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US Rates Viewpoint

UST demand in 2H '23: higher supply, few buyers

Coupon supply to follow bill surge

The market has been focused on the surge in bill supply that will hit the market in the next few months as we have long expected. However, we think an underpriced risk is the next supply phase which will be an increase in coupon auction sizes starting at the August refunding. Coupled with bills, this will drive marketable debt ex Fed as a share of GDP back to March 2020 highs.

Downside risk to duration demand in 2H

Alongside the elevated levels of supply in previous years there have been a few prominent buyer bases outside of the Fed: foreign investors, banks, and mutual funds. We think that there are reasons for the demand from these investors be more challenged in the months ahead. Foreign investor demand likely to be muted given high hedging costs and official demand unlikely to increase without a weaker USD. Banks are unlikely to buy without a pickup in deposits & still strong loan growth. Mutual fund inflows may continue, but wavering conviction in long duration position is a key risk.

Leveraged hedge funds are key buyers

Outside of these traditional directional buyer bases, one prominent investor that has emerged is the levered hedge fund community. The presence of this buyer is likely to be instrumental for orderly absorption of additional coupon supply. However, the potential for 1) higher funding rates, 2) reduced dealer balance sheet availability, and 3) lower asset manager futures demand may challenge their ability to take down collateral or make the trade less attractive. This may drive cash bond cheapening and could see a need for the Fed to end QT sooner.

Lower demand backdrop could see bonds cheapen

The potential for both a weaker demand backdrop from directional investors and an already stretched leveraged fund position suggests to us that we may see cheapening of UST cash bonds on incremental coupon supply. Indeed, the greatest risk to the demand backdrop is that the long duration view is challenged by either a softer landing or a need for additional rate hikes. The clearest expression of these views is cheaper long-dated USTs, likely via tighter back end swap spreads and swap spread curve flattening.

Sooner end of Fed QT possible

In an extreme, we can envision a long-end UST demand vacuum that sees higher funding rates and messy supply digestion drive tighter financial conditions. The Fed could potentially see this as undesirable if the economy is already slowing. A UST back-end rate overshoot could therefore result in the Fed deciding to end QT before the system reaches reserve scarcity. Long end USTs will need to cheapen further before any Fed action is considered; buybacks are likely not large enough to offset the demand & may not be operational in time.

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QT = quantitative tightening

HF = hedge fund

UST = US Treasuries

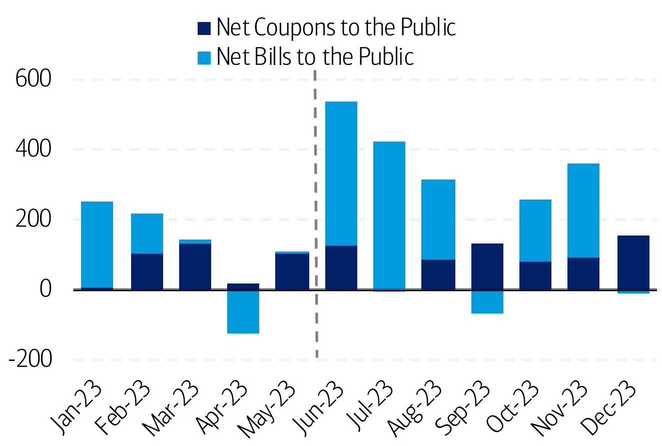
Refer to important disclosures on page 11 to 12.

UST demand in 2H: fewer buyers

Coupon supply to follow bill surge

The market has been focused on the surge in bill supply that will hit the market in the next few months as we have long expected (see: Bill supply surge FAQ). However, we think an underpriced risk is the next supply phase which will be an increase in coupon auction sizes starting at the August refunding (see: May refunding: bills now, coupons later, Exhibit 1). Coupled with bills, this will drive marketable debt as a share of GDP back to March 2020 highs (Exhibit 2).

