

US Rates Watch

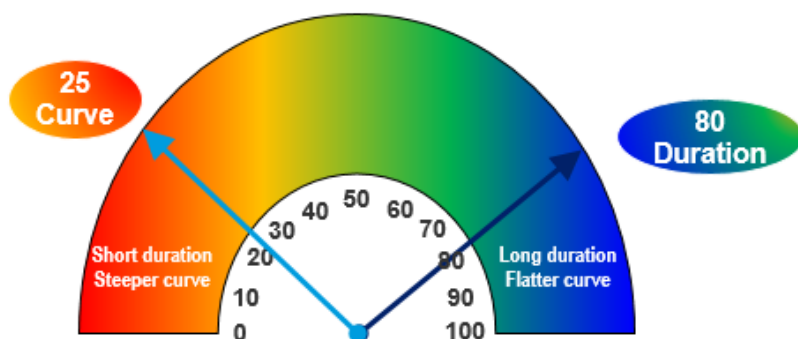
Positioning is long and in steepeners, US fixed income inflows surge

Conviction reinforced

Futures positioning indicators point to fresh longs put on in recent days alongside the weaker than anticipated CPI print. Asset managers though have held conviction in this view for some time now with leveraged funds taking the other side likely as a compliment to a basis trade. US fixed income inflows surged including into UST funds consistent with July seasonals and encouraging data for bonds. USD (US dollar) depreciation may set the stage for duration buying from the official sector following very limited activity reflected in June auction statistics.

Exhibit 1: Curve-o-meter

Investors are largely in steepeners and long duration



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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Fresh longs created

According to the futures positioning proxy as of Thursday (for construction details see: Gauging positioning in Treasury Futures), the bias for rates to selloff across the curve reduced somewhat as moneyness is now more mixed (Exhibit 11). However, it still generally points to potential for rates to sell off given wrong-sided positioning that is more dominant at the tips of the curve (Exhibit 12). On the week through Thursday, the largest change in open interest were longs created, most notably in FV and UXY. Shorts were also destroyed to the greatest extent in TY.

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UST= Treasury security

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

SFR = SOFR futures contract

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 shows asset manager longs intact

Data as of Tuesday shows that asset manager futures positioning was little changed on the week and remains historically long alongside leveraged funds that remain historically short (Exhibit 7). New asset manager longs were concentrated in FV while long positioning in TY was reduced modestly and shorts in SFR added. Speculative positioning excluding leveraged funds was also little changed in 10y equivalents (Exhibit 5), with longs added in WN and FV and SFR shorts added. CFTC data continues to suggest that conviction in duration remains relatively pronounced in the real money community, a theme that we also see reflected in the most recent FX and Rates Sentiment Survey (see: [Getting a long isn't easy](#)).

Non-reportable positioning cut ahead of CPI

Non-reportable positioning dropped notably in CFTC data as of Tuesday, suggesting that CTAs cut duration positioning just ahead of Wednesday's CPI report and subsequent rally. This duration reduction is consistent with the very notable downturn in our cross-over momentum signal (Exhibit 13). Based on non-reportable positioning, CTAs are roughly neutral duration, while our top-down model (for details see: [CTA impact on rates market](#)) shows that CTAs are short—though not to the extremes observed earlier this year (Exhibit 16).

US fixed income fund inflows surge

Fund flows picked up very notably the week of July 12th, likely reflecting a combination of summer seasonals and inflows following the weaker than anticipated CPI print. Inflows were concentrated in long-term UST, mixed allocation, and short-term funds (Exhibit 28). As discussed in Bond market seasonality, investors tend to de-risk over the quieter summer months and re-risk in the fall. The de-risking behavior corresponds to fixed income flow activity; EPFR monthly flow data shows fixed income inflows 70% of the time in July & consistent outflows in the fall since 2007.

Fund inflows have likely helped support the notable participation that we continue to see from investment funds across auctions (Exhibit 41). US total return fixed income fund AUM-weighted performance was in line with benchmark alongside a drop in rates on the week (Exhibit 30).

USD depreciation may support official bid

Japanese investors reduced foreign bond holdings by \$7bn the week of July 7th (Exhibit 24). This may reflect loss cutting from Japanese banks, as buying had been very strong since mid-May. We generally believe that Japanese lifers have remained out of the UST market given still prohibitive hedging costs (Exhibit 17).

Custodial holdings increased about \$5bn the week ending July 12th alongside USD depreciation pressures (Exhibit 25). While directionally a weaker USD would be consistent with foreign official sector buying, the add to custodial holdings in prior weeks may reflect investors positioning for a steeper curve vs outright buying duration.

Auction stats show that foreign participation has been weak across the curve (Exhibit 41), suggesting more limited interest that we see from both foreign private and official accounts in June.

Primary dealer cash holdings increase at long end

Cash positions declined notably across the curve the week ending July 5th, which may reflect strong end user demand (Exhibit 35). Futures positioning was mixed but increased modestly at the back end and was lower in the belly. Since the banking risk evens, cash positions now are only modestly higher in the belly (Exhibit 36).

