

## US Rates Watch

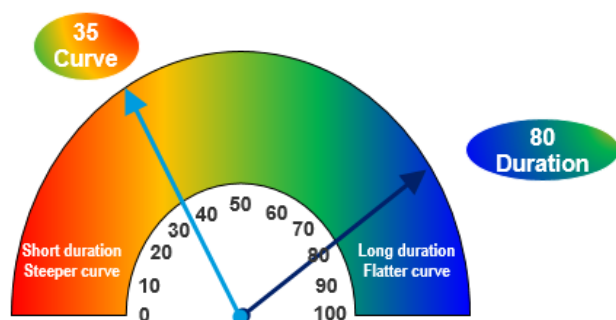
## Weekend homework: Longs prone to covering

## Longs may be prone to covering

Our positioning indicators generally suggest that investors are long duration and in curve steepeners (Exhibit 1), both positions that have become vulnerable given recent price action. Futures show a decline in open interest over the week, with long positions closed particularly at the belly of the curve. CFTC data suggest that CTAs added to duration ahead of the recent rates sell off and that asset manager longs supplied by leveraged fund shorts continue to build.

**Exhibit 1: Curve-o-meter**

Positioning points to more of a bias for rates to selloff particularly at front-end/ belly



**Source:** BofA Global Research, Note: dials show 5p 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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## Positioning proxy suggests front-end selloff may continue

The futures positioning proxy shows that the net out of the money position is now long, suggesting a bias for rates to sell off particularly at the front end of the curve (Exhibit 11). On the week through Thursday, open interest declined across the curve but to the largest extent in FV where longs put on in recent weeks were closed.

## CFTC data shows AM longs and LF shorts continue to build

Leveraged fund (LF) short positions continued to build alongside asset manager longs, particularly in TU (Exhibit 6). Non-commercial positioning ex- leveraged funds also points further long (Exhibit 4), supported by continued inflows to Gov funds (see below) and a bias to be overweight duration (see: [EXRS](#)). The long position in 10 year equivalents remains more concentrated at the back-end of the curve (Exhibit 5).

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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

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**Refer to important disclosures on page 12 to 13.**

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Timestamp: 19 May 2023 07:20PM EDT

## Non-reportable shows CTAs entered selloff long

Our cross-over momentum signal suggests long duration (Exhibit 12), consistent CFTC non-reportable positioning (viewed as a proxy for CTAs, Exhibit 15). CFTC data as of Tuesday shows that indeed CTAs may have added duration the week ending Tuesday, so entered the rates selloff with room to cover.

## Primary dealers reduce cash holdings at back-end

Primary dealer cash positions in 10y equivalents declined modestly the week ending May 10<sup>th</sup>, led by a reduction in holdings at the back end of the curve (Exhibit 34). Since the banking risk events, dealers still maintain a notably larger basis position, with cash holdings higher at the back end and belly of the curve alongside a pickup in short futures positions (Exhibit 35).

## Japan foreign bond buying, custodial holdings hit YTD high

Japanese investors bought about \$8bn foreign bonds the week ending May 12th (Exhibit 23). We are hesitant to say though that the uptick represents an increase in UST holdings. While the MoF foreign bond data showed a \$37bn bid in March, this stands at odds with recently released TIC data indicating that Japanese investors were on net some of the largest sellers of USTs on the month (Exhibit 26). Instead, Japanese investors may be concentrating purchases in European bonds which have a less prohibitive FX hedging cost vs the USD (Exhibit 22).

Foreign custodial holdings increased \$5bn on the week ending Wednesday to levels that now surpass what we observed before the banking risk events (Exhibit 24). These new YTD highs suggest that foreign official institutions are no longer needing to increase access to USD liquidity. However, they may be less likely to build further should USD appreciation pressures continue.

## US fixed income flows stay firm

We continue to see strong inflows to US fixed income funds overall (Exhibit 27). Mixed allocation and long term Gov funds saw the largest inflows while HY funds saw the largest outflow over the week ending May 17th.

Total return fixed income funds outperformed the benchmark while 10y rates moved higher (Exhibit 29). Consistent with funds reporting underweight UST positions at end Q1 (Exhibit 31), we continue to see fund outperformance move directionally consistent with rates suggesting a continued underweight position (Exhibit 30). This stands in contrast with our most recent FX and Rates Sentiment Survey indicating historic US duration longs, but the discrepancy may represent survey composition vs the domestic fixed income funds we track here. (Exhibit 28).

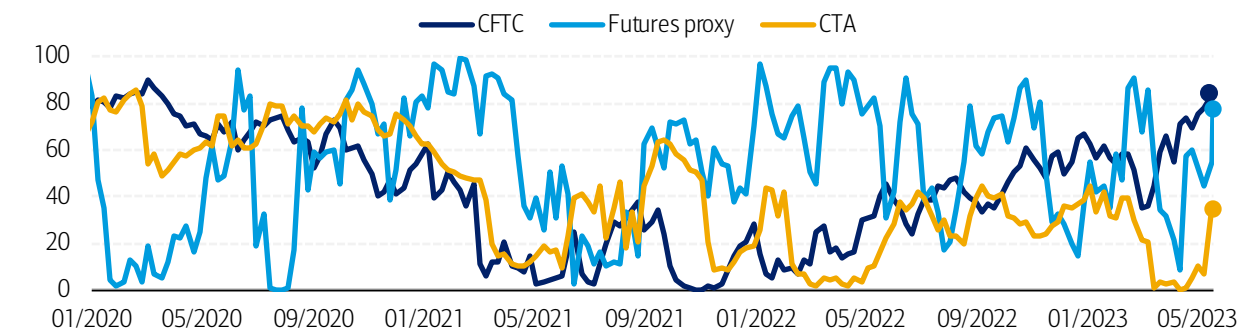
## Large domestic banks reduce securities holdings

