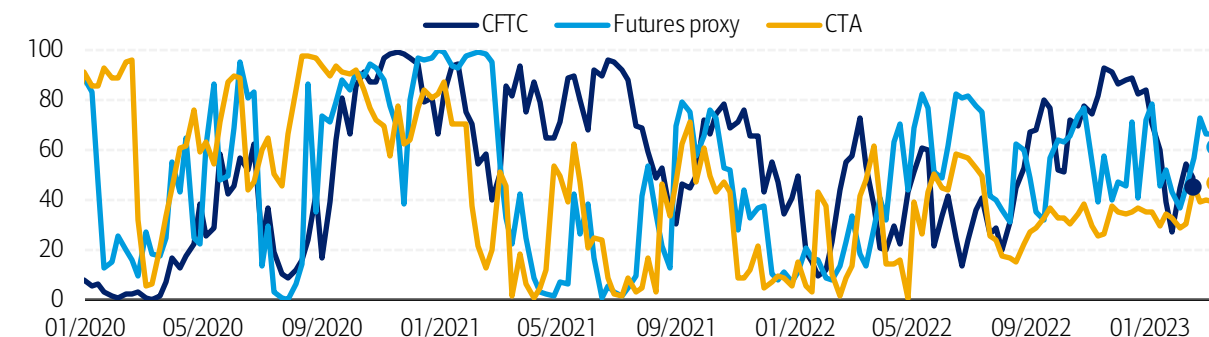


Source: BofA Global Research

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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

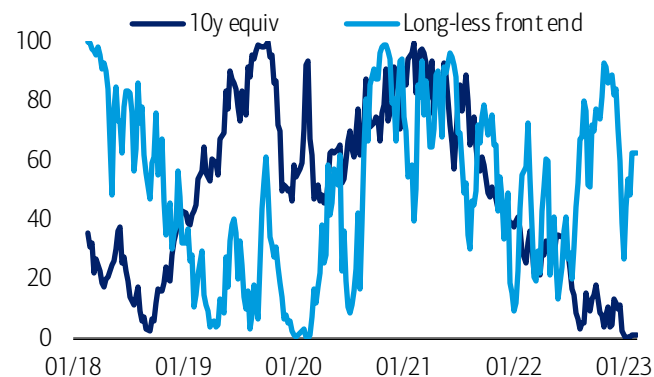


Source: BofA Global Research

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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 2/14

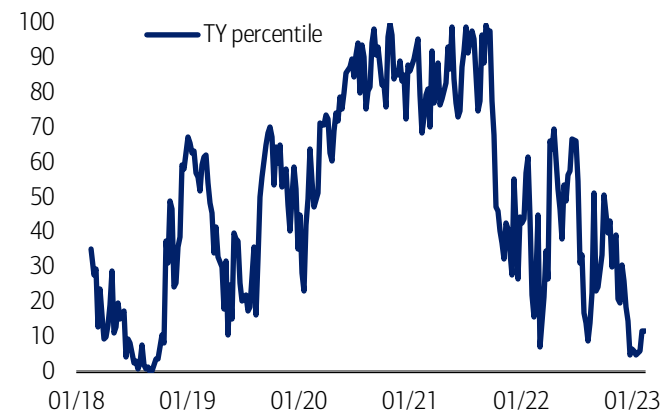


Source: BofA Global Research, Bloomberg

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

Positioning in TY is short vs history, as of 2/14

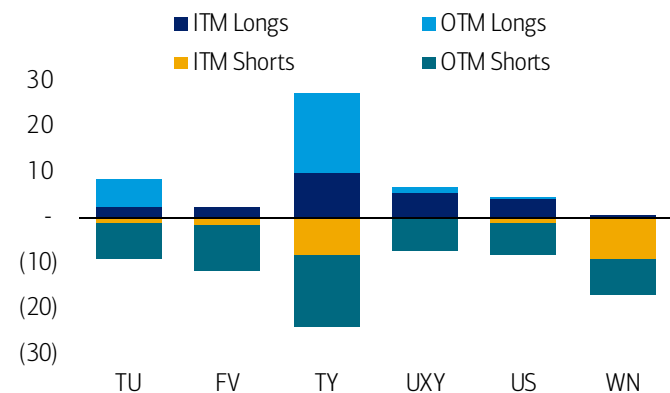


Source: BofA Global Research, Bloomberg

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Exhibit 6: Proxies for futures positioning