Exhibit 1: Supply to the public in bills and coupons by month
$660bn net coupon supply expected through



Source: BofA Global Research, US Treasury, FRBNY

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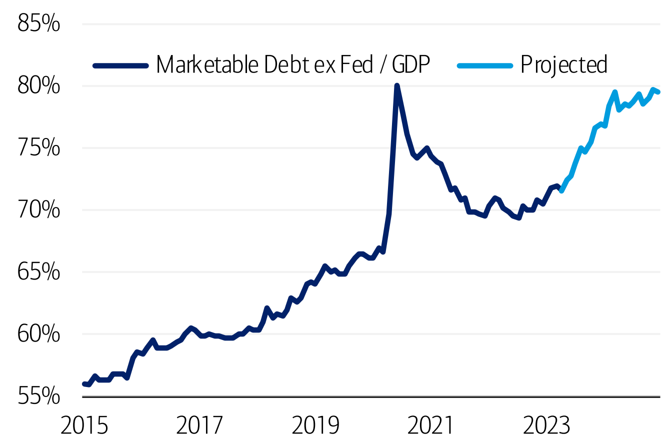
Exhibit 2: Marketable debt ex Fed to GDP ratio (%)
We project marketable debt ex Fed to GDP to reach March 2020 levels



Source: BofA Global Research, FRBNY, Treasury, CBO

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While we know who the buyers of bill supply will be with still over $2trillion sitting in the Fed's ON RRP, the demand picture for duration may be more challenging. This is especially true if we prove further from Fed's final hike of the cycle and/ or the forecasted US economic slowdown does not materialize.

Exhibit 3: Net coupon supply ex Fed purchases and including Fed QT impact by FY
Even with a longer QT period, net supply will not be as large as recent years

Source: BofA Global Research, US Treasury, FRBNY

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In Exhibit 3, we show the additional coupon supply forecasted for the remainder of the fiscal year and for next fiscal year conditional on QT ending sooner (April '24) vs later (through the end of the FY). While this level of supply is not as large as was observed recently in 2021/ 2022, the key buyers of that additional supply may not be as prominent or may face a harder time taking down the supply due to higher funding costs and dealer balance sheet availability.

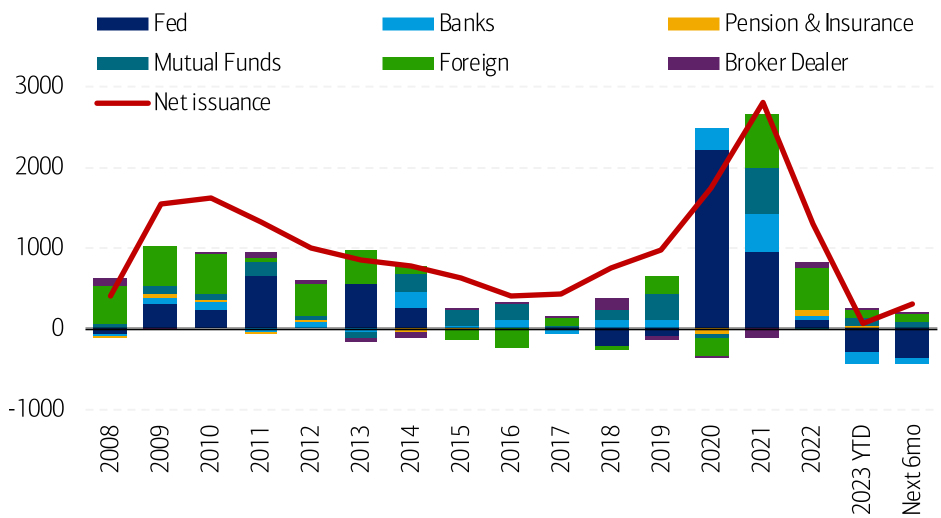
Downside risk to duration demand in 2H

Alongside the elevated levels of supply in previous years there have been a few prominent buyer bases outside of the Fed: foreign investors, banks, and mutual funds. We think that there are reasons for the demand from these investors be more challenged in the months ahead.

In Exhibit 4, we pencil in assumptions for demand from these investor bases for the remainder of the calendar year. Foreign private investors face significant hedging costs, that will not be alleviated without a more dovish path from the Fed. The foreign official sector is unlikely to be a net buyer without a weaker USD. Banks are likely to be continued sellers until deposit levels increase. We pencil in a similar amount of mutual fund buying as observed in the first half of the year on continued inflows to ETFs.