All bank balance sheets together grew by \$58bn the week ending May 10th, primarily driven by foreign banks. Foreign banks largely accounted for the growth in reserves that week, with cash balances increasing by \$66bn. Deposits declined across large domestic banks on the liability side (Exhibit 33), complimented by a drop in securities holdings and loans on the asset side (Exhibit 32). The drop in securities holdings alongside the pickup in repo (captured in other) suggests that banks may be less inclined to roll over maturing securities perhaps on the back of debt limit volatility.

## Positioning indicators

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

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

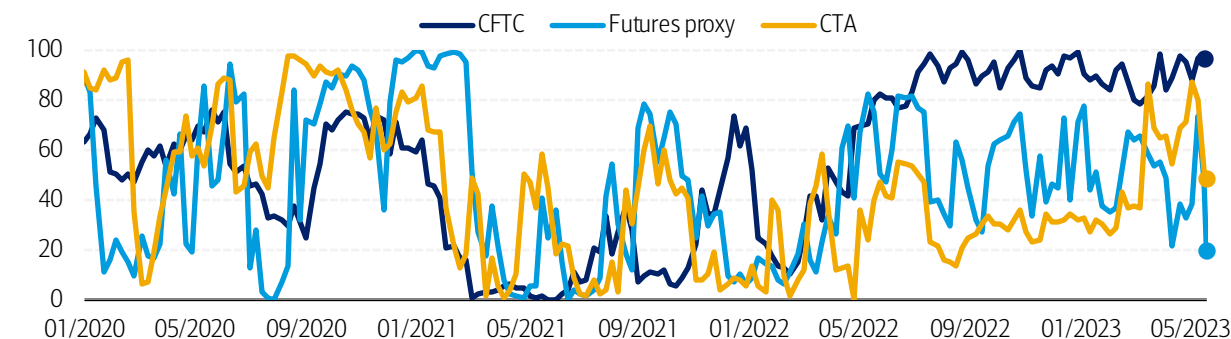


Source: BofA Global Research

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

Indicators generally point mixed curve positioning, but futures positioning proxy shows bias for curve flattening

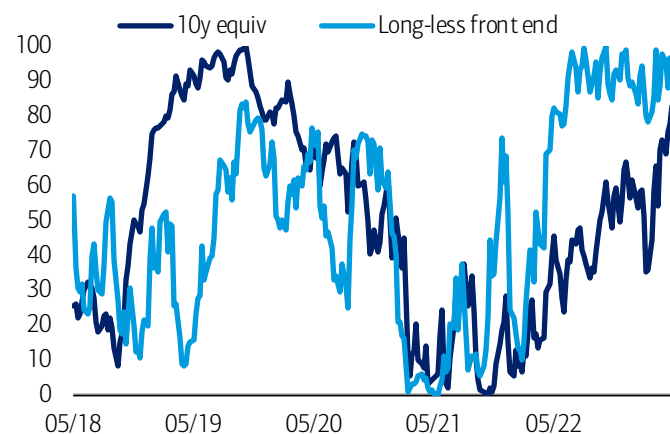


Source: BofA Global Research

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

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

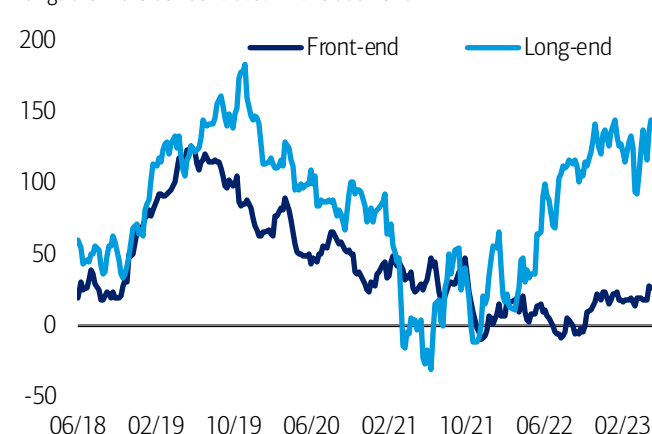


Source: BofA Global Research, Bloomberg

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

Longs are more concentrated in the back-end

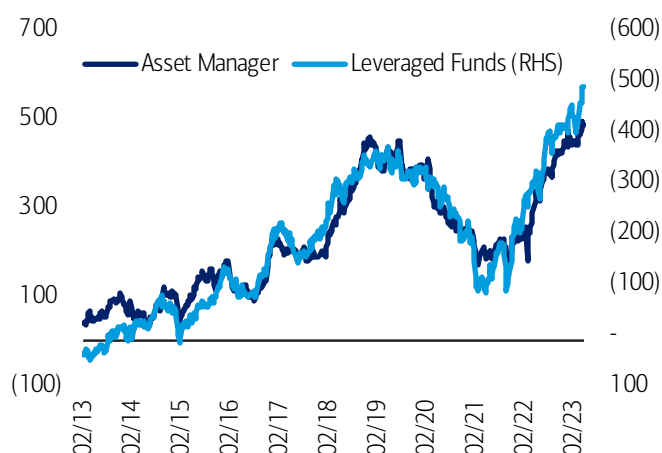


Source: BofA Global Research, Bloomberg

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### Exhibit 6: Asset manager and leveraged fund positioning (10y equivalent, \$bn)