Exhibit 2: On deck next week

Calendar of upcoming events

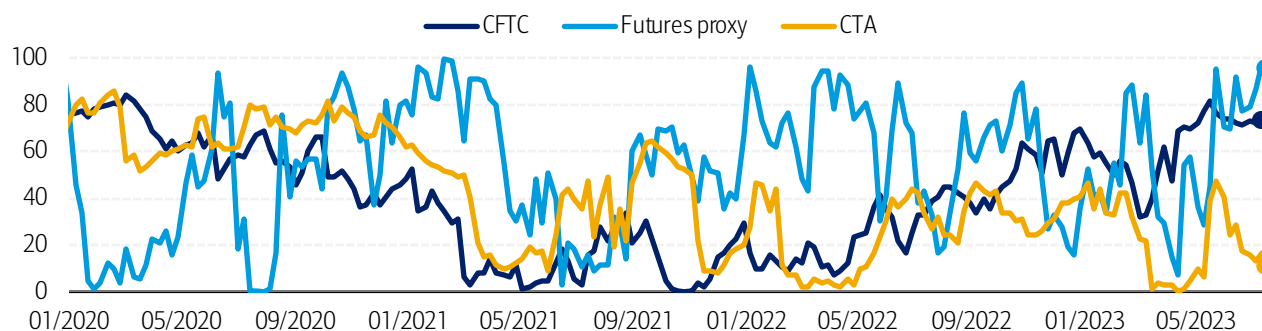
	US Data			Fed Speaker / Event	Treasury Auction			Treasury Settlements	
M, Jul 17	Series	BofA	BB Consensus	<i>Fed Blackout period</i>	Security	Amount (\$bn)	Prior Δ	Security	Amount
	Empire Manufacturing	0	0		13 week bills	65	0	Coupons	5
					26 week bills	58	0		
Tu, Jul 18	Advance Retail Sales	0.20%	0.50%	<i>Fed Blackout period</i>	42-day bills	50	0	Bills	40
	Retail Sales Less Autos	-0.20%	0.40%						
	Retail Sales Less Autos and Gas	-0.20%	0.40%						
	Core Control	-0.10%	0.40%						
	Industrial Production	0.10%	0.00%						
	Manufacturing Production	0.10%	0.00%						
	Capacity Utilization	79.60%	79.50%						
	Business Inventories	-	0.20%						
	NAHB Housing Market Index	57	-						
	Net Long-term TIC Flows	-	-						
W, Jul 19	MBA Mortgage Applications	-	-	<i>Fed Blackout period</i>	17 week bills	NA			
	Housing Starts	1500k	1465k		19-year 10-month bonds	12	0		
	Building Permits	1500k	1483k						
Th, Jul 20	Initial Jobless Claims	246k	-	<i>Fed Blackout period</i>	4 week bills	NA		Bills	18
	Philadelphia Fed Business Outlook	-14	-10		8 week bills	NA			
	Leading Indicators	-	-0.60%		10 year TIPS	17	2		
	Existing Home Sales	4.20M	4.25M						
F, Jul 21				<i>Fed Blackout period</i>					

Source: BofA Global Research, Bloomberg, US Treasury

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

Futures positioning proxy shows bias for rates to sell off, CFTC data adjusted for LFs is long, top down CTA model is lagged and shows historic shorts that may have been previously covered

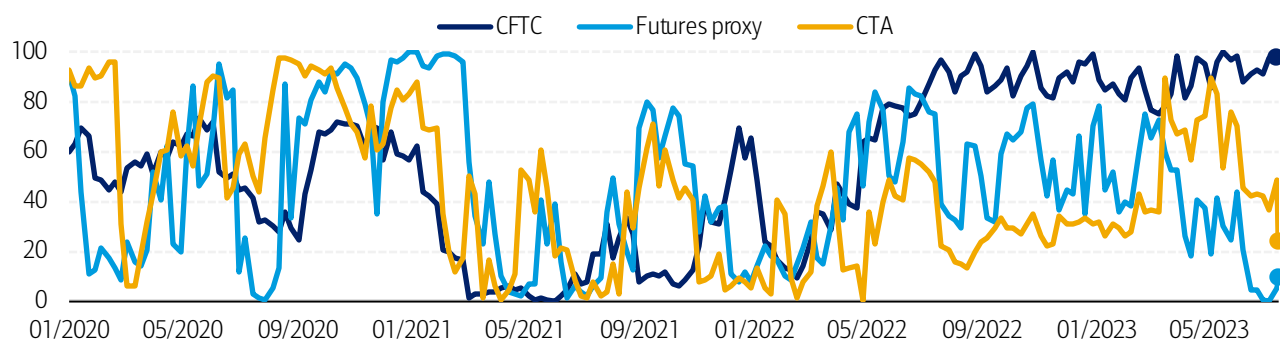


Source: BofA Global Research

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

Indicators generally point to steeper curve positioning besides CFTC speculative ex-LFs as these investors have long position concentrated further out the curve

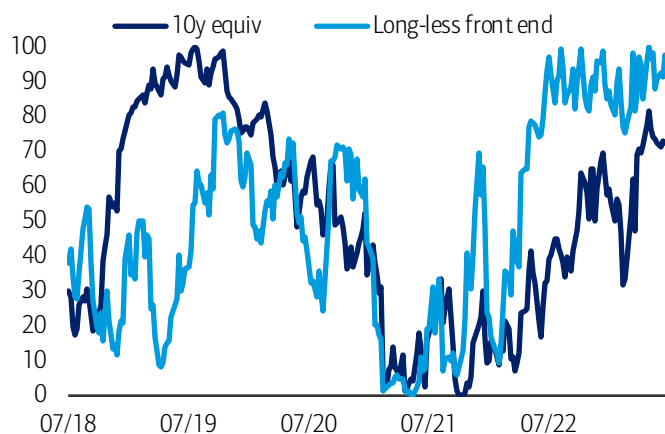


Source: BofA Global Research

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

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

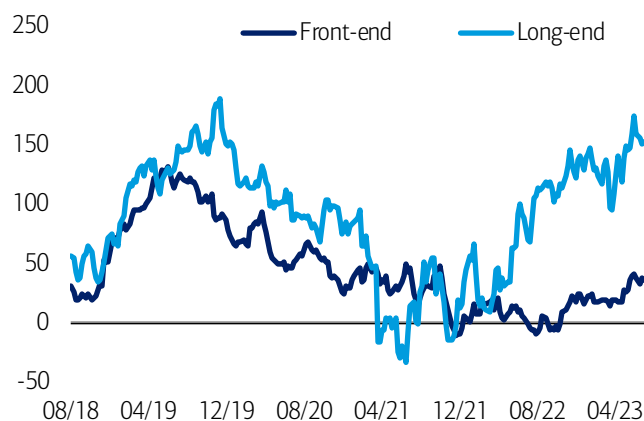


Source: BofA Global Research, Bloomberg

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Exhibit 6: Non-commercial ex leveraged fund positioning (\$bn, 10y equivalent)

Longs are more concentrated in the back-end

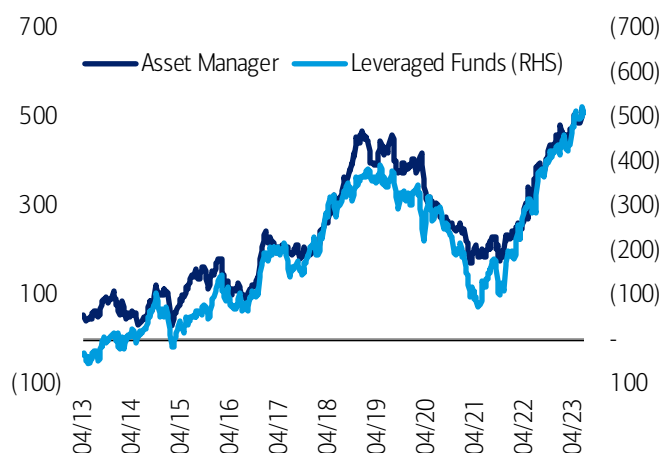


Source: BofA Global Research, Bloomberg

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Exhibit 7: Asset manager and leveraged fund positioning (10y equivalent, \$bn)

