Global Rates Trader

# Relief after refunding

*A trio of factors drives yields sharply lower; rally could extend, but to a higher base level than before summer. Refunding meeting indicates less long end supply than market expectations; we anticipate one more round of auction size increases. Swap spread narrowing next year likely given fundamentals, but tactically take profits on tightener, and look to re-engage after growth deceleration. Weak nominal growth skews EUR yields, inflation compensation lower. No further deterioration in Japanese EGB demand, but no near-term support either. November MPC meeting brings little news in the UK. BOJ's YCC tweak not a sufficient condition for early NIRP exit; add 6m2y/6m10y JPY OIS swap curve steepeners.*

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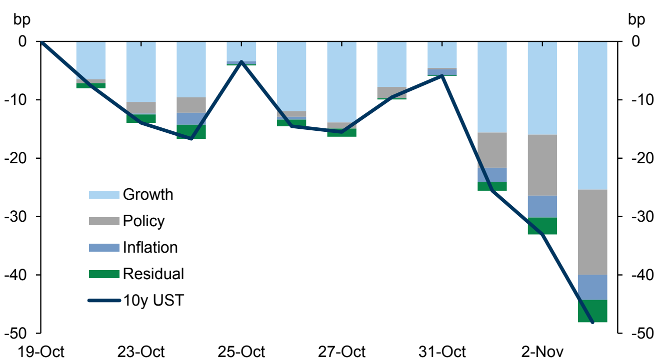
## United States/North America

- **A sharp yield reversal based on a trio of factors.** UST yields declined sharply over the course of the week—the benchmark 10y yield, which was only 5bp below its recent high as of last Tuesday's close is now over 40bp lower. The move appears to confirm our view that bonds were oversold and yields were close to the upper end of their new range (for example, see here and here). This move lower was aided by a trio of factors. First, the refunding meeting suggested less duration supply was in the offing relative to what many investors expected (more on this below). We have been of the view for a while now that investors were overestimating the effects of supply on market-clearing yield levels, and the dominance of price-sensitive marginal investors meant more volatility in longer term bond yields with swings in the macro outlook rather than simply higher yields. Second, following last month's strong economic momentum, macro data have finally begun to show signs of cooling—both ISM reports and the labor market report surprised to the downside. Third, we think positioning was somewhat short in at least a portion of the investor base, particularly at the long end (we do think there are substantial structural overweights at shorter maturities). One reason we suspect this to be the case is that the magnitude of market moves both on the way up, and now on the way down, are exaggerated relative to the size of information surprises—we had previously noted the rising odds of a sharp reversal alongside a continued extension of the selloff.

Exhibit 1 shows our estimated PCA-based decomposition of the yield declines from their recent peak by macro factor. The weaker economic data shows up in the growth factor, and both the supply news and the marginal dovish FOMC meeting show up in the policy factor. We attribute the downside residual to positioning. Looking ahead, we suspect there could be some further room for the rally extend as investors feel their way to the bottom end of the new range, particularly if supported by softer economic data, but we suspect the yield floor of this range is materially higher than when the selloff began over summer. At the front end, we believe investors are again starting to price too much easing, and we would look to fade the move if it extends much further.

**Exhibit 1: A sizable portion of recent yield declines is attributable to slowing growth, with the policy factor explaining the bulk of the remainder**

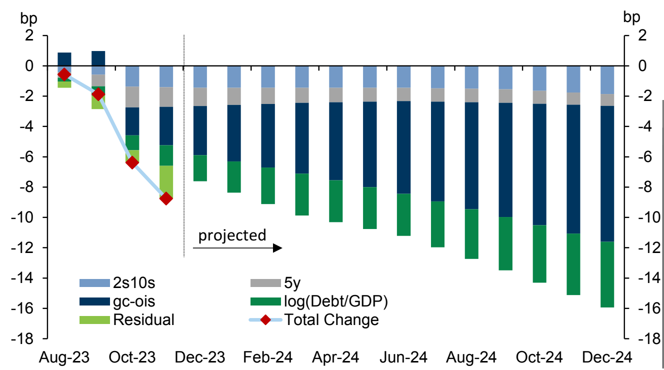
Contribution to 10y UST yield changes, by macro factor




Source: Goldman Sachs Global Investment Research, Bloomberg

**Exhibit 2: The material tightening of swap spread since August can be largely explained by both higher funding costs and increased supply**