Asset manager longs correspond with leveraged fund shorts

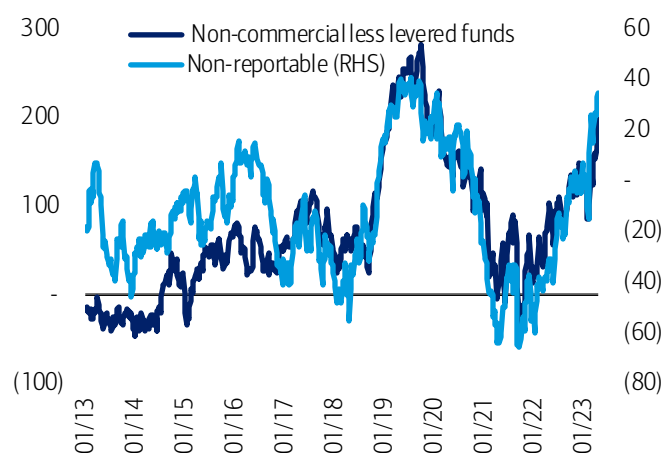


Source: BofA Global Research, Bloomberg

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### Exhibit 7: Non-commercial ex LFs and non-reportable positioning (10y equivalent, \$bn)

Directional positions trend together



Source: BofA Global Research, Bloomberg

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### Exhibit 8: 10y rate change for given percentile of non-commercial ex-Leveraged fund positioning (higher percentile = longer)

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

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

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

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### Exhibit 9: 10y rate change for given percentile of leveraged fund positioning (higher percentile = longer)

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

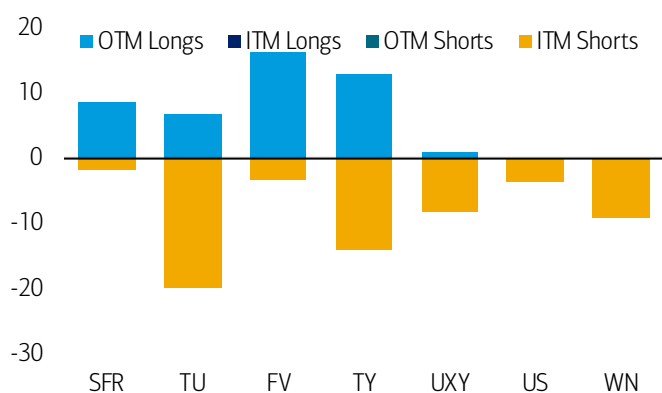
	1w	4w	8w	12w	16w
0 to 10	-3	-3	-2	-1	-1
10 to 20	2	-2	-2	-2	-3
20 to 30	-5	-3	-4	-4	-5
30 to 40	-2	-1	-1	-2	-2
40 to 50	3	2	2	1	1
50 to 60	1	1	1	1	1
60 to 70	1	1	2	3	4
70 to 80	4	4	4	3	4
80 to 90	3	4	4	4	4
90 to 100	-1	-2	-1	0	0

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

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### Exhibit 10: Proxies for futures positioning

Longs OTM, shorts ITM broadly across curve

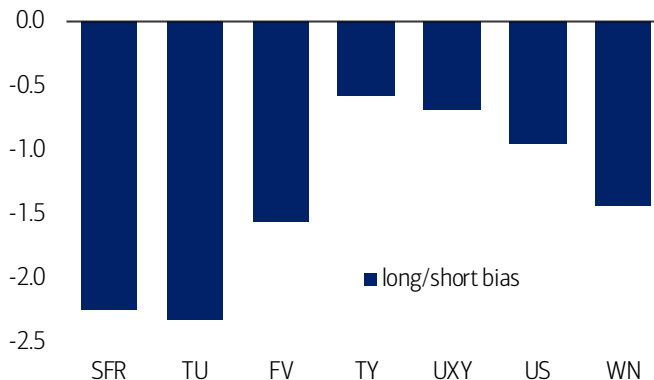


Source: BofA Global Research, Bloomberg

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

Strongest bias is for selloff at front-end

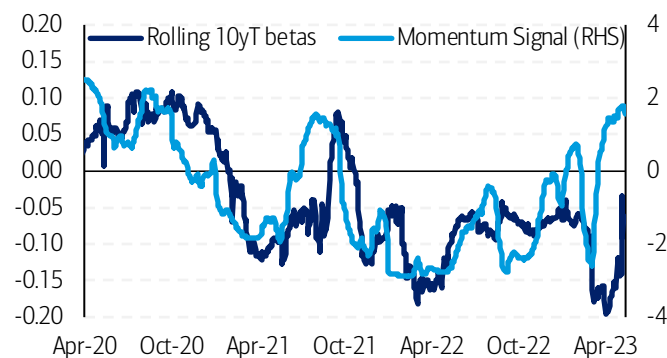


Source: BofA Global Research, Bloomberg, Note: reflects average positioning of futures stack over last 5 days