Asset manager longs correspond with leveraged fund shorts

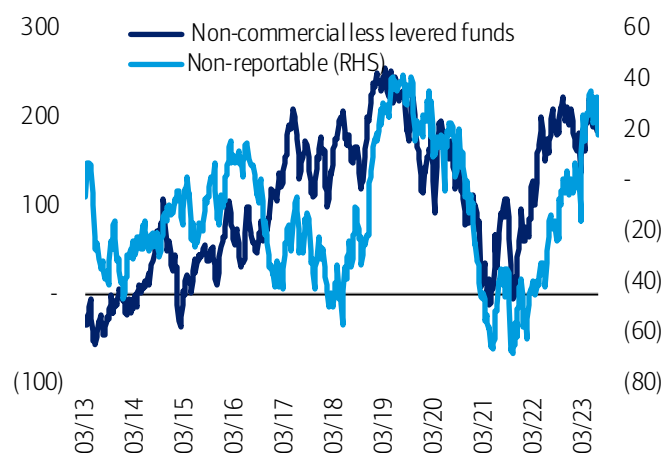


Source: BofA Global Research, Bloomberg

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Exhibit 8: 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 non-commercial ex-Leveraged fund positioning (higher percentile = longer)

Positioning is a momentum signal: longer positioning is usually followed by stronger 10y performance

	0	1w	4w	8w	12w	16w
0 to 10	10	1	-1	0	1	2
10 to 20	20	0	3	3	3	3
20 to 30	30	3	2	2	1	2
30 to 40	40	6	4	3	3	4
40 to 50	50	2	3	2	2	3
50 to 60	60	-3	-1	0	0	0
60 to 70	70	1	0	0	0	0
70 to 80	80	-2	-3	-4	-6	-7
80 to 90	90	-3	-2	-3	-3	-5
90 to 100	100	-2	-2	-2	-2	-2

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

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Exhibit 10: 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

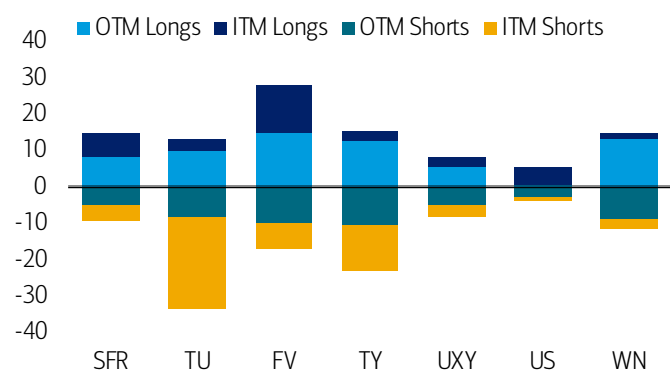
	0	1w	4w	8w	12w	16w
0 to 10	10	0	2	1	0	0
10 to 20	20	1	-4	-3	-2	-3
20 to 30	30	-6	-3	-4	-4	-5
30 to 40	40	-2	-3	-3	-3	-3
40 to 50	50	3	3	2	1	1
50 to 60	60	1	1	0	0	0
60 to 70	70	3	2	2	3	4
70 to 80	80	4	4	4	3	5
80 to 90	90	2	4	4	4	5
90 to 100	100	-1	-2	-1	0	0

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

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Exhibit 11: Proxies for futures positioning

Longs largely OTM except in US, shorts are mixed but mostly ITM in TU

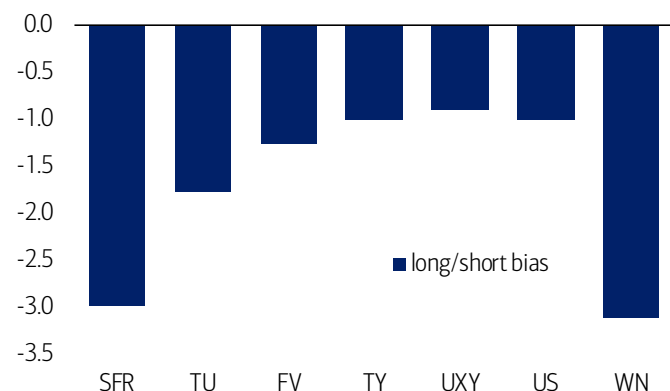


Source: BofA Global Research, Bloomberg

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Exhibit 12: Analysis of proxies for futures positioning

Bias for rates to sell off particularly at the front- & back-end

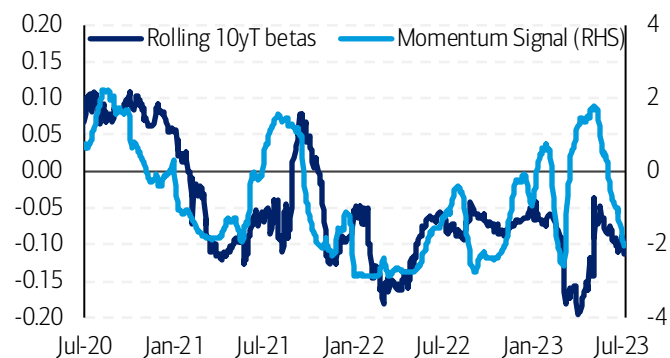


Source: BofA Global Research, Bloomberg. Note: reflects average positioning of futures stack over last 5 days

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Exhibit 13: CTA positioning in 10yT

CTA modestly added shorts while momentum signal dropped

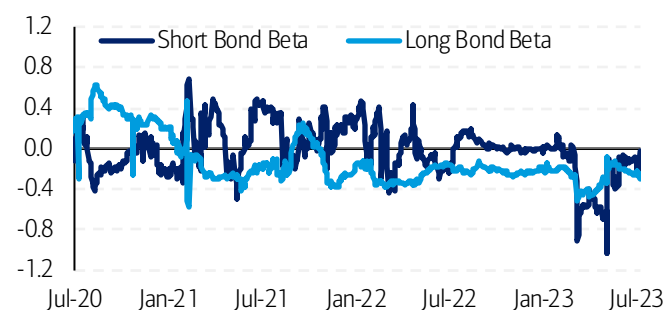


Source: BofA Global Research

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Exhibit 14: CTA positioning in longer duration and shorter duration bonds