Money-ness is mixed across positions

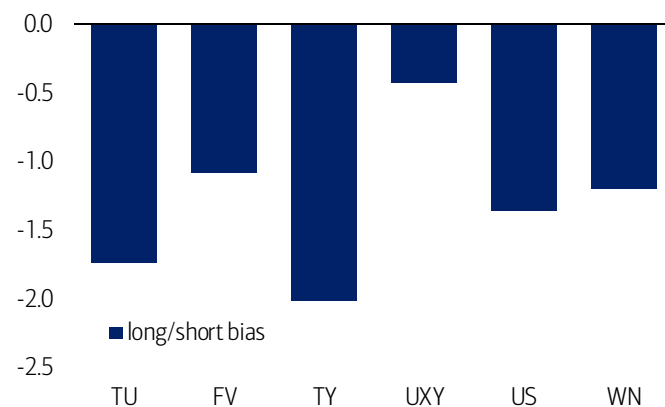


Source: BofA Global Research, Bloomberg

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Exhibit 7: Analysis of proxies for futures positioning

Over the past week, bias has been for rates to sell-off based on positioning, particularly at the front-end

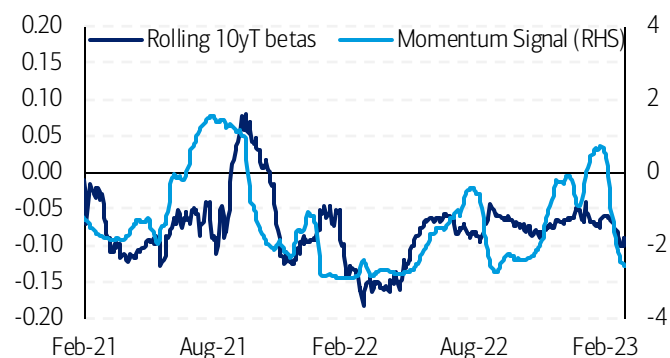


Source: BofA Global Research, Bloomberg

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Exhibit 8: CTA positioning in 10yT

Momentum signal dropped further on the week, CTAs added shorts

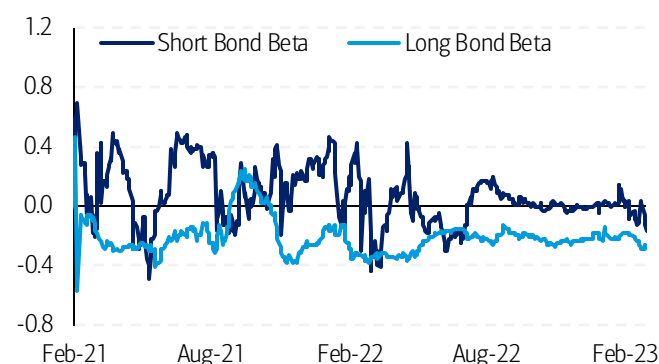


Source: BofA Global Research

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

CTAs added shorts at the front- and long-end in recent sessions

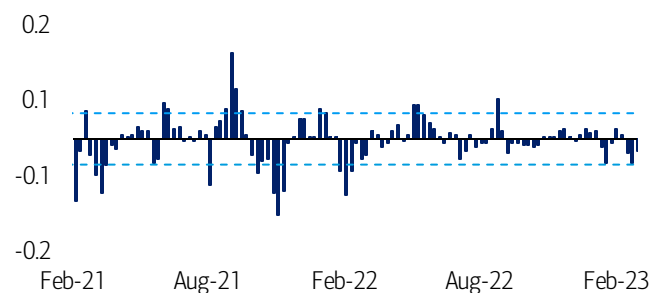


Source: BofA Global Research

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Exhibit 10: Changes in CTA 10yT beta