Exhibit 4: Large Treasury investor demand & coupon issuance ($bn)

Expect demand from foreign investors, banks, mutual funds, and pensions to be more muted in 2H vs prior years



Source: BofA Global Research, Federal Reserve, Note: only reflects real money categories from flow of funds that generally invest in Treasury coupon securities, excludes households. Last data point for 2023 is Q1 from Flow of Funds and other more timely data sources, next 6mo reflects rough estimate, Net issuance does not account for Fed QT as Fed impact on supply is reflected separately here

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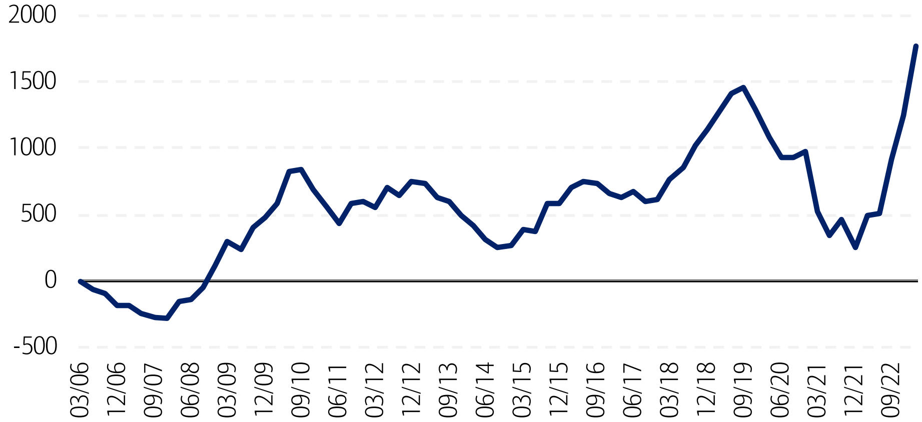
Outside of these traditional directional buyer bases, one prominent investor that has emerged is the leveraged hedge fund community. Their purchases of USTs are captured as part of the "household" component of the Fed's Flow of Funds report, shown in Exhibit 5. Q1 '23 data shows that their buying surpassed levels observed in Q3 2019, before the repo spike forced deleveraging from this community.

In this note, we will examine what drives the buying behavior across these investor types and how we are assessing their demand over 2H. We think that the leveraged hedge fund community is likely going to remain an important buyer of the additional coupon supply. However, the potential for 1) higher funding rates, 2) reduced dealer balance sheet availability, and 3) lower asset manager futures demand are likely to challenge their ability to take down collateral. This may drive cash bond cheapening and could see a need for the Fed to end QT sooner.

Exhibit 5: Cumulative change in household sector UST holdings which includes hedge funds ($bn)
Strong buying observed since mid '22 may reflect leveraged hedge funds, change in levels adjusted for valuation change



Source: BofA Global Research, Federal Reserve

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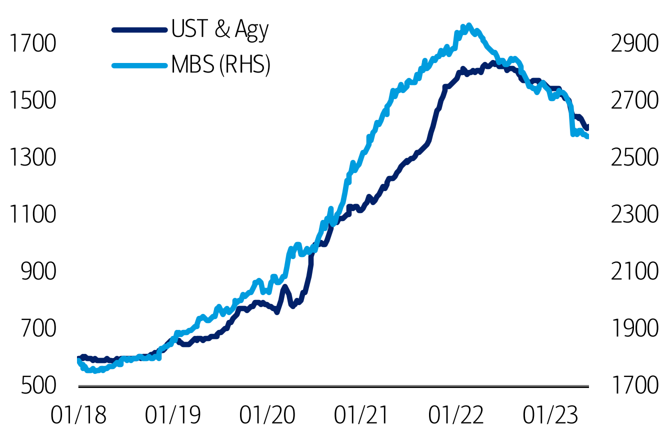
Banks unlikely to buy until deposits increase

The banking sector was one of the prominent buyers of USTs and MBS as the Fed was expanding its balance sheet in 2020 and 2021 (Exhibit 6). As deposit growth turned and reserves were drained from the system, so too did growth in securities portfolios (Exhibit 7).

Even with our view for most of the liability drain for the remainder of the year to come out of ON RRP, we are still expecting about a 5% decline in reserves (see: Bill supply surge FAQ). Without deposit growth, we would think that banks are unlikely to buy USTs. Additionally, net interest margin compression likely implies a preference to make loans at a higher pickup vs USTs. We therefore forecast that banks will remain a modest net seller at about 5% of their UST holdings or $70bn.