Top-down model suggests CTAs added shorts in long duration bonds

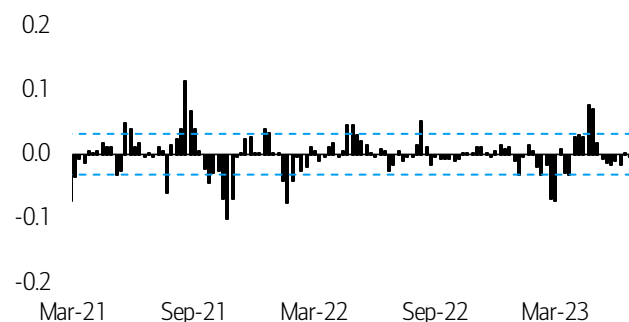


Source: BofA Global Research

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Exhibit 15: Changes in CTA 10yT beta

Change in 10yT beta little changed on the week

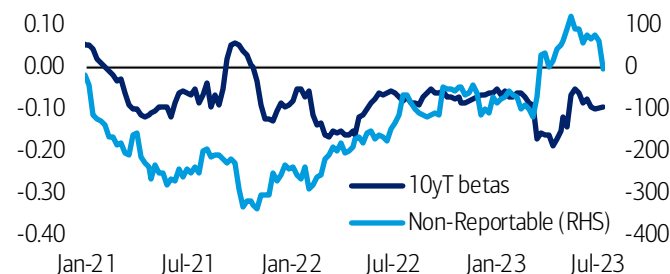


Source: BofA Global Research

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Exhibit 16: CTA 10y TSY beta and non-reportable positions

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



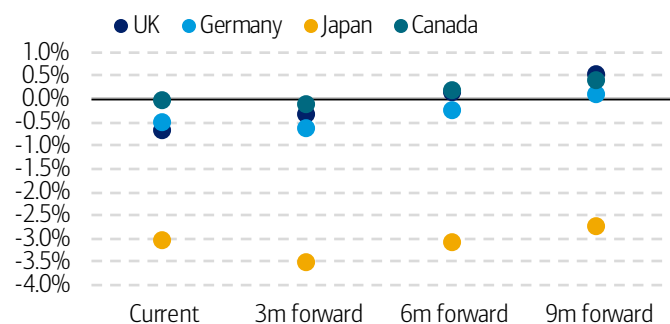
Source: BofA Global Research, Bloomberg

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FX hedged pickup and foreign flows

Exhibit 17: 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 18: 10Y UST pickup to 20Y JGB, with 3m fx hedge (bps)

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

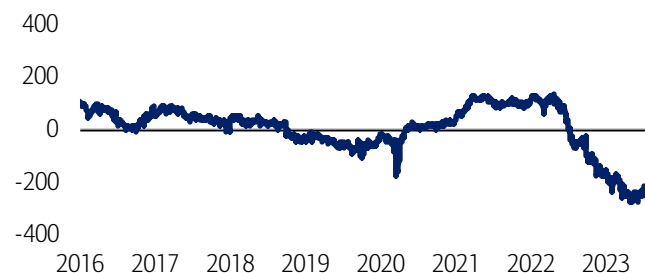


Source: BofA Global Research, Bloomberg

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

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

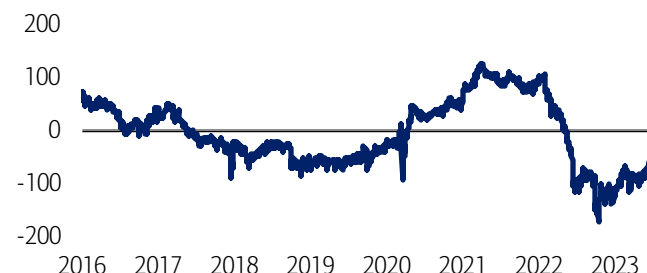


Source: BofA Global Research, Bloomberg

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

10y TSY offers negative pickup vs 10y Bund

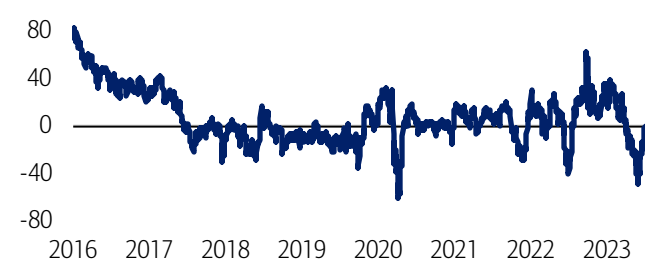


Source: BofA Global Research, Bloomberg

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Exhibit 21: 10Y UST pickup to 10Y CAD govie, with 3m fx hedge (bps)

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

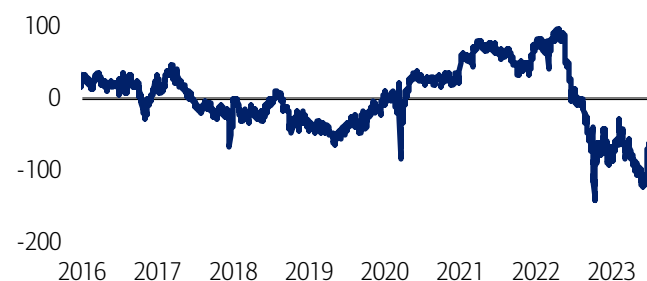


Source: BofA Global Research, Bloomberg

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Exhibit 22: 10Y UST pickup to 10Y Gilt, with 3m fx hedge (bps)

10y TSY offers negative pickup vs 10y Gilt but shows improvement recently



Source: BofA Global Research, Bloomberg

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Exhibit 23: 3m rolling JPY currency hedge