Betas dropped further on the week, though not to the same degree as last

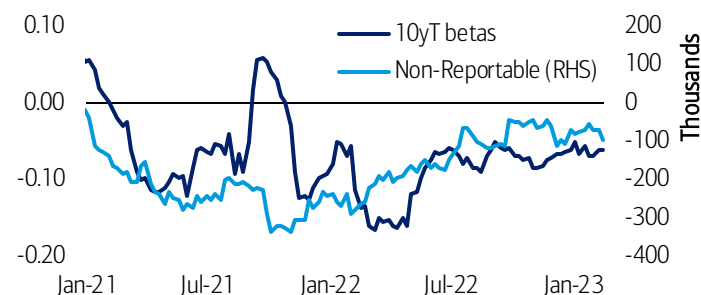


Source: BofA Global Research

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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 2/14



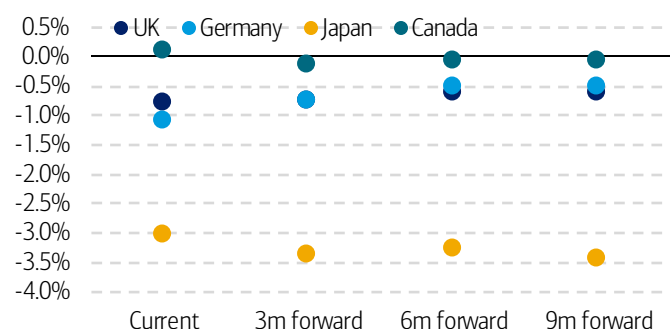
Source: BofA Global Research, Bloomberg

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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



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

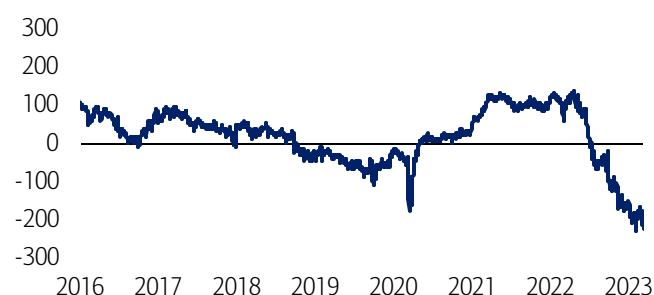


Source: BofA Global Research, Bloomberg

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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

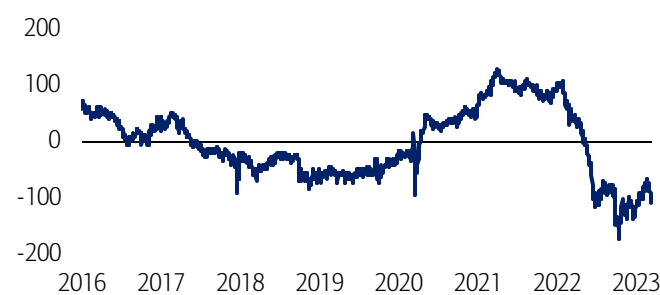


Source: BofA Global Research, Bloomberg

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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

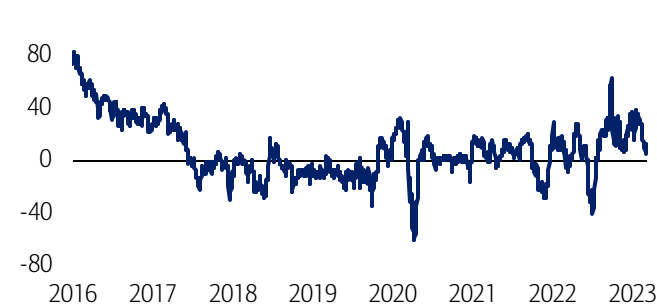


Source: BofA Global Research, Bloomberg

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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