Cumulative change in 5y swap spread, by explanatory variable




Source: Goldman Sachs Global Investment Research, Haver Analytics

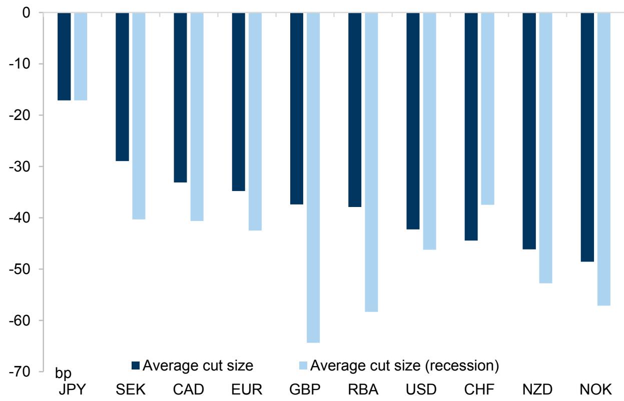
- **Lower duration supply projection bull flattens the yield curve.** On Wednesday, Treasury published its auction size plans for the Nov-23–Jan-24 quarter as part of its refunding process. The announcement appears to have surprised the market by slowing the pace of increases at long tenors, with 10s and 30s increasing by $1bn (compared to $2bn increase last cycle) and 20s unchanged (versus $1bn increase last cycle). We had flagged this possibility previously given the amount of term premium that had built up on that part of the curve, though we hadn't anticipated an unchanged 20y issuance path. Still, we had expected larger reductions in the pace of increases elsewhere, and on net, duration supply measured in 10y equivalents ended up in line with our projection, but below consensus. The yield curve bull flattened after the announcement, but the magnitude of the move appears disproportionate to the historical beta, possibly on account of positioning. We were surprised by Treasury's intention to keep cash balance targets at $750bn—a level we believe is higher than necessary given the costs—for the next two quarters. This higher cash target implies larger bill issuance in 4Q23 (~$420bn) than we previously estimated, though we expect bill supply to decline materially beyond the first quarter of next year. At the February 2024 refunding meeting, we expect an additional round of auction size increases, at a similar pace as the current cycle, after which we believe sizes will remain stable for some time.
- **Swap spreads tighten appreciably, but more to come.** Over the past few weeks,

swap spreads have narrowed meaningfully—our short 5y UST vs SOFR spread trade has tightened by over 8bp since initiation in late July. A decomposition using our equilibrium model for swap spreads suggests that over half of this move can be attributable to the rise in funding costs (GC-OIS widened ~4bp over October) as demand for funding has risen, while supply effects from the ramp up in Treasury issuance since July has contributed to around a quarter of the narrowing in swap spreads (Exhibit 2). Both headwinds are set to continue over the coming quarters—we expect funding spreads to widen further next year alongside QT and fading cash buyer demand, and the ramp up in Treasury issuance is also set to continue for at least one more refunding cycle, leaving duration supply at its most elevated level since 2021. Our model suggests 5y swap spreads will tighten to around -40bp by end-2024 based on these factors. In the very near term however, softer data and renewed concerns about larger downsides could support a bid to 5y USTs. That fact, in conjunction with a residual that suggests the tightening may have locally overshot, leads us to take profits on the swap tightener trade, with the idea of re-engaging once we are past the deceleration in data.

## European Rates

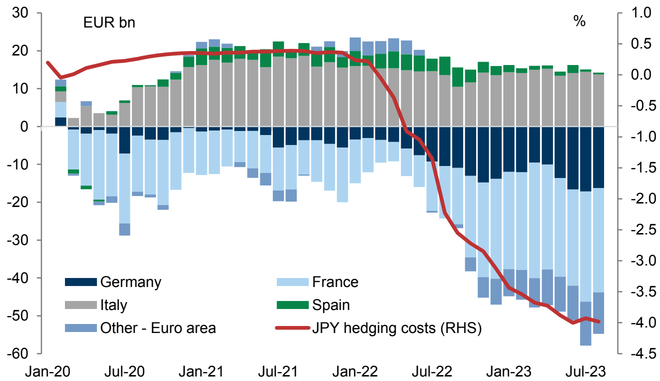
- **From ECB hikes to cuts—weak nominal growth skews EUR yield lower.** Data has continued to come in on the softer side in Europe this week, both with respect to prices—with HICP down 1.4pp to 2.9%—and activity, given the slightly negative Q3 GDP reading. Our analysis suggests that over recent months, front-end rates have moved further than broader growth and inflation pricing would imply, suggesting the market is extrapolating from spot data and pricing the risk of worsening growth and labor market conditions. Given the historical record, where recessions have triggered meaningful easing across the G10, including the ECB (Exhibit 3), we can see why front-end rates are trading below levels our fundamental forecasts would imply. However, with the risk of substantial rate cuts from the ECB being increasingly priced by the market, particularly in 2H 2024, we think HICP forwards are too high to justify that easing. This is because, while they appear broadly fair against our market factors, at 2.35% at the 2y2y point, they are inconsistent with the low-growth, low-inflation environment that would justify rapid ECB easing.