Exhibit 6: US bank holdings of USTs and MBS ($bn)
Bank demand very strong in 2020 and 2021



Source: BofA Global Research, Bloomberg, Federal Reserve

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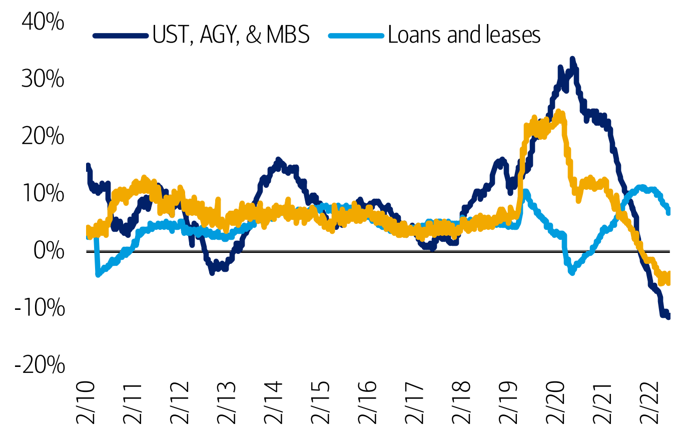
Exhibit 7: YoY change in securities, loans, and deposits
Securities growth usually only positive when deposit growth is positive



Source: BofA Global Research, Bloomberg, Federal Reserve

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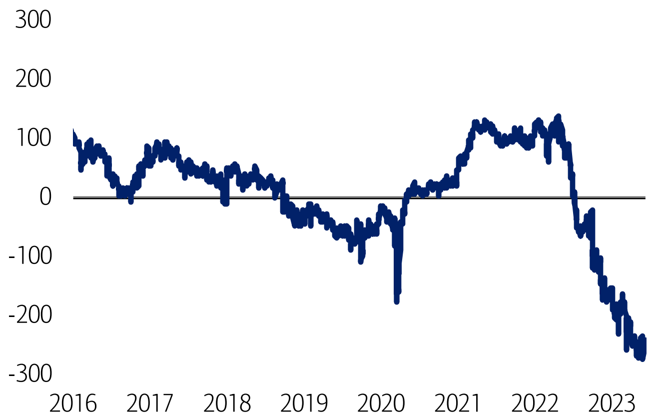
Additional hikes likely to keep foreign demand suppressed

Foreign demand has been relatively muted YTD (Exhibit 4), and incremental Fed hikes would likely weigh further on their demand. While USTs offer favorable pickup vs other developed market sovereigns, the costs of FX hedging far offsets this pickup. From the perspective of a Japanese investor, UST FX hedged pickup is at the worst levels observed in recent history (Exhibit 8). This has driven a repositioning from the Japanese pension community, though we think the bulk of selling has occurred already (see: Major life insurers' investment trend).

Hedging costs are likely to keep foreign private demand for USTs muted across other regions as well. Exhibit 8 shows that forward hedged pickup calculated from FX and 10y rate forwards improves only modestly in the months ahead and will remain quite unattractive for JP investors even through Q1 next year (Exhibit 9).

Exhibit 8: 10Y UST pickup to 10Y JGB, with 3m fx hedge (bps)
10y TSY now offer very negative hedged pickup vs 10y JGBs



Source: BofA Global Research, Bloomberg

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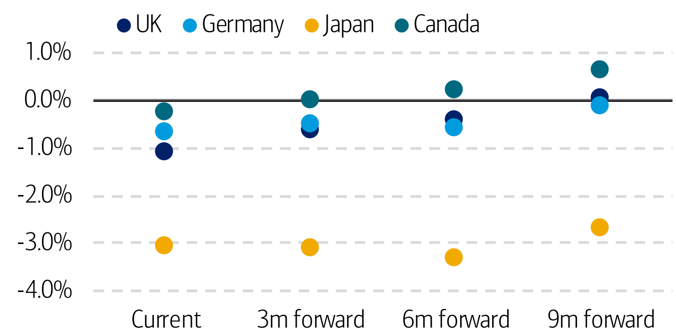
Exhibit 9: FX hedged pickup of TSYs vs local alternatives implied by forwards
Market pricing does not reflect attractive environment for FX hedged carry trades in TSYs currently but forwards suggest improvement



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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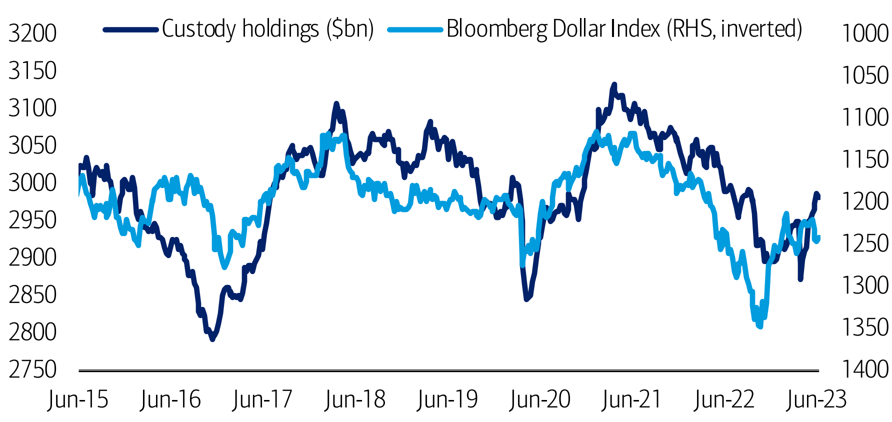
Without USD depreciation pressures, the official sector is also biased to be a net seller. As shown in Exhibit 10, weekly NY Fed custodial holdings, a proxy for official sector UST flows, tend to track inversely with the USD. In recent months, we have seen a rebound in custodial holdings due to (1) reversal in foreign repo usage on the back of banking risk events, (2) potential repositioning on the curve.