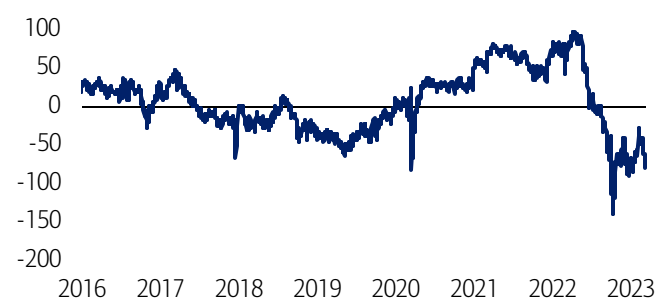


Source: BofA Global Research, Bloomberg

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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

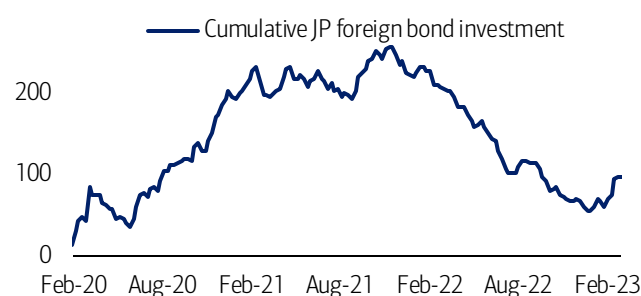
	3/10/2023		As of 1 wk ago		As of 1 mo ago		As of 1 yr ago	
	Pickup to 10y JGB	Pickup to 20Y JGB	Pickup to 10y JGB	Pickup to 20Y JGB	Pickup to 10y JGB	Pickup to 20Y JGB	Pickup to 10y JGB	Pickup to 20Y JGB
10y UST	-2.24%	-3.05%	-1.90%	-2.63%	-1.86%	-2.74%	0.93%	0.45%
10y GER	-1.13%	-1.94%	-1.03%	-1.76%	-1.11%	-1.99%	0.55%	0.07%
10y FRA	-0.63%	-1.43%	-0.55%	-1.28%	-0.65%	-1.53%	1.02%	0.54%
10y BEL	-0.53%	-1.34%	-0.45%	-1.18%	-0.56%	-1.44%	1.10%	0.61%
10y ITA	0.68%	-0.13%	0.77%	0.04%	0.72%	-0.16%	2.15%	1.67%
10y SPA	-0.10%	-0.90%	-0.09%	-0.83%	-0.17%	-1.05%	1.54%	1.06%
10y UK	-1.44%	-2.24%	-1.21%	-1.94%	-1.44%	-2.32%	0.24%	-0.24%
10y CAN	-2.30%	-3.11%	-2.00%	-2.73%	-2.10%	-2.98%	0.99%	0.51%

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

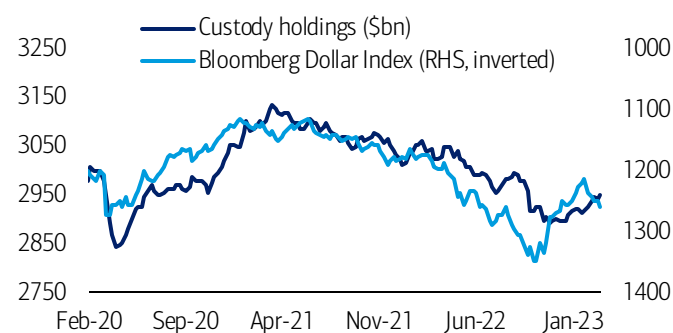


Source: BofA Global Research, Bloomberg

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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