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

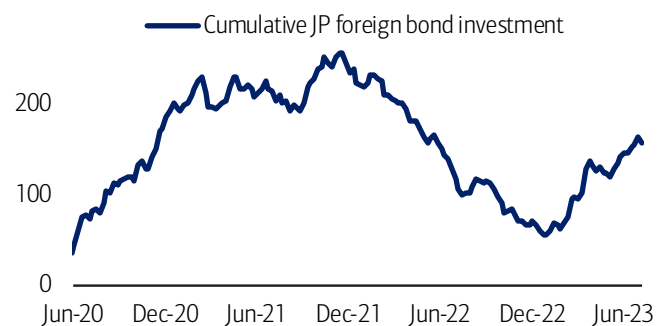
	7/13/2023		As of 1 wk ago		As of 1 mo ago		As of 1 yr ago	
	Pickup to 10y JGB	Pickup to 20Y JGB	Pickup to 10y JGB	Pickup to 20Y JGB	Pickup to 10y JGB	Pickup to 20Y JGB	Pickup to 10y JGB	Pickup to 20Y JGB
10y UST	-2.46%	-3.08%	-2.13%	-2.73%	-2.33%	-2.92%	-0.39%	-1.07%
10y GER	-1.94%	-2.56%	-1.70%	-2.30%	-1.74%	-2.33%	0.75%	0.07%
10y FRA	-1.43%	-2.05%	-1.16%	-1.76%	-1.24%	-1.83%	1.35%	0.67%
10y BEL	-1.31%	-1.93%	-1.04%	-1.64%	-1.11%	-1.70%	1.37%	0.69%
10y ITA	-0.31%	-0.92%	0.00%	-0.60%	-0.19%	-0.78%	2.75%	2.07%
10y SPA	-0.94%	-1.56%	-0.66%	-1.26%	-0.84%	-1.42%	1.86%	1.18%
10y UK	-1.79%	-2.41%	-1.52%	-2.12%	-1.28%	-1.86%	-0.30%	-0.98%
10y CAN	-2.40%	-3.02%	-2.05%	-2.65%	-2.20%	-2.79%	-0.16%	-0.84%

Source: BofA Global Research, Bloomberg

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Exhibit 24: Japan investment in foreign bonds, cumulative weekly (\$bn)

Long & medium term bonds (\$bn) holdings dropped on the week

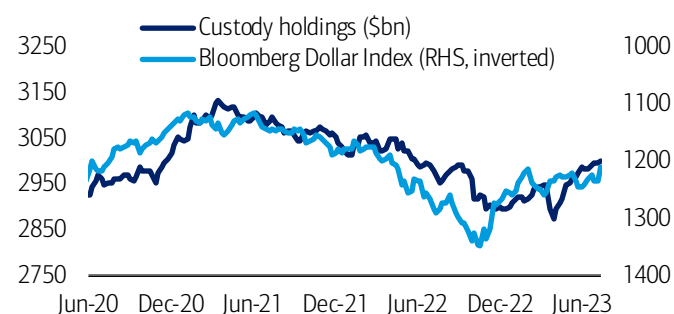


Source: BofA Global Research, Bloomberg

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Exhibit 25: Weekly UST custody holdings, foreign official (\$bn)

Custody holdings have recovered drop around banking risk events in March and picked up on the week

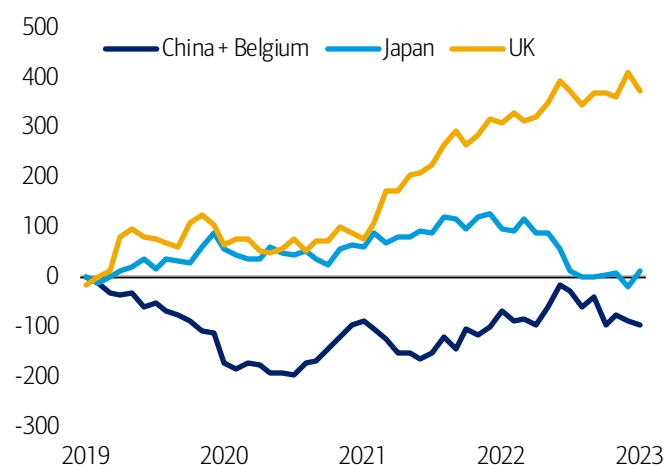


Source: BofA Global Research, NY Fed

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Exhibit 26: Cumulative change in UST holdings by region since 2019

Japan holdings have declined since 2022 while UK holdings grown

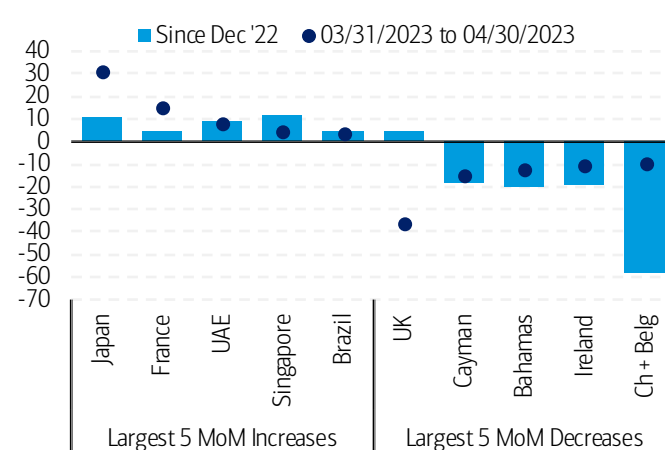


Source: BofA Global Research, TIC, Note: adjusted for level of rates

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Exhibit 27: Largest MoM changes in foreign TSY holdings (\$bn)

Japan was largest buyer, UK largest seller in April



Source: BofA Global Research, TIC, Note: adjusted for level of rates

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Fund flows and returns

Exhibit 28: US fixed income fund flows (\$million)

US FI funds saw large inflows, driven by mixed allocation, gov short & long, and corp HY funds

	7/12/2023	Rolling 4w average	Rolling 8w average	Rolling 12w average	Rolling 52w average
Gov: short	2,053	507	328	489	1,160
Gov: intermediate	515	333	402	416	438
Gov: long	3,496	1,345	1,725	1,606	1,137
Corp: IG	(137)	623	514	263	401
Corp:HY	1,945	393	535	105	(106)
Corp: all quality	183	76	57	48	14
MBS	252	362	403	329	61
Inflation	(364)	(369)	(499)	(423)	(555)
Muni	254	210	21	56	(442)
Mixed allocation	3,209	3,197	3,121	3,143	897
All US FI	11,308	6,340	6,150	5,462	2,468