In general we pencil in a modest bid from foreign investors ($100bn) which we see driven by potential unhedged inflows. Though we do see downside risk that foreign investors remain closer to flat/ net sellers over the second half of the year. This would be exacerbated by additional Fed hikes that could making FX hedging more costly and could put additional upward pressure on the USD.

Exhibit 10: 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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May be past peak pension bid

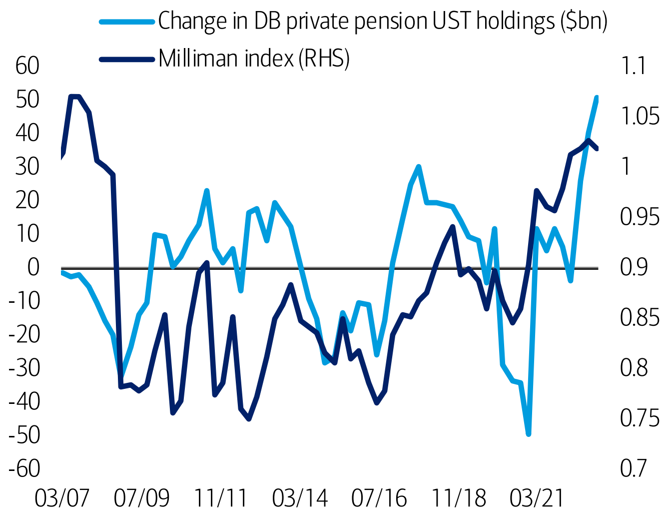
Buying from private defined benefit pension funds was strong at the end of last year/ start of this year as funds de-risked to take advantage of an elevated funded status (Exhibit 11). However, these pensions have likely not been able to de-risk enough to insulate them from interest rate moves.

As discussed in Pension de-risking opportunity may narrow with lower rates, we think that we may be past peak pension bid given the recent inflection in funded status. Because private DB pensions have likely not fully de-risked, this means that the liability side of their balance sheet will still be more sensitive to shocks in interest rates than assets.

The 25-50bps decline in 10y UST rates that we expect by the end of the year would imply that the Milliman pension funded status would drop to below 98% (Exhibit 12). While this is still elevated vs recent history, a turn in funded status would likely represent a cooling in the elevated demand from DB private pensions observed in the last year.

For the second half of the year, we anticipate still positive but lower demand from the private DB pension community, around $20bn vs the $50bn observed over 2022. Buying could be stronger if interest rates surprise to the upside, driving a higher funded status (lower liability valuations) and rebalancing flow (due to fixed income underperformance).

Exhibit 11: UST holdings of private DB pensions and funded status
When funded status is higher, pension funds buy more USTs



Source: BofA Global Research, Bloomberg, Federal Reserve

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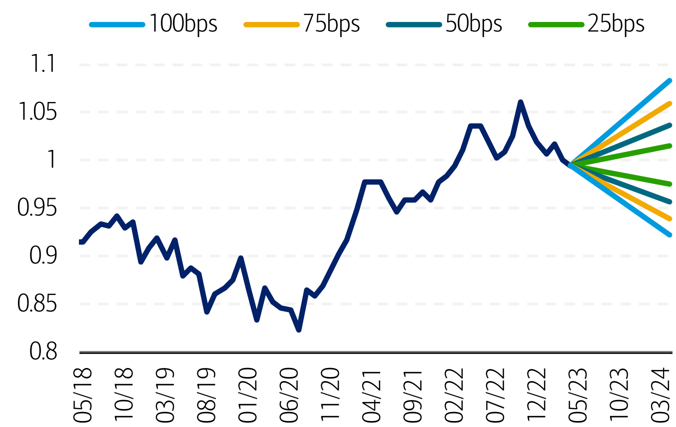
Exhibit 12: Expected pension funded status conditional on 10y UST interest rate shock
Pension funded status likely to remain sensitive to changes in interest rates and will decline if interest rates move lower



Source: BofA Global Research, Bloomberg, Milliman, Note: we show what the Milliman pension funded index may look like under various rate shocks using: 1) the historical relationship between rates and liability valuation, 2) the last reported Milliman fixed income allocation as of end FY '22 3) the historical relationship between interest rates and investment grade credit returns as a proxy for DB pension fixed income returns.