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

CTA top down model implies short covering, momentum signal leading

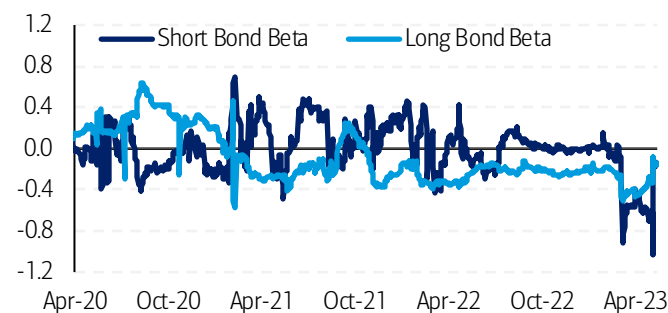


Source: BofA Global Research

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

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

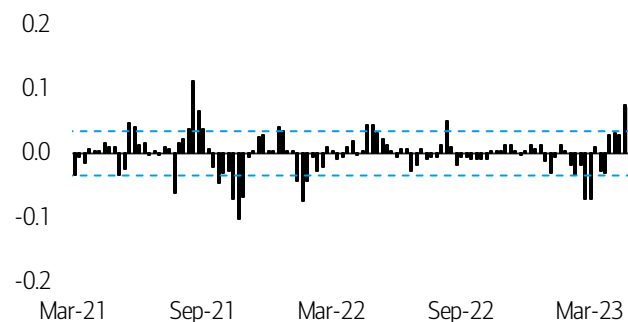


Source: BofA Global Research

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

Change in 10yT beta increased in recent weeks from top-down model

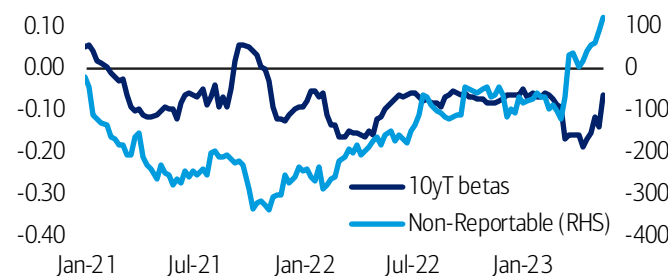


Source: BofA Global Research

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

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



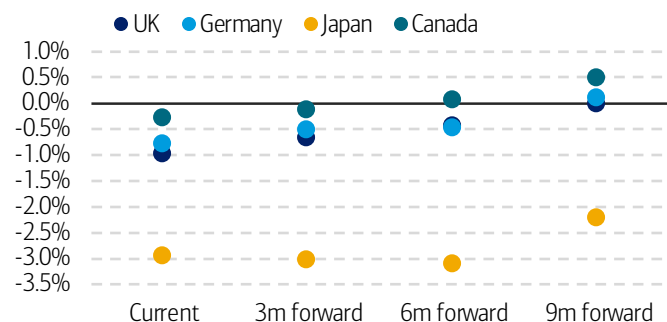
Source: BofA Global Research, Bloomberg

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## FX hedged pickup and foreign flows

**Exhibit 16: FX hedged pickup of TSYs vs local alternatives implied by forwards**

Market pricing does not reflect attractive environment for FX hedged carry trades in TSYs currently but forwards suggest improvement



Source: BofA Global Research, Bloomberg. Note: pickup vs 10y local alternative except Japan which is relative to 20y JGB using 3m forward FX hedge