Source: BofA Global Research, EPFR

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Exhibit 29: Total return FI fund performance vs benchmark

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

	AUM (\$Bn)	7/13/2023	Vs. Agg	Last 4w	Vs. Agg
Vanguard Total Bond Market II Index Fund	252	1.88%	-0.08%	0.34%	0.12%
Vanguard Total Bond Market Index Fund	203	1.86%	-0.11%	0.23%	0.01%
PIMCO Income fund	124	2.26%	0.30%	1.25%	1.03%
The Bond Fund of America	76	2.13%	0.16%	0.38%	0.16%
MetWest Total Return Bond Fund	63	2.32%	0.35%	0.22%	0.00%
PIMCO Total Return Fund	55	2.22%	0.25%	0.30%	0.08%
Dodge & Cox Income Fund	57	1.72%	-0.25%	0.57%	0.35%
PGIM Total Return Bond Fund	42	1.71%	-0.26%	0.43%	0.21%
BlackRock Strategic Income Opportunities Fund	36	1.29%	-0.67%	0.58%	0.36%
Baird Aggregate Bond Fund	40	1.99%	0.02%	0.37%	0.15%
JPMorgan Core Bond Fund	40	1.89%	-0.08%	0.37%	0.15%
DoubleLine Total Return Bond Fund	34	1.84%	-0.13%	0.25%	0.03%
Fidelity Series Investment Grade Bond Fund	34	1.91%	-0.06%	0.40%	0.18%
Fidelity Total Bond Fund	31	1.80%	-0.17%	0.53%	0.30%
Western Asset Core Plus Bond Portfolio	25	2.99%	1.02%	1.27%	1.05%
Baird Core Plus Bond Fund	25	1.93%	-0.04%	0.49%	0.26%
John Hancock Bond Fund	22	1.97%	0.00%	0.40%	0.18%
TIAA-CREF Bond Index Fund	21	1.97%	0.00%	0.33%	0.11%
BlackRock Total Return Fund	18	2.22%	0.25%	0.33%	0.11%
JPMorgan Core Plus Bond Fund	18	2.12%	0.15%	0.44%	0.22%
Bridge Builder Core Bond Fund	17	1.90%	-0.07%	0.29%	0.07%
T Rowe Price New Income Fund	16	1.84%	-0.13%	0.05%	-0.17%
Western Asset Core Bond Fund	15	2.36%	0.40%	0.48%	0.26%
CREF Bond Market Account	11	1.80%	-0.17%	0.42%	0.20%
Fidelity Investment Grade Bond Fund	9	1.92%	-0.05%	0.40%	0.18%
DoubleLine Core Fixed Income Fund	7	1.64%	-0.33%	0.28%	0.06%
TCW Total Return Bond Fund	3	2.38%	0.41%	0.00%	-0.22%
Janus Henderson Flexible Bond Fund	3	2.26%	0.29%	0.32%	0.10%
Weighted avg	1292	1.98%	0.01%	0.45%	0.23%
Agg		1.97%		0.22%	
10y return		2.66%		-0.47%	

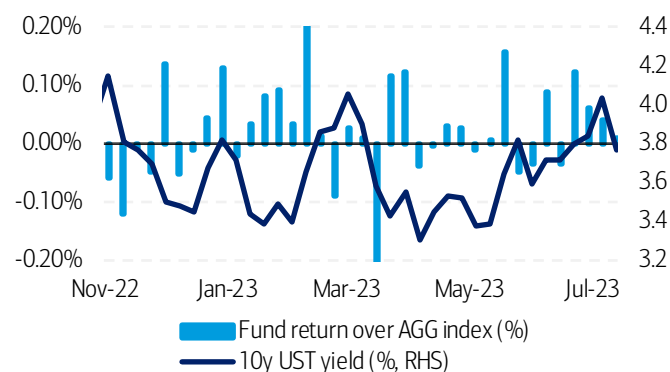
Source: BofA Global Research, Bloomberg, Note: Excess returns are fund total returns over Bloomberg Barclays Agg Index

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Exhibit 30: 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

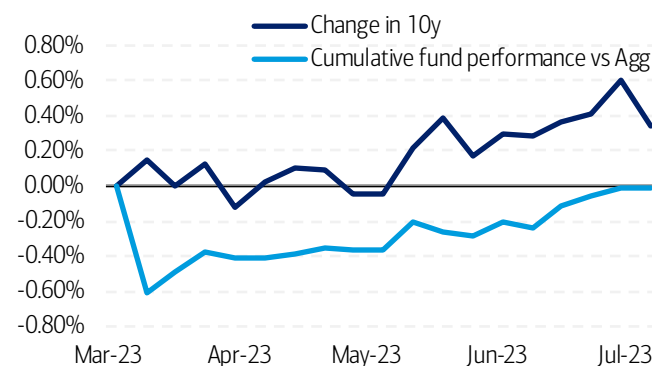


Source: BofA Global Research, Bloomberg. Note: Excess returns are fund total returns over Bloomberg Barclays Agg index

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Exhibit 31: 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 32: 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	251.8	1.6	2.4	0.8
VBMFX	Vanguard Total Bond Market Index Fund	202.9	1.2	1.7	0.5
PIMIX	PIMCO Income fund	123.7	-37.7	-43.4	-5.7
ABNDX	The Bond Fund of America	75.9	-9.7	-11.3	-1.6
MWTIX	MetWest Total Return Bond Fund	62.7	-17.4	-16.5	0.9
DODIX	Dodge & Cox Income Fund	56.9	-31.2	-28.1	3.1
PTTRX	PIMCO Total Return Fund	54.6	-15.2	-15.4	-0.2
PDBAX	PGIM Total Return Bond Fund	41.6	-33.8	-33.7	0.1
PGBOX	JPMorgan Core Bond Fund	39.7	-7.3	-5.0	2.3
BAGIX	Baird Aggregate Bond Fund	39.7	-17.7	-16.9	0.8
BSIIX	BlackRock Strategic Income Opportunities Fund	35.9	-14.6	-17.3	-2.7
DBLTX	DoubleLine Total Return Bond Fund	34.0	-32.4	-32.7	-0.3
FSIGX	Fidelity Series Investment Grade Bond Fund	33.5	-10.4	-7.5	3.0
FTBFX	Fidelity Total Bond Fund	31.1	-18.3	-12.0	6.3
WACPX	Western Asset Core Plus Bond Portfolio	24.9	-29.1	-33.7	-4.6
BCOIX	Baird Core Plus Bond Fund	24.6	-20.0	-18.5	1.4
JHBIX	John Hancock Bond Fund	22.0	-26.1	-22.8	3.3
TBIIX	TIAA-CREF Bond Index Fund	20.7	0.9	0.8	-0.1
MAHQX	BlackRock Total Return Fund	18.2	21.3	-13.7	-35.0
ONIAI	JPMorgan Core Plus Bond Fund	17.6	-7.6	-5.1	2.5
BBTBX	Bridge Builder Core Bond Fund	16.5	-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	10.7	-22.3	-21.1	1.2
FBNDX	Fidelity Investment Grade Bond Fund	8.8	-8.6	-5.7	2.9
DBLFX	DoubleLine Core Fixed Income Fund	7.1	-20.3	-16.9	3.4
JFLEX	Janus Henderson Flexible Bond Fund	2.9	-9.5	-11.3	-1.8
TGLMX	TCW Total Return Bond Fund	2.8	-40.6	-38.5	2.1
AUM weighted		1292.1	-12.7	-13.3	-0.5