**Exhibit 3: Average magnitude of easing is larger when growth is clearly negative**
Average G10 cut size (where data permits)




Source: Haver Analytics, Goldman Sachs Global Investment Research

**Exhibit 4: Japan has been steadily divesting from most EGBs**
Cumulative EGB divestment from Japanese investors

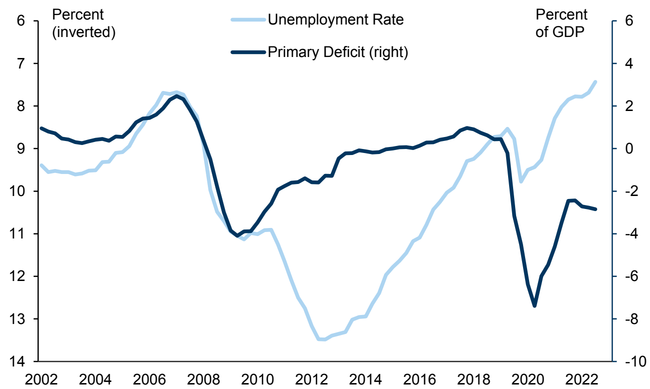



Source: Haver Analytics, Goldman Sachs Global Investment Research

- **Japanese demand for EGBs already muted, unlikely to rise.** On the back of ongoing—if slow-moving—policy normalization out of Japan, we continue to expect higher JGB yields to act as a headwind for EGBs. In a previous report, we had highlighted that OATs stood the most to lose from reduced purchases out of Japan, given the historically strong sponsorship from that investor base. And as we show in Exhibit 4, that view has largely played out, with Japanese investors reducing exposure to French government bonds on net about €30bn since early 2020. We also note that this shift in flows reflects the coincident changes in the effective yield of EGBs net of FX hedging costs, which fell significantly as G10 yields curve flattened. This suggests that any further abrupt shifts in Japanese ownership of EGBs are unlikely. However, until this effective yield increases and becomes more attractive vs JGBs, demand for EGBs from Japanese investors will be muted. This is relevant because even as deficits are due to narrow slightly next year in Europe, there is still a significant degree of fiscal expenditure in cyclically-adjusted terms (Exhibit 5).

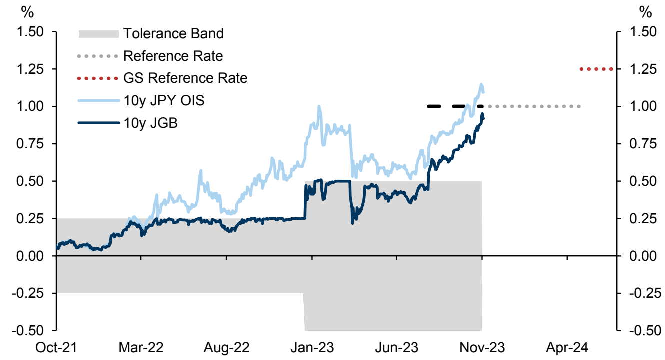
- **BoE happy to hold.** The November MPR proved largely uneventful: the BoE kept the Bank rate unchanged and reiterated a tightening bias, with the additional guidance that the "latest projections indicate that monetary policy is likely to need to be restrictive for an extended period". Staff projections for inflation were also revised up, given the judgment of a weaker outlook for supply growth challenging labor market rebalancing. While the above can be seen as hawkish at the margin, the MPC also reiterated a data-dependent approach, and appeared keen to preserve optionality due to projections also showing lackluster growth for an extended period. Following the meeting, our economists have maintained their baseline of no additional hike by the BoE. With a still building policy drag—in particular through the housing sector—they also continue to expect the Bank to deliver its first easing relatively early, in 3Q24. Due to higher levels of inflation and wages, the UK curve is still upward sloping at the very front-end, despite the BoE's track record of delivering the fastest cuts on average during periods of recession (Exhibit 3). Amid downside risks to growth in the UK, we think there is room for UK yields and curve shape to catch down towards the US and Europe.

**Exhibit 5: Cyclically-adjusted spending is still high in Europe**




Source: Goldman Sachs Global Investment Research, ECB

**Exhibit 6: We expect long-end JGB yields to rise next year**
10y JGB and JPY OIS rates, with tolerance band/expected reference levels




Source: Goldman Sachs Global Investment Research

## Other G10 Markets

- **BOJ's YCC tweak should further steepen yield curve.** The BOJ delivered another tweak to its YCC program this week by suspending daily fixed rate operations on 10y JGBs, and shifting to a more "nimble" approach to regard the 1.0% level for JGBs "as a reference in its market operations", which we interpret as a softer ceiling rather than a hard stop. That said, while Governor Ueda confirmed that some drift higher in rates reflecting fundamentals will be allowed, he also noted that "speculative rise" in interest rates above 1% would be tamped by nimble operations, and the BOJ's bond purchases on the day following the meeting appears consistent with this limited tolerance for sharp moves in yields. Looking ahead, our economists now expect the BOJ to further raise the reference rate on 10y JGBs in April 2024 (to 1.25%; Exhibit 6), before exiting NIRP in October 2024 on receiving enough confirmation of a 'virtuous cycle' between price inflation and wage growth, though we expect the latter will be more gradual than current market pricing. Broadly we think markets are underpricing the potential for 10y yields to set higher—we expect investors will test the new reference levels—and overpricing both the speed and magnitude of policy rate increases at the front end. As a result, we recommend adding 6m2y/6m10y JPY OIS swap curve steepeners. We like expressing the steepener in swap space because 2y swap spreads appear relatively wide, while 10y spreads are closer to the recent tights. The trade carries modestly positively, largely on account of the risk premium for additional tightening at the front end.

## Latest Thematic Research:

Global Rates Notes: November 2023 Refunding Recap - 1 November 2023

Global Markets Analyst: FX Hedging—An Investor's Framework - 12 October

Global Views: A Pothole, Not a Ditch - 2 October 2023

Global Market Views: Navigating the 'Q4 Pothole' - 28 September

Global Rates Notes: Updating Our Rates Forecast—Higher for Longer - 28 September

## Latest Global Markets Dailies:

ECB Hike Risk Gives Way to Cut Risk in European Rates - 2 November 2023

Macro and Equity Returns—Value versus the Cycle Into 2024 - 31 October 2023

Rising term premium a boost to bond returns - 25 October 2023

The ECB's MRR Decision and Money Markets - 23 October 2023

Rate Relief Needed for European Sovereign Spreads - 5 October 2023

*The authors would like to thank Friedrich Schaper for his contribution to this report. Friedrich is an intern in the Rates team.*

# Summary of Views

| | Core Views | Recommendation | Entry Date |
|---|---|---|---|
| Duration | The selloff at the long end has been real yield-led, and primarily the consequence of a rebuild of real risk premium. Although we continue to believe that yields should stay higher for longer, we think near term data flow may put continued downward pressure on longer maturity US real yields. | -- | -- |
| | US front end pricing over the next year now includes a modestly positive risk premium, which when combined with our expectation for near term softness makes receiving in this part of the curve attractive | *Receive 1y OIS* | 22-Sep-23 |
| | Although the latest meeting suggests the ECB currently sees its policy settings as sufficiently restrictive, we think duration will continue to be sensitive to activity and price data. That being said, with our economists forecasting sluggish growth into 2024 but only gradually slowing inflation, we expect Bunds to be range-bound around current levels in upcoming weeks. | -- | -- |
| | By pausing at an elevated run-rate of core inflation and very firm wage growth, the BoE displays a relatively higher inflation tolerance than G3 peers, which should – in our view – require market compensation. Over that backdrop, we would see a meaningful rally in UK duration from current levels as opportunity to add shorts. | -- | -- |
| Curve | Although we do not believe the easing currently priced at the US front-end is likely to be delivered, it may prove difficult to dislodge in the near term. Forwards are now pricing in a materially steeper curve than our forecasts imply. | -- | -- |
| | Given the current macro backdrop of weak Euro area growth and declining inflation, we look for continued curve inversion. However, with our analysis suggesting front-end rates have declined by more than implied by the recent deterioration in the growth outlook, we don't see a lot of value in front-end longs, absent clearer signs of a sharp slowdown. | -- | -- |
| | In the near-term, we continue to expect the front-end of the curve to bear the brunt of any reassessment in the inflation outlook, with the long-end more protected. Beyond, we expect the term premium to rise on a challenging Gilt supply outlook. | -- | -- |
| | The latest BoJ YCC tweak changing the 1% level from a hard cap to a 'reference' should allow 10y JPY yields to head higher. Additionally, we expect the reference rate to be changed to 1.25% following confirmatory Shunto, which should put continued upward pressure. At the front end however, we believe investors are anticipating too fast and too large an adjustment of short term rates. | *6m2y/6m10y JPY OIS steepener* | 3-Nov-23 |
| | While the near-term RBA reaction function is uncertain, we expect some risk premia for further hikes to remain in the AUD front-end, while the long-end appears attractive given elevated term premia and steeper curve vs global peers. | *1y1y/5y5y AUD swap curve flattener* | 26-Oct-23 |
| Spreads | A large increase in supply and continued erosion of cash buyers means more price-elastic buyers will put pressure on spreads; eventual pivot towards levered investors a further incremental risk. For now, we are neutral, though we expect to re-engage in tighteners | -- | -- |
| | We maintain a bearish bias in sovereign spreads as we believe the asset class is vulnerable to ongoing focus on fiscal risks, in Italy and globally. Although increasing market confidence that disinflation is on track could be a tailwind through lower rates volatility, we continue to expect BTP-bunds to widen, as good bond supply absorption will likely prove self-defeating and incentivize earlier PEPP runoff. | -- | -- |
| | We expect the combination of recalibration of ECB balance sheet policy, the measures adopted to ease collateral scarcity, and an accommodative fiscal stance to support German swap spread tightening. We see current market pricing as an attractive entry point for tighteners as we move past the acute phase of banking stress | *Short 10y Bund vs OIS* | 31-Mar-23 |
| | BoE asset sales, alongside ongoing issuance needs should alleviate the scarcity of front-end gilts. | -- | -- |
| Vol | With the range of Fed policy actions narrowing over the coming months, and as market participants reprice the growth outlook higher, we like fading both front-end curve inversion and vol premium. | *Sell 2y2y straddles* | 18-Aug-23 |
| | The dispersion of 1y-ahead short rate projections amongst forecasters remains high, though given greater clarity on the economic backdrop, we would expect declining uncertainty on the policy path going forward. All else equal, this argues for a steepening of vol tail curves, which we believe are currently too inverted. | *Short 1y2y vs 1y10y straddles.* | 15-Sep-23 |
| Money Market | With TGA almost fully replenished, we expect the pace of net bill issuance will slow. However, with coupon issuance set to pick up, demand for leverage is likely to pressure financing spreads wider; we expect repo rates will start to drift higher relative to OIS and bill yields. | -- | -- |
| | We expect ongoing QT will continue to result in an RRP-led liquidity drain. However, the ratio of RRP/reserve losses is likely to be lower than during the TGA rebuild phase. Although we think the system will enter an ample reserves regime, we believe the point of reserve scarcity will be encountered only late next year or beyond. | -- | -- |
| Inflation | The potential for a more cautious Fed and still sticky inflation could argue for greater inflation risk premia, particularly at intermediate and longer maturities. Near-term negative growth sentiment is likely to be a headwind to long breakeven positions. | -- | -- |
| | Long-end HICP forwards continue to rally, with the gap vs the US now near historic tights. From a macro point of view then, we see the recent strength in traded inflation - in particular in the 30y sector – as at odds with both the signals from fundamentals and the ECB stance. As a result, we see risks clearly tilted towards long-end weakness. | -- | -- |

Source: Goldman Sachs Global Investment Research

# Forecasts

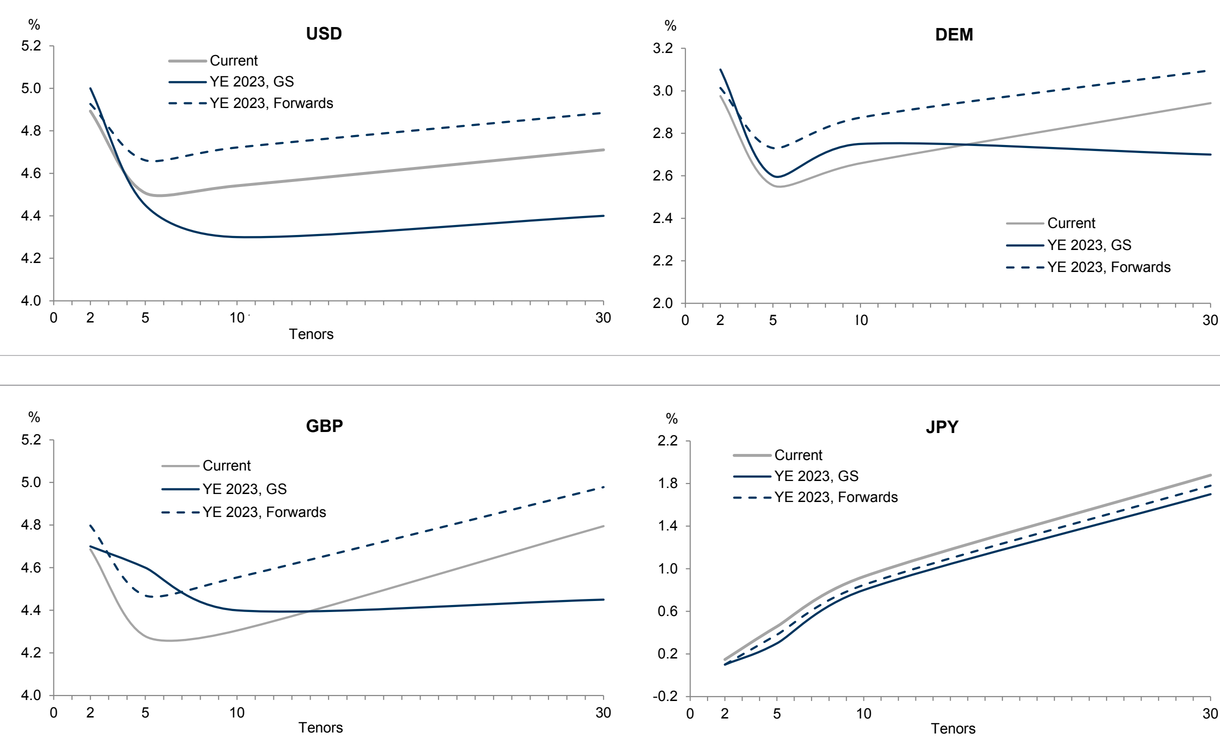
## G10 10y yield forecast

| G10 10-Year Yield Forecasts | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | USD | DEM | GBP | JPY | CAD | CHF | SEK | NOK | AUD | NZD |
| **spot** | **4.79** | **2.90** | **4.60** | **0.81** | **4.18** | **1.19** | **3.09** | **4.17** | **4.54** | **5.52** |
| **4Q23** | **4.30** | **2.75** | **4.40** | **0.80** | **3.90** | **1.50** | **2.35** | **3.65** | **4.20** | **5.00** |
| 1Q24 | 4.60 | 2.60 | 4.20 | 0.85 | 4.10 | 1.50 | 2.35 | 3.65 | 4.30 | 5.00 |
| 2Q24 | 4.60 | 2.50 | 4.15 | 0.90 | 4.10 | 1.50 | 2.35 | 3.60 | 4.30 | 4.90 |
| 3Q24 | 4.50 | 2.25 | 4.10 | 0.90 | 4.00 | 1.45 | 2.30 | 3.55 | 4.30 | 4.80 |
| **4Q24** | **4.30** | **2.25** | **4.00** | **0.90** | **3.90** | **1.45** | **2.30** | **3.50** | **4.20** | **4.70** |
| 1Q25 | 4.25 | 2.25 | 3.90 | 0.90 | 3.80 | 1.40 | 2.25 | 3.45 | 4.20 | 4.60 |
| 2Q25 | 4.25 | 2.25 | 3.80 | 0.90 | 3.80 | 1.40 | 2.25 | 3.45 | 4.10 | 4.60 |
| 3Q25 | 4.25 | 2.25 | 3.80 | 0.90 | 3.80 | 1.40 | 2.25 | 3.40 | 4.10 | 4.60 |
| **4Q25** | **4.25** | **2.25** | **3.70** | **0.90** | **3.80** | **1.40** | **2.25** | **3.40** | **4.10** | **4.60** |
| 1Q26 | 4.25 | 2.25 | 3.70 | 0.90 | 3.80 | 1.40 | 2.25 | 3.45 | 4.10 | 4.60 |
| 2Q26 | 4.25 | 2.25 | 3.65 | 0.90 | 3.80 | 1.40 | 2.25 | 3.45 | 4.10 | 4.60 |
| 3Q26 | 4.25 | 2.25 | 3.65 | 0.90 | 3.80 | 1.40 | 2.25 | 3.40 | 4.10 | 4.60 |
| **4Q26** | **4.25** | **2.25** | **3.60** | **0.90** | **3.80** | **1.40** | **2.25** | **3.40** | **4.10** | **4.60** |

| Deviation from Forwards | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | USD | DEM | GBP | JPY | CAD | CHF | SEK | NOK | AUD | NZD |
| 4Q23 | -0.42 | -0.12 | -0.16 | -0.06 | -0.21 | 0.35 | -0.66 | -0.45 | -0.36 | -0.55 |
| 1Q24 | -0.12 | -0.26 | -0.35 | -0.07 | 0.03 | 0.36 | -0.64 | -0.43 | -0.28 | -0.56 |
| 2Q24 | -0.12 | -0.35 | -0.42 | -0.07 | 0.07 | 0.36 | -0.61 | -0.46 | -0.31 | -0.67 |
| 3Q24 | -0.22 | -0.60 | -0.48 | -0.12 | 0.00 | 0.31 | -0.65 | -0.48 | -0.33 | -0.79 |
| **4Q24** | -0.44 | -0.62 | -0.59 | -0.17 | -0.08 | 0.31 | -0.66 | -0.52 | -0.46 | -0.89 |

Source: Goldman Sachs Global Investment Research

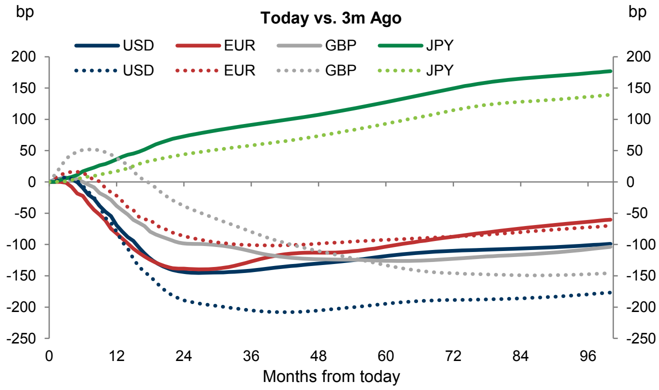
## G4 Curve Forecast




Source: Bloomberg, Goldman Sachs Global Investment Research

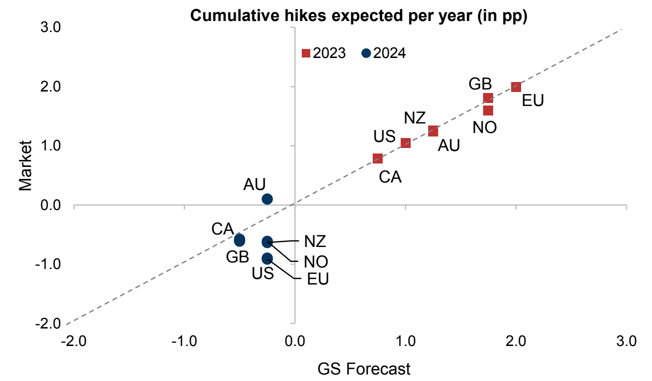
# Central Bank Dashboard

## Cumulative amount of hikes/cuts priced from today




Source: Goldman Sachs Global Investment Research

## Expected hikes by year, GS vs. Market



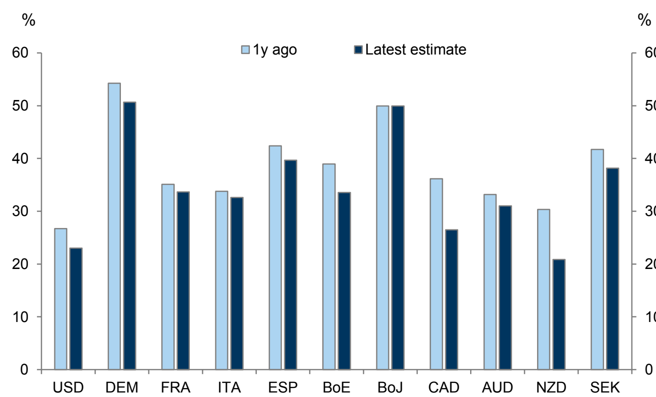

Source: Goldman Sachs Global Investment Research

## Central Bank Sovereign QE expectations

| | Current purchase pace | Forward-looking expectations |
|---|---|---|
| Fed | $0 | Runoff since May 2022 |
| ECB | $0 | Full passive APP runoff. PEPP reinvestment flexibility, together with the backstop (TPI), continues to counteract fragmentation risk. However, we now expect faster PEPP runoff of only 10€bn/m reinvestments until end 2024Q2, afterwards full passive runoff. |
| BoE | £0 | Gilt portfolio unwind of £100bn/yr, starting in October 2023. Approximately 50bn/50bn split between redemptions and outright sales. |
| BoJ | Unlimited | Expect coupon buying to keep up with pace of issuance, as to prevent significant deviations in 10y JGB target |
| BoC | $0 | Passive runoff since April 2022 |
| RBA | A$0 | Asset purchases concluded in February 2022, and maturing bonds are no longer reinvested as of May 2022 |
| RBNZ | NZ$0 | Passive runoff as of Feb-22 meeting. Bank commenced active bond sale program starting in July-22 at a pace of NZ$5bn per fiscal year |
| Riks | kr0 | Passive runoff from Jan-23, SEK 5bn/m active sales of Government bonds |

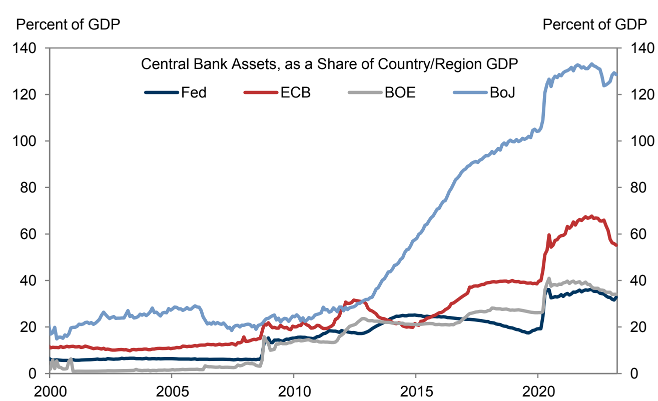
Source: Goldman Sachs Global Investment Research

## Central bank ownership of sovereign bonds, current vs. 1y ago



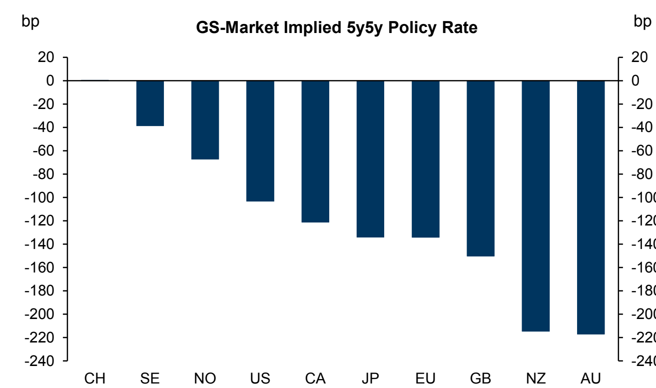

Source: Haver Analytics

## Central bank assets as a share of GDP




Source: Haver Analytics

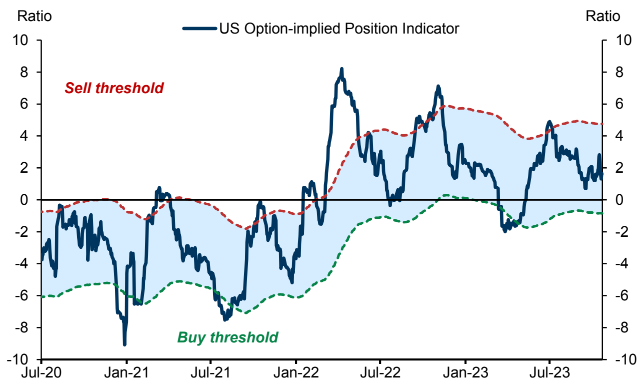
## GS forecasts vs. market pricing of 5y5y average policy rate




Source: Goldman Sachs Global Investment Research

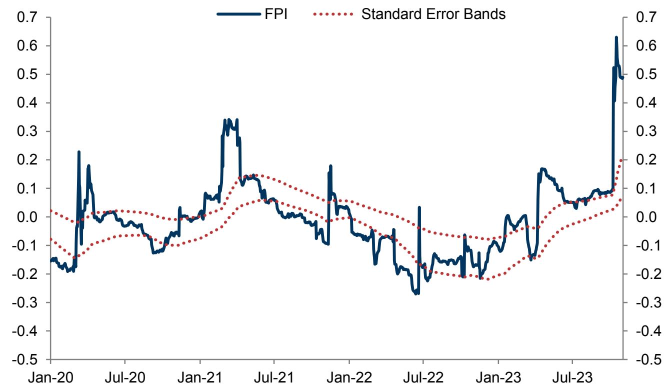
# Positioning and Flows Monitor

### Option implied position indicator




Source: Goldman Sachs Global Investment Research