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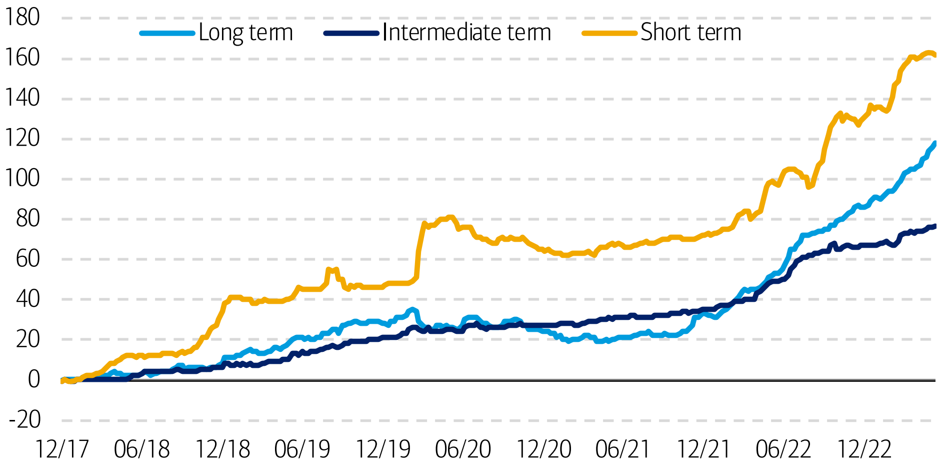
AM long positioning adjustment largely behind us

As frequently highlighted in our weekly flows and positioning report see: Weekend homework, fixed income inflows have had a strong start of the year. These flows have been most prominent across long term and short term UST funds (Exhibit 13) and heavily concentrated in ETFs. We think that this inflow represents both retail demand given the elevated yield environment as well as asset managers sourcing liquid duration to add to positions.

Exhibit 13: Flows into sovereign US fixed income funds ($bn)

Flow into long term and short term funds has been elevated since the end of last year



Source: BofA Global Research, EPFR

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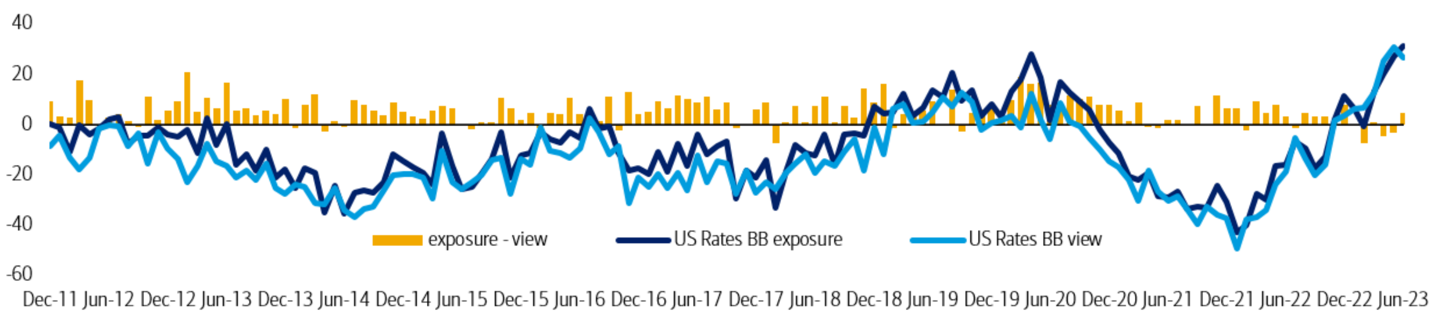
While this retail inflow may persist, we are more concerned about the persistence of demand from the benchmark community, which according to our FXRS Survey (see: [June FX and Rates Sentiment Survey]) is historically long duration (Exhibit 14). Conviction in this position could waver if the Fed signals that its hiking cycle is not over and/ or the expected economic slowdown does not materialize.