Source: BofA Global Research, funds' publicly available reports

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Bank balance sheets

Exhibit 33: Changes to bank balance sheet assets (\$bn)

Domestic bank assets increase driven by cash and other

		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	8	-9	-4	-9	2
	Cash	3286	9	-16	0	-10	0
	UST & Agency	1506	-13	-4	-4	-3	-4
	MBS	2585	-11	-1	-4	-2	-6
	Loans and Leases	12116	-8	8	4	6	12
	Other	3368	31	6	0	1	-1
Large Domestic (\$bn, NSA)	Total Assets	13339	64	-1	-3	-11	-4
	Cash	1554	42	-6	7	-9	0
	UST & Agency	1100	-9	-4	-4	-4	-4
	MBS	1947	-8	0	-3	-1	-2
	Loans and Leases	6740	-11	1	-2	1	4
	Other	1997	51	9	-1	2	-2
Small Domestic (\$bn, NSA)	Total Assets	6507	16	5	5	3	3
	Cash	461	16	2	0	-2	0
	UST & Agency	289	-2	-1	-1	-1	0
	MBS	609	-2	-2	-1	-1	-3
	Loans and leases	4352	1	5	7	7	7
	Other	796	3	1	0	0	0
All Domestic (\$bn, NSA)	Total Assets	19846	80	5	2	-9	-1
	Cash	2015	58	-4	7	-11	0
	UST & Agency	1390	-12	-5	-5	-4	-5
	MBS	2557	-10	-2	-4	-2	-6
	Loans and leases	11092	-10	6	5	7	11
	Other	2793	54	9	-1	1	-2
Foreign (\$bn, NSA)	Total Assets	3014	-72	-13	-6	0	2
	Cash	1271	-49	-12	-6	0	0
	UST & Agency	116	-2	0	0	1	0
	MBS	28	-1	1	0	0	0
	Loans and leases	1024	2	2	-1	-1	1
	Other	575	-23	-3	1	0	1

Source: BofA Global Research, Federal Reserve, Bloomberg

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Exhibit 34: Select bank balance sheet liabilities (\$bn, NSA)

Domestic bank balance sheets increase driven by deposits while other borrowing lower

		Current	1w change	Rolling 4w avg wkly chg	Rolling 8w avg wkly chg	Rolling 12w avg wkly chg	Rolling 52w avg wkly chg
Deposits (\$bn, NSA)	All	17350	90	34	29	-3	-13
	Domestic	16086	105	31	27	-3	-13
	Large Domestic	10883	79	24	18	-5	-10
	Small Domestic	5203	25	7	9	2	-3
	Foreign	1264	-14	2	2	1	0
Other borrowing (\$bn, NSA)	All	2285	-47	-38	-23	-10	11
	Domestic	1288	-41	-31	-26	-14	10
	Large Domestic	805	-28	-26	-19	-12	6
	Small Domestic	483	-13	-5	-7	-2	4
	Foreign	997	-6	-7	3	4	1

Source: BofA Global Research, Federal Reserve, Bloomberg

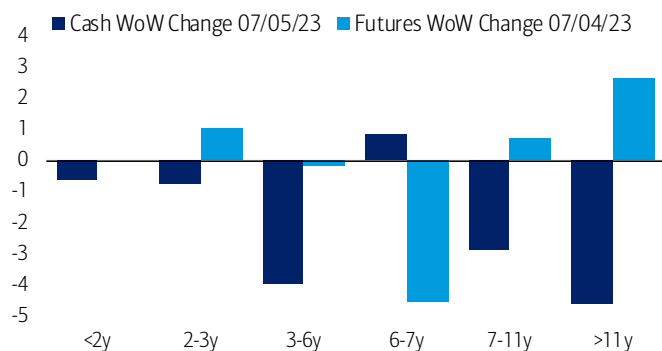
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Primary dealer balance sheet

Exhibit 35: Dealers WoW change in positions

10y equivalent, \$bn, futures positions increased in belly

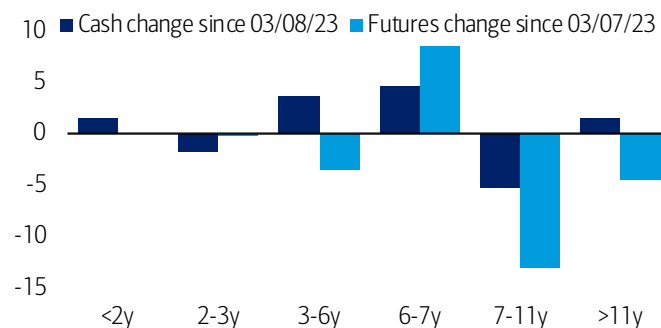


Source: BofA Global Research, NY Fed, CFTC

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Exhibit 36: Dealers change in positions since bank risk events

10y equivalent, \$bn, cash and futures positions lower in the back-end

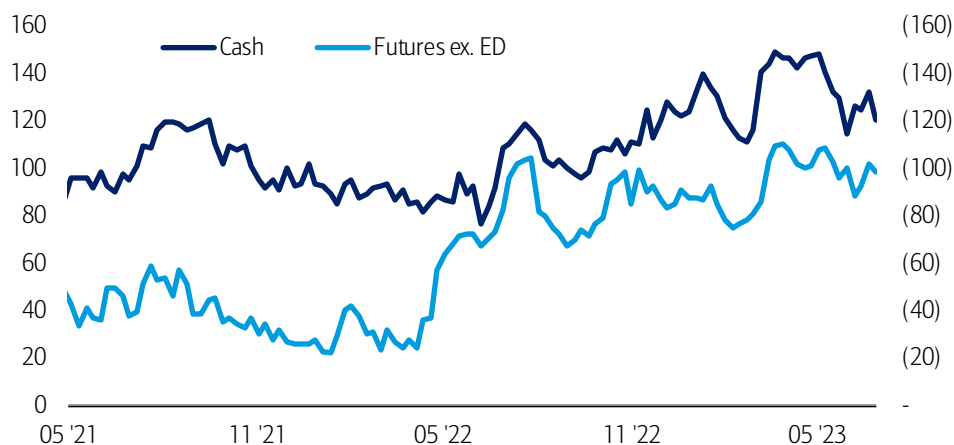


Source: BofA Global Research, NY Fed, CFTC

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Exhibit 37: Dealers total sector positions

10y equivalent, \$bn, cash longs & futures shorts dropped on the week



Source: BofA Global Research, NY Fed, CFTC

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Auction statistics

Exhibit 38: Auction summary statistics

Z-score calculated on levels, Investment fund participation in auctions remains robust

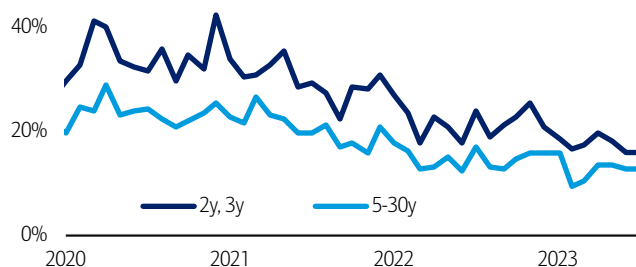
		Primary Dealer	Indirect Bidder	Direct Bidder	Investment Fund	Foreign
2y	6/30/2023	18.9%	61.2%	19.9%	74.8%	9.3%
	MoM Change	0.0%	0.0%	0.0%	9.7%	-7.5%
	1Y Z-score	-0.4	0.6	-0.6	2.8	-1.8
3y	6/15/2023	13.0%	73.3%	13.7%	70.1%	11.1%
	MoM Change	0.0%	0.0%	0.0%	1.1%	-5.8%
	1Y Z-score	-1.5	1.6	-1.5	1.9	-1.6
5y	6/30/2023	13.6%	17.3%	69.1%	77.7%	8.3%
	MoM Change	0.0%	0.0%	0.0%	6.0%	-9.7%
	1Y Z-score	-0.5	-0.4	0.5	2.0	-1.5
7y	6/30/2023	14.8%	64.1%	21.1%	81.1%	9.6%
	MoM Change	0.0%	0.0%	0.0%	4.1%	-1.9%
	1Y Z-score	0.2	-0.4	0.5	1.8	-1.0
10y	6/15/2023	13.0%	67.5%	19.5%	68.7%	10.7%
	MoM Change	0.0%	0.0%	0.0%	1.9%	-6.7%
	1Y Z-score	-0.7	0.4	0.4	1.0	-0.7
20y	6/30/2023	12.0%	68.7%	19.2%	78.9%	10.6%
	MoM Change	0.0%	0.0%	0.0%	5.4%	-2.7%
	1Y Z-score	0.4	-0.5	0.5	1.4	-0.8
30y	6/15/2023	10.2%	72.4%	17.4%	78.9%	9.6%
	MoM Change	0.0%	0.0%	0.0%	7.0%	-6.1%
	1Y Z-score	-0.6	0.7	-0.6	1.5	-1.1

Source: BofA Global Research, Treasury

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Exhibit 39: Primary dealer – average auction allotment

Dealer participation has declined

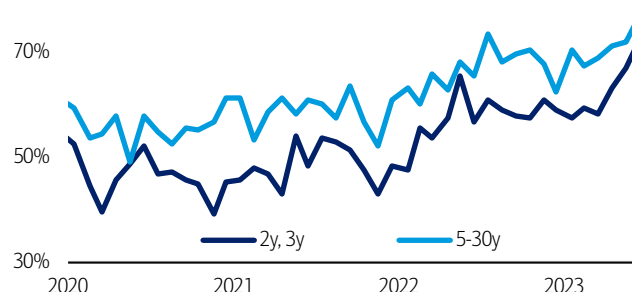


Source: BofA Global Research, Treasury

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Exhibit 40: Investment fund – average auction allotment

Fund participation moderated recently after increasing in 2022

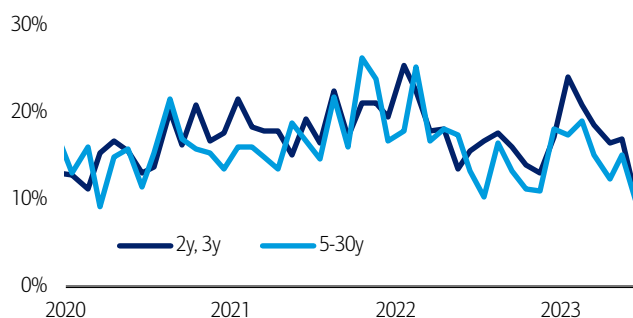


Source: BofA Global Research, Treasury

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Exhibit 41: Foreign investment – average auction allotment

Foreign participation has been more muted

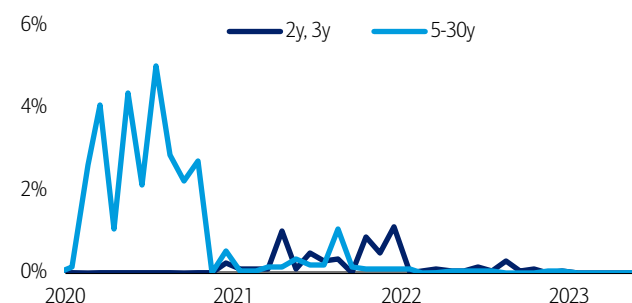


Source: BofA Global Research, Treasury

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Exhibit 42: Depository institutions – average auction allotment

Participation is minimal



Source: BofA Global Research, Treasury

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