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

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



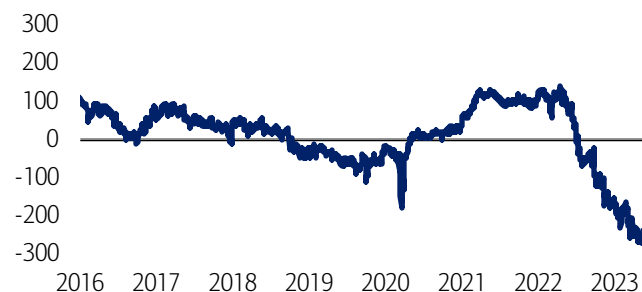
Source: BofA Global Research, Bloomberg

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

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

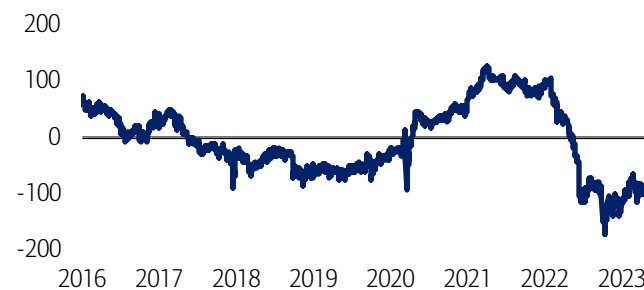


Source: BofA Global Research, Bloomberg

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

10y TSY offers negative pickup vs 10y Bund

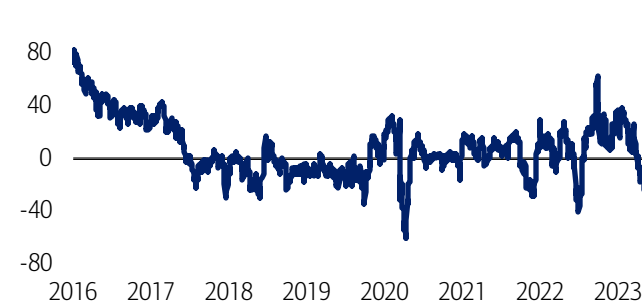


Source: BofA Global Research, Bloomberg

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

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

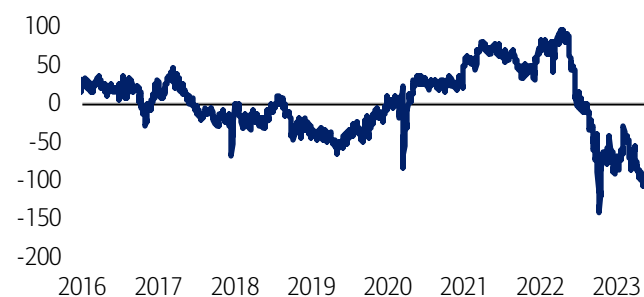


Source: BofA Global Research, Bloomberg

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

10y TSY offers negative pickup vs 10y Gilt



Source: BofA Global Research, Bloomberg

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

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

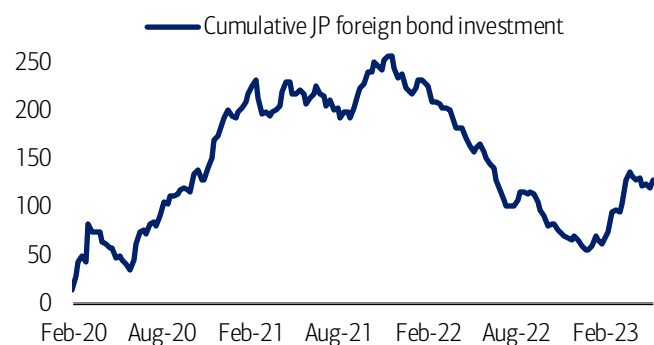
	5/18/2023		As of 1 wk ago		As of 1 mo ago		As of 1 yr ago	
	Pickup to 10y JGB	Pickup to 20Y JGB	Pickup to 10y JGB	Pickup to 20Y JGB	Pickup to 10y JGB	Pickup to 20Y JGB	Pickup to 10y JGB	Pickup to 20Y JGB
10y UST	-2.41%	-3.01%	-2.54%	-3.16%	-2.40%	-3.05%	0.80%	0.30%
10y GER	-1.58%	-2.18%	-1.72%	-2.34%	-1.51%	-2.17%	1.00%	0.49%
10y FRA	-1.00%	-1.60%	-1.14%	-1.76%	-0.95%	-1.61%	1.52%	1.02%
10y BEL	-0.88%	-1.47%	-1.02%	-1.64%	-0.83%	-1.49%	1.60%	1.09%
10y ITA	0.27%	-0.33%	0.17%	-0.45%	0.34%	-0.31%	3.06%	2.55%
10y SPA	-0.52%	-1.12%	-0.65%	-1.27%	-0.48%	-1.14%	2.14%	1.63%
10y UK	-1.42%	-2.01%	-1.57%	-2.19%	-1.53%	-2.19%	0.17%	-0.34%
10y CAN	-2.12%	-2.72%	-2.34%	-2.96%	-2.32%	-2.97%	0.74%	0.24%

Source: BofA Global Research, Bloomberg

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

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

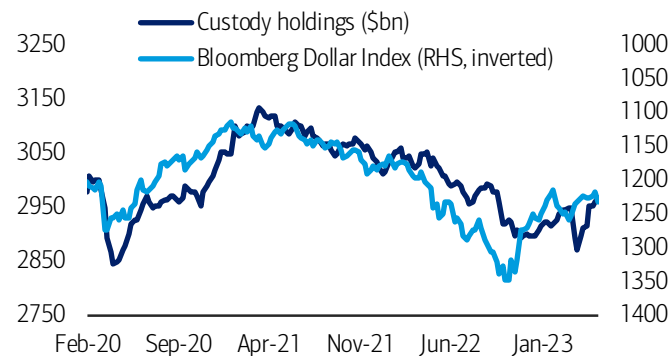


Source: BofA Global Research, Bloomberg

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

Custody holdings have recovered drop around banking risk events in March

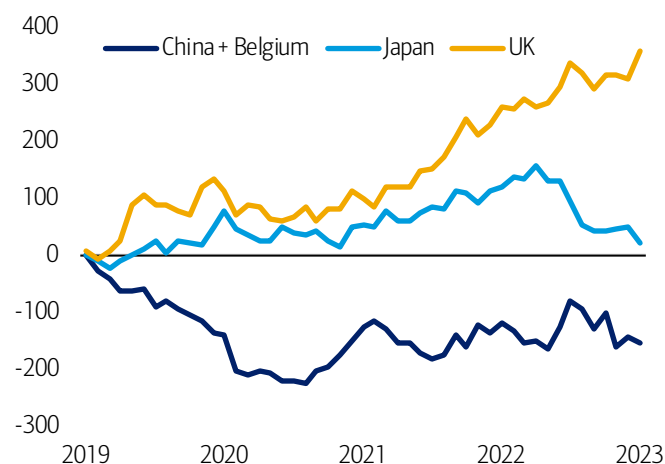


Source: BofA Global Research, NY Fed

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**Exhibit 25: Cumulative change in UST holdings by region since 2019**

Japan holdings have declined since 2022 while UK holdings grown

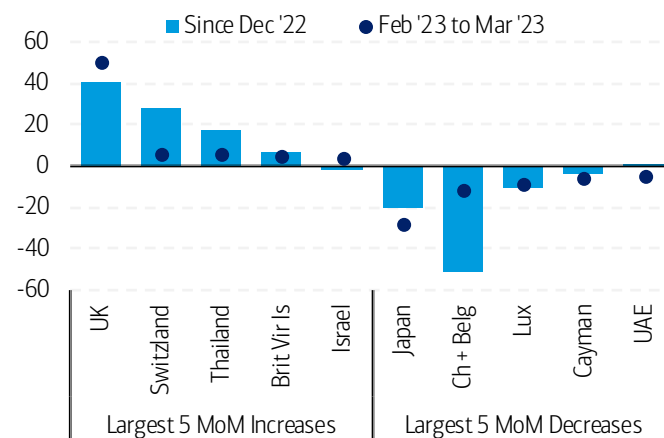


Source: BofA Global Research, TIC, Note: adjusted for level of rates

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**Exhibit 26: Largest MoM changes in foreign TSY holdings (\$bn)**