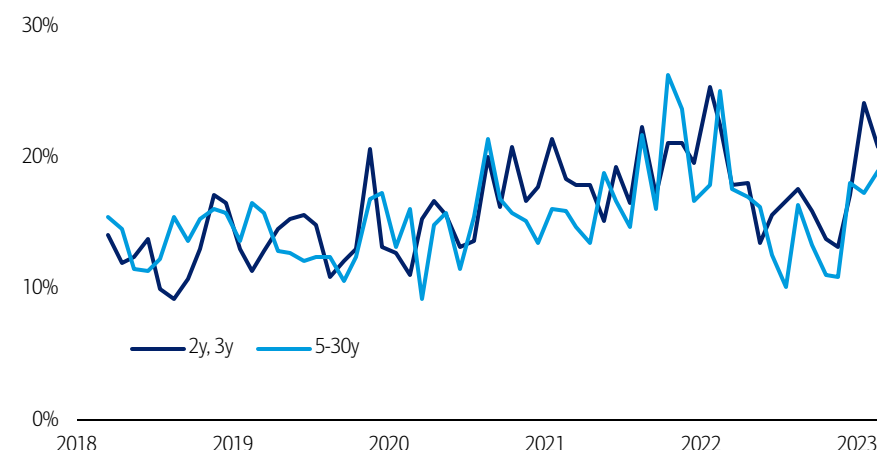


Source: BofA Global Research, NY Fed

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Exhibit 21: Avg foreign investment at auction (all nominal coupons)

Participation has rebounded particularly at shorter dated tenors



Source: BofA Global Research, US Treasury

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Fund flows and returns

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

US fixed income seeing an acceleration in pace of inflows over last 52w

	3/8/2023	Rolling 4w average	Rolling 8w average	Rolling 12w average	Rolling 52w average
Gov: short	2,504	3,851	1,798	1,689	1,279
Gov: intermediate	(517)	(354)	(47)	57	534
Gov: long	1,457	918	728	714	1,071
Corp: IG	(15)	(375)	287	231	425
Corp:HY	405	(2,827)	(1,523)	(1,226)	(522)
Corp: all quality	38	8	31	41	(10)
MBS	272	223	249	158	(230)
Inflation	24	(452)	(631)	(586)	(402)
Muni	(61)	(570)	43	(356)	(927)
Mixed allocation	1,875	4,645	3,585	2,825	(1,311)
All US FI	5,470	4,438	3,995	3,034	(222)