Exhibit 14: Duration exposure and view: USD

USD duration exposure continues to climb, even as sentiment turns slightly less bullish



Source: BofA Global Research FX and Rates Sentiment Survey

BB is the Bull-Bear Index for exposure and view. It weights responses to create an index ranging from -100 to + 100, zero representing neutral. See appendix for formulas.

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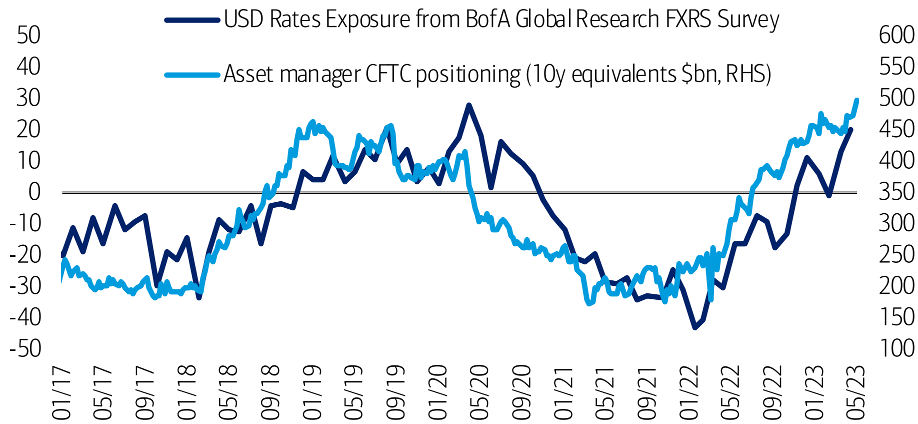
Fixed income fund inflows along with the conviction in the long duration position have also been observed in the build in asset manager CFTC positioning. As shown in Exhibit 15, positioning in our FXRS tracks this AM demand relatively well in recent years. Should conviction in the long duration view waver, we may see less demand not only in the cash market but futures market as well. This would have even broader consequences as the strong asset manager futures demand in part supports the profitability of the leveraged fund basis trade, allowing hedge funds to take down cheap cash bond supply.

Exhibit 15: Asset manager futures positioning and FXRS USD duration indicator
Survey duration signal corresponds with asset manager positioning from CFTC data



Source: BofA Global Research, Bloomberg

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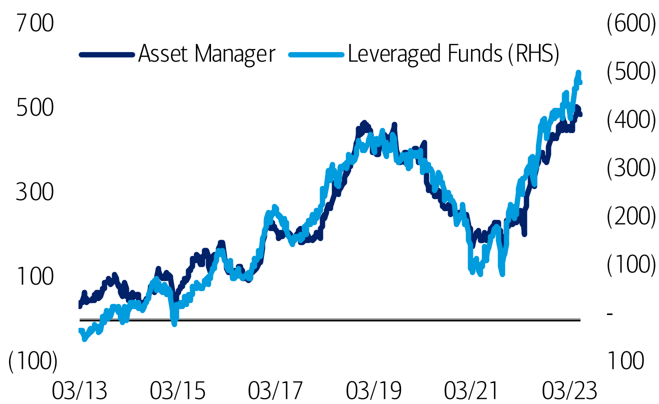
Buying likely to come from non-directional players

Without foreign investors, banks, and mutual fund buying, most of the bid for incremental supply will likely need to come from non-directional players like the leveraged hedge fund community. These investors are short UST futures (take the other side of the asset manager futures long, Exhibit 16) and go long cheap cash bods (see: Back to basis). Their digestion of this incremental supply could be challenged by potentially lower futures demand from asset managers (discussed above) and higher funding rates/ crowded dealer balance sheet (discussed below).

Exhibit 16: 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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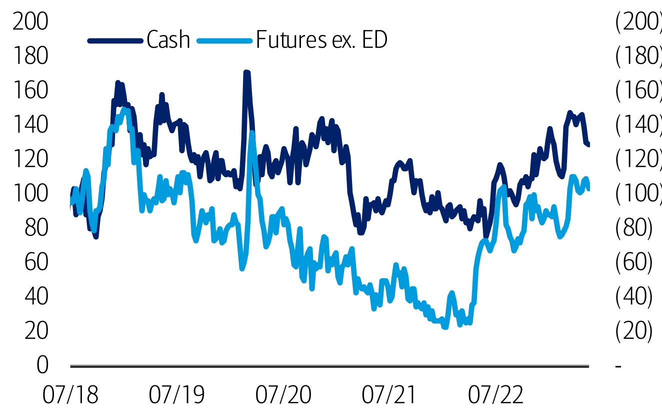
Exhibit 17: Dealers total sector positions
10y equivalent, $bn, both cash longs & futures shorts positioning since mid '22