UK was largest buyer, Japan largest seller in March



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

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## Fund flows and returns

### Exhibit 27: US fixed income fund flows (\$million)

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

	5/17/2023	Rolling 4w average	Rolling 8w average	Rolling 12w average	Rolling 52w average
Gov: short	440	812	720	1,843	1,239
Gov: intermediate	435	445	316	549	535
Gov: long	1,368	1,367	1,449	1,426	1,193
Corp: IG	1,820	(239)	538	81	342
Corp:HY	(1,603)	(757)	196	(237)	(316)
Corp: all quality	43	29	29	28	(5)
MBS	174	180	208	242	(72)
Inflation	(68)	(269)	(464)	(403)	(453)
Muni	165	127	(117)	(207)	(581)
Mixed					
allocation	2,414	3,186	2,135	2,023	(170)
All USFI	3,817	4,086	4,311	4,525	1,201

Source: BofA Global Research, EPFR

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### Exhibit 28: Total return FI fund performance vs benchmark

Over the last week, AUM weighted fund performance was above benchmark

	AUM (\$Bn)	5/18/2023	Vs. Agg	Last 4w	Vs. Agg
Vanguard Total Bond Market II Index Fund	247	-1.60%	0.05%	-0.72%	0.08%
Vanguard Total Bond Market Index Fund	205	-1.59%	0.06%	-0.81%	-0.02%
PIMCO Income fund	121	-1.02%	0.63%	0.21%	1.00%
The Bond Fund of America	77	-1.73%	-0.08%	-0.77%	0.02%
MetWest Total Return Bond Fund	63	-1.75%	-0.10%	-0.78%	0.02%
PIMCO Total Return Fund	56	-1.53%	0.12%	-0.65%	0.15%
Dodge & Cox Income Fund	57	-1.20%	0.45%	-0.72%	0.08%
PGIM Total Return Bond Fund	40	-1.41%	0.24%	-0.59%	0.21%
BlackRock Strategic Income Opportunities Fund	37	-0.56%	1.09%	0.03%	0.83%
Baird Aggregate Bond Fund	38	-1.62%	0.03%	-0.75%	0.05%
JPMorgan Core Bond Fund	38	-1.53%	0.12%	-0.67%	0.13%
DoubleLine Total Return Bond Fund	34	-1.66%	-0.01%	-0.35%	0.44%
Fidelity Series Investment Grade Bond Fund	34	-1.50%	0.15%	-0.70%	0.10%
Fidelity Total Bond Fund	31	-1.28%	0.37%	-0.63%	0.16%
Western Asset Core Plus Bond Portfolio	25	-1.90%	-0.25%	-1.05%	-0.25%
Baird Core Plus Bond Fund	24	-1.48%	0.17%	-0.71%	0.08%
John Hancock Bond Fund	22	-1.39%	0.26%	-0.81%	-0.01%
TIAA-CREF Bond Index Fund	21	-1.59%	0.06%	-0.72%	0.08%
BlackRock Total Return Fund	18	-1.59%	0.06%	-0.77%	0.02%
JPMorgan Core Plus Bond Fund	17	-1.63%	0.02%	-0.62%	0.18%
Bridge Builder Core Bond Fund	16	-1.48%	0.17%	-0.61%	0.19%
T Rowe Price New Income Fund	16	-1.86%	-0.21%	-0.93%	-0.13%
Western Asset Core Bond Fund	15	-1.77%	-0.12%	-1.02%	-0.22%
CREF Bond Market Account	11	-1.45%	0.20%	-0.70%	0.09%
Fidelity Investment Grade Bond Fund	9	-1.45%	0.20%	-0.70%	0.09%
DoubleLine Core Fixed Income Fund	7	-1.48%	0.17%	-0.51%	0.29%
TCW Total Return Bond Fund	3	-1.78%	-0.13%	-0.39%	0.40%
Janus Henderson Flexible Bond Fund	3	-1.59%	0.06%	-0.65%	0.15%
Weighted avg	1283	-1.49%	0.16%	-0.62%	0.18%
Agg		-1.65%		-0.80%	
10y return		-2.61%		-1.14%	

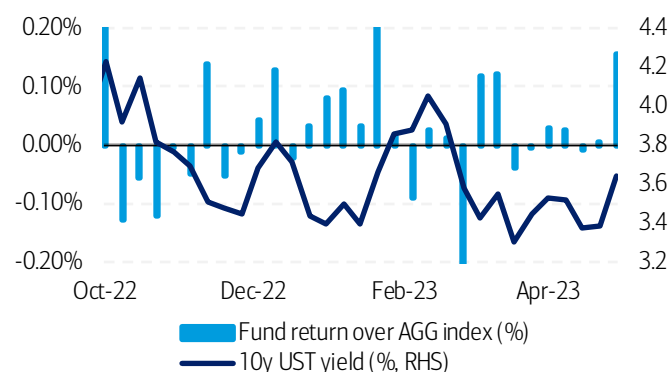
Source: BofA Global Research, Bloomberg. Note: Excess returns are fund total returns over Bloomberg Barclays Agg Index

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**Exhibit 29: Total return funds, excess return vs. 10y rate**

Weekly asset-weighted total returns for total return funds increased as rates sold off

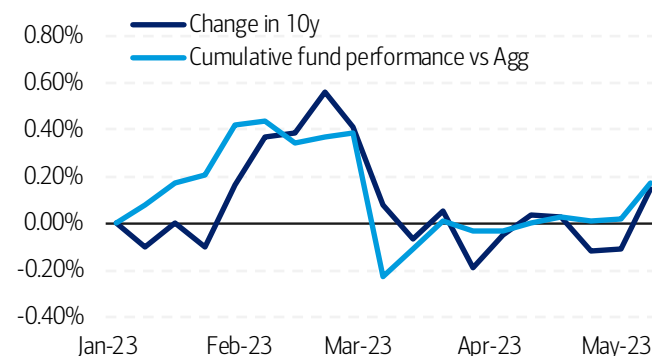


Source: BofA Global Research, Bloomberg. Note: Excess returns are fund total returns over Bloomberg Barclays Agg index

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**Exhibit 30: Cumulative return of TR FI funds over benchmark vs 10yT**

Funds excess return has moved directionally consistent with rates, implying underweight



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

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**Exhibit 31: Total return funds' published UST allocations vs benchmark from Q3 and Q4 '22**

Funds remained underweight USTs in Q1 and overall increased underweight vs end of '22

		AUM (\$bn)	Q4 '22 (%)	Q1 '23 (%)	Change (PPTS)
VTBIX	Vanguard Total Bond Market II Index Fund	243.8	1.6	2.4	0.8
VBIMX	Vanguard Total Bond Market Index Fund	202.6	1.2	1.7	0.5
PIMIX	PIMCO Income fund	120.8	-37.7	-43.4	-5.7
ABNDX	The Bond Fund of America	77.5	-9.7	-11.3	-1.6
MWTIX	MetWest Total Return Bond Fund	64.6	-17.4	-16.5	0.9
DODIX	Dodge & Cox Income Fund	56.0	-31.2	-28.1	3.1
PTTRX	PIMCO Total Return Fund	55.7	-15.2	-15.4	-0.2
PDBAX	PGIM Total Return Bond Fund	40.9	-33.8	-33.7	0.1
BAGIX	Baird Aggregate Bond Fund	38.5	-17.7	-16.9	0.8
PGBOX	JPMorgan Core Bond Fund	38.1	-7.3	-5.0	2.3
BSIIX	BlackRock Strategic Income Opportunities Fund	37.6	-14.6	-17.3	-2.7
DBLTX	DoubleLine Total Return Bond Fund	34.1	-32.4	-32.7	-0.3
FSIGX	Fidelity Series Investment Grade Bond Fund	33.9	-10.4	-7.5	3.0
FTBFX	Fidelity Total Bond Fund	30.6	-18.3	-12.0	6.3
WACPX	Western Asset Core Plus Bond Portfolio	25.5	-29.1	-33.7	-4.6
BCOIX	Baird Core Plus Bond Fund	24.3	-20.0	-18.5	1.4
JHBIK	John Hancock Bond Fund	21.6	-26.1	-22.8	3.3
TBIIX	TIAA-CREF Bond Index Fund	20.8	0.9	0.8	-0.1
MAHQX	BlackRock Total Return Fund	17.7	21.3	-13.7	-35.0
ONIAK	JPMorgan Core Plus Bond Fund	17.1	-7.6	-5.1	2.5
BBTBK	Bridge Builder Core Bond Fund	16.6	-22.6	-22.1	0.5
PRCIX	T Rowe Price New Income Fund	15.9	-11.2	-16.2	-4.9
WATFX	Western Asset Core Bond Fund	15.3	-23.6	-30.7	-7.1
QCBMIX	CREF Bond Market Account	10.9	-22.3	-21.1	1.2
FBNDX	Fidelity Investment Grade Bond Fund	8.7	-8.6	-5.7	2.9
DBLFX	DoubleLine Core Fixed Income Fund	7.2	-20.3	-16.9	3.4
TGLMX	TCW Total Return Bond Fund	3.0	-40.6	-38.5	2.1
JFLEX	Janus Henderson Flexible Bond Fund	2.9	-9.5	-11.3	-1.8
<b>AUM weighted</b>		<b>1282.3</b>	<b>-12.8</b>	<b>-13.3</b>	<b>-0.5</b>

Source: BofA Global Research, funds' publicly available reports

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# Bank balance sheets

## Exhibit 32: Changes to bank balance sheet assets (\$bn)

Large bank assets declined, primarily driven by securities holdings & loans

		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>	22888	58	-18	-47	-10	6
	Cash	3265	66	-23	-24	9	-1
	UST & Agency	1544	-5	-1	-9	-8	-4
	MBS	2611	-13	1	-14	-12	-6
	Loans and Leases	12098	-17	12	1	4	18
	Other	3370	27	-7	-1	-3	-1
<b>Large Domestic (\$bn, NSA)</b>	<b>Total Assets</b>	13197	-21	-34	-27	7	0
	Cash	1450	-8	-40	-23	11	0
	UST & Agency	1139	-11	-4	-8	-6	-4
	MBS	1953	-11	1	-1	-1	-2
	Loans and Leases	6686	-10	3	4	4	7
	Other	1969	18	6	1	-1	-2
<b>Small Domestic (\$bn, NSA)</b>	<b>Total Assets</b>	6636	-4	6	-23	-6	3
	Cash	489	2	4	-5	6	-2
	UST & Agency	290	0	0	-1	-2	0
	MBS	633	-1	0	-13	-11	-3
	Loans and leases	4387	-1	12	-2	2	9
	Other	836	-4	-10	-3	-2	0
<b>All Domestic (\$bn, NSA)</b>	<b>Total Assets</b>	19833	-26	-28	-49	0	2
	Cash	1939	-6	-37	-27	17	-2
	UST & Agency	1428	-11	-4	-9	-8	-4
	MBS	2586	-12	1	-14	-12	-6
	Loans and leases	11074	-11	15	3	7	16
	Other	2805	14	-4	-2	-3	-2
<b>Foreign (\$bn, NSA)</b>	<b>Total Assets</b>	3055	84	10	2	-10	4
	Cash	1326	72	14	3	-8	1
	UST & Agency	115	6	2	0	0	0
	MBS	25	-1	0	0	0	0
	Loans and leases	1024	-7	-3	-2	-3	2
	Other	565	13	-3	1	0	0

Source: BofA Global Research, Federal Reserve, Bloomberg

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## Exhibit 33: Select bank balance sheet liabilities (\$bn, NSA)

Deposits declined, concentrated in large domestic banks

		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	17101	-57	-67	-48	-46	-17
	Domestic	15865	-58	-64	-41	-36	-16
	Large Domestic	10637	-52	-49	-32	-17	-12
	Small Domestic	5228	-6	-14	-8	-19	-4
	Foreign	1235	1	-3	-8	-10	-1
	Other	2463	11	15	-3	41	16
<b>Other borrowing (\$bn, NSA)</b>	Domestic	1489	-4	9	-14	36	16
	Large Domestic	916	-8	2	2	21	9
	Small Domestic	573	4	7	-16	14	7
	Foreign	974	14	6	11	5	0

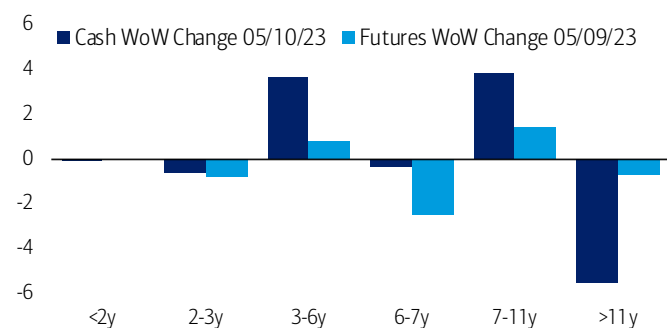
Source: BofA Global Research, Federal Reserve, Bloomberg

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# Primary dealer balance sheet

## Exhibit 34: Dealers WoW change in positions

10y equivalent, \$bn, cash positions increased in belly, declined at back-end

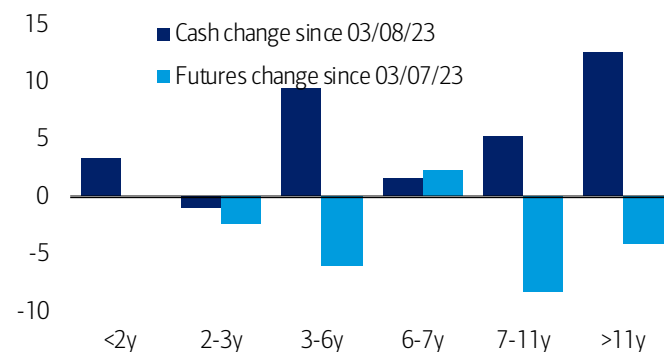


Source: BofA Global Research, NY Fed, CFTC

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## Exhibit 35: Dealers change in positions since bank risk events

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

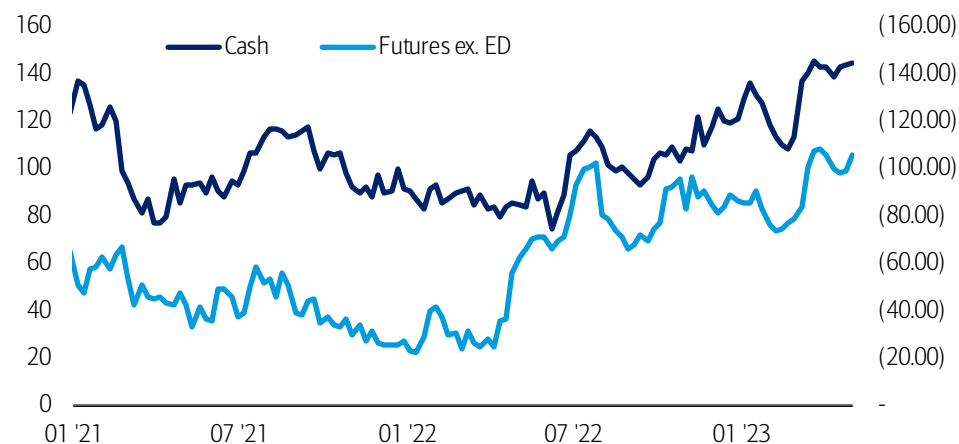


Source: BofA Global Research, NY Fed, CFTC

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## Exhibit 36: Dealers total sector positions

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



Source: BofA Global Research, NY Fed, CFTC

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