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)	3/9/2023	Vs. Agg	Last 4w	Vs. Agg
Vanguard Total Bond Market II Index Fund	238	0.81%	0.15%	-1.56%	0.11%
Vanguard Total Bond Market Index Fund	197	0.80%	0.14%	-1.65%	0.03%
PIMCO Income fund	116	-0.08%	-0.75%	-2.06%	-0.39%
The Bond Fund of America	73	0.61%	-0.06%	-2.01%	-0.34%
MetWest Total Return Bond Fund	63	0.73%	0.07%	-2.31%	-0.64%
PIMCO Total Return Fund	55	0.79%	0.12%	-1.67%	0.00%
Dodge & Cox Income Fund	55	0.65%	-0.01%	-1.75%	-0.08%
PGIM Total Return Bond Fund	40	0.76%	0.10%	-1.67%	0.00%
BlackRock Strategic Income Opportunities Fund	37	0.20%	-0.47%	-0.96%	0.72%
Baird Aggregate Bond Fund	37	0.84%	0.17%	-1.68%	-0.01%
JPMorgan Core Bond Fund	35	0.79%	0.13%	-1.31%	0.36%
DoubleLine Total Return Bond Fund	33	0.91%	0.25%	-1.33%	0.34%
Fidelity Series Investment Grade Bond Fund	33	0.79%	0.12%	-1.49%	0.18%
Fidelity Total Bond Fund	29	0.72%	0.06%	-1.47%	0.21%
Western Asset Core Plus Bond Portfolio	26	0.83%	0.17%	-2.69%	-1.02%
Baird Core Plus Bond Fund	23	0.71%	0.05%	-1.71%	-0.04%
John Hancock Bond Fund	21	0.75%	0.09%	-1.66%	0.01%
TIAA-CREF Bond Index Fund	20	0.80%	0.14%	-1.75%	-0.08%
BlackRock Total Return Fund	17	0.79%	0.12%	-1.68%	0.00%
JPMorgan Core Plus Bond Fund	16	0.85%	0.18%	-1.51%	0.16%
Bridge Builder Core Bond Fund	16	0.76%	0.09%	-1.61%	0.07%
T Rowe Price New Income Fund	15	0.57%	-0.10%	-1.67%	0.00%
Western Asset Core Bond Fund	14	0.83%	0.16%	-2.22%	-0.55%
CREF Bond Market Account	11	0.71%	0.05%	-1.64%	0.03%
Fidelity Investment Grade Bond Fund	8	0.78%	0.11%	-1.54%	0.13%
DoubleLine Core Fixed Income Fund	7	0.76%	0.10%	-1.43%	0.24%
TCW Total Return Bond Fund	3	0.86%	0.20%	-2.17%	-0.50%
Janus Henderson Flexible Bond Fund	3	0.72%	0.06%	-1.80%	-0.12%
Weighted avg	1243	0.67%	0.01%	-1.71%	-0.04%
Agg		0.66%		-1.67%	
10y return		1.52%		-2.45%	

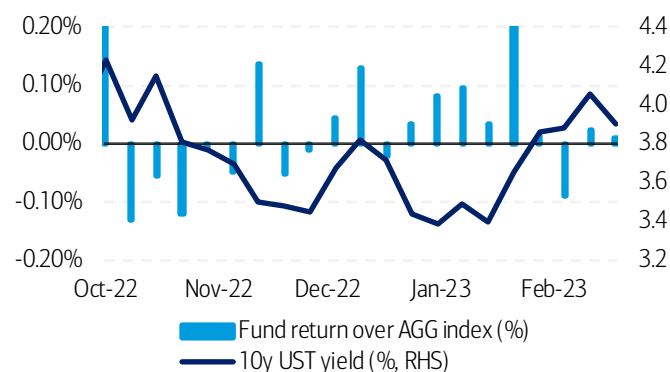
Source: BofA Global Research, Bloomberg. Note: Excess returns are fund total returns over Bloomberg Barclays Agg Index

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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

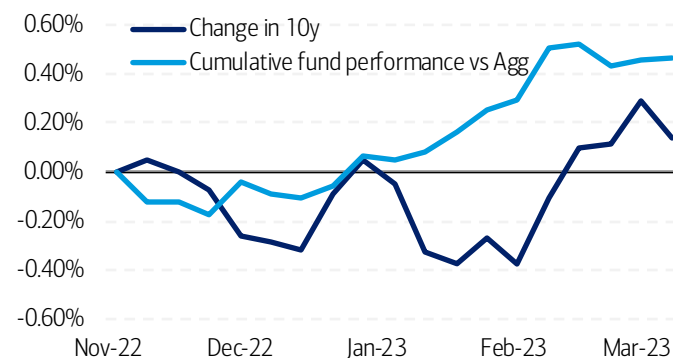


Source: BofA Global Research, Bloomberg. Note: Excess returns are fund total returns over Bloomberg Barclays Agg index

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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	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	73.0	-11.2	-9.7	1.5
MetWest Total Return Bond Fund	62.7	-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	39.7	-	-33.8	-
BlackRock Strategic Income Opportunities Fund	37.5	-9.9	-14.6	-4.7
Baird Aggregate Bond Fund	36.6	-15.1	-17.7	-2.6
JPMorgan Core Bond Fund	35.2	-12.8	-7.3	5.5
DoubleLine Total Return Bond Fund	33.2	-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	26.2	-29.8	-29.1	0.6
Baird Core Plus Bond Fund	23.3	-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	16.3	-15.4	-7.6	7.8
Bridge Builder Core Bond Fund	15.8	-21.9	-22.6	-0.7
T Rowe Price New Income Fund	15.3	-15.7	-11.2	4.5
Western Asset Core Bond Fund	14.0	-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	7.1	-21.3	-20.3	1.1
TCW Total Return Bond Fund	2.9	-38.6	-40.6	-2.0
Janus Henderson Flexible Bond Fund	2.9	-10.6	-9.5	1.1
AUM weighted	1242.5	-13.2	-12.8	0.5

Source: BofA Global Research, funds' publicly available reports

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Bank balance sheets

Exhibit 27: 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	2/22/2023	22,957	3,084	1,636	2,756	612	12,037	2,832	17,576	2,012	378	2,990
Banks	Change from end '22	(5)	(6)	(16)	(17)	3	(60)	92	(347)	143	95	103
	Chg from Jun '22 (QT)	260	(278)	(95)	(153)	38	734	14	(506)	369	274	123
Domestic	2/22/2023	19,780	1,693	1,522	2,732	269	10,995	2,568	16,204	1,077	(322)	2,821
Banks	Change from end '22	(193)	(163)	(24)	(4)	(49)	(43)	89	(398)	84	17	103
	Chg from Jun '22 (QT)	(101)	(449)	(105)	(141)	(9)	621	(18)	(590)	387	19	83
Large Domestic	2/22/2023	13,001	1,260	1,209	2,061	222	6,469	1,780	10,703	654	(365)	2,009
Banks	Change from end '22	(182)	(154)	(20)	1	(43)	(49)	84	(344)	74	12	76
	Chg from Jun '22 (QT)	(305)	(268)	(122)	(104)	(4)	218	(25)	(559)	205	13	37
Foreign	2/22/2023	3,177	1,392	113	24	342	1,042	264	1,372	936	700	169
Banks	Change from end '22	189	158	7	(12)	51	(18)	2	51	59	77	1
	Chg from Jun '22 (QT)	361	172	9	(11)	47	113	31	84	(18)	255	40

Source: BofA Global Research, Federal Reserve, Bloomberg

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Exhibit 28: 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	22957	-58	10	-1	-1	8
	Cash	3084	-76	0	-1	-7	-12
	UST & Agency	1636	-4	-7	-2	-3	-2
	MBS	2756	2	3	-2	-3	-5
	Loans and Leases	12037	-12	1	-8	9	23
	Other	3444	31	12	12	4	3
Large Domestic (\$bn, NSA)	Total Assets	13001	-45	-7	-23	-19	-5
	Cash	1260	-40	-4	-19	-10	-9
	UST & Agency	1209	-4	-6	-2	-3	-3
	MBS	2061	-1	0	0	-2	-3
	Loans and Leases	6469	2	0	-6	-2	9
	Other	2001	-2	3	5	-3	1
All Domestic (\$bn, NSA)	Total Assets	19780	-37	1	-24	-11	0
	Cash	1693	-37	-2	-20	-12	-16
	UST & Agency	1522	-3	-7	-3	-3	-2
	MBS	2732	1	3	-1	-2	-5
	Loans and leases	10995	7	3	-5	8	20
	Other	2838	-5	3	5	-2	1
Foreign (\$bn, NSA)	Total Assets	3177	-22	9	24	10	9
	Cash	1392	-39	3	20	5	4
	UST & Agency	113	0	0	1	0	0
	MBS	24	0	0	-2	-1	0
	Loans and leases	1042	-19	-2	-2	1	3
	Other	606	36	9	7	5	2

Source: BofA Global Research, Federal Reserve, Bloomberg

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