Source: BofA Global Research, NY Fed, CFTC

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More crowded PD balance sheet = upward pressure on funding rates

Primary dealers have seen their basis position grow since the start of Fed QT (Exhibit 17). We anticipate that their balance sheet may get even more crowded when they take down both more bill supply as well as longer duration coupon supply. This will likely put upward pressure on repo rates, making UST financing for the broader market more expensive. This is likely to be especially true for term repo, which is expected to cheapen with the surge of bill supply.

Levered HF position may be challenged by more expensive funding

Higher funding rates and repo availability will likely be a hurdle for the leveraged hedge fund community that we anticipate will continue to be an instrumental source of UST demand in 2H.

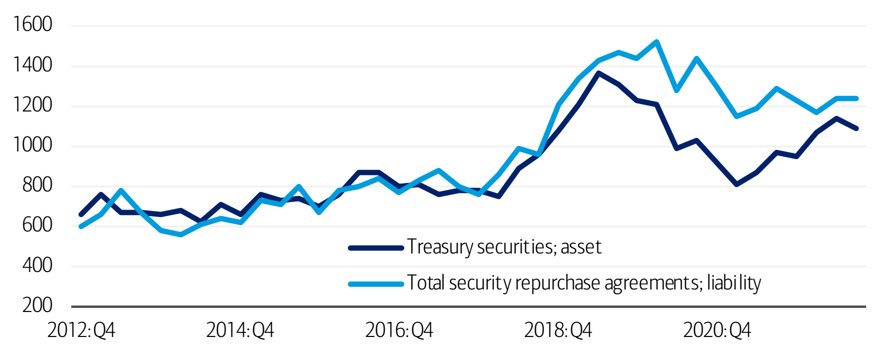
Dealers theoretically have more repo & HF leverage capacity but we worry balance sheets will get tight in 2H '23. According to Fed data as of Q3 '22, HF repo use & UST holdings are well below levels seen in mid '19. If HF mid '19 levels of repo & UST holdings were to grow by nominal GDP, this implies an incremental $500-600b of UST absorption capacity (Exhibit 18). It may not be that easy though especially as HFs have increased futures short (proxy for basis trade) by $200bn since the last filing and more timely Flow of Funds data from Q1 suggests that household (including hedge funds) UST holdings well exceed the levels observed in 2019 (Exhibit 5).

Additionally, repo availability may not be realized due to dealer balance sheet tightening. This may come from (1) typical year-end regulatory constraints (2) large UST supply surge & associated dealer warehousing that will absorb balance sheet capacity. Total repo activity already seems elevated with SOFR volumes near historic highs.

Another challenge for HF leverage is already tight bank balance sheets. According to Q1 GSIB scores (see: US Banks and Brokers) most large US dealers were in the upper end of their surcharge ranges or have shifted to a higher range. Dealers balance sheets are likely to come under additional pressure with all of the upcoming UST supply & this could drive a reduction in other activity due to GSIB constraints.

Exhibit 18: Hedge fund UST holdings & repo funding ($bn)

Hedge fund UST holdings & repo capacity are below mid '19 levels



Source: BofA Global Research, Federal Reserve, note last data pointQ3 '22

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Bottom line: Soft landing could mean sooner end of Fed QT

The potential for both a weaker demand backdrop from directional investors and an already stretched leveraged fund position suggests risks for cheaper long-dated USTs. Indeed, the greatest risk to the demand backdrop is a challenged long duration view by either a softer landing or a need for additional rate hikes. The clearest expression of these views is cheaper long-dated cash bonds, absent any improvement in the demand backdrop (i.e. bank regulations).

In an extreme, we can envision a challenged long-end UST demand backdrop that sees higher funding rates and messy supply digestion that drive tighter financial conditions. The Fed could potentially see this as undesirable if the economy is already slowing. A UST back-end rate overshoot could therefore potentially result in the Fed deciding to end QT before the system reaches reserve scarcity. Long end USTs will need to cheapen further before any Fed action is considered; buybacks are likely not large enough to offset the demand & may not be operational in time.

The US supply / demand balance risks becoming more challenged in 2H '23. USTs will likely be required to cheapen to incentivize buyers, absence another demand catalyst. The Fed remains the ultimate UST demand backstop if US rates overshoot too far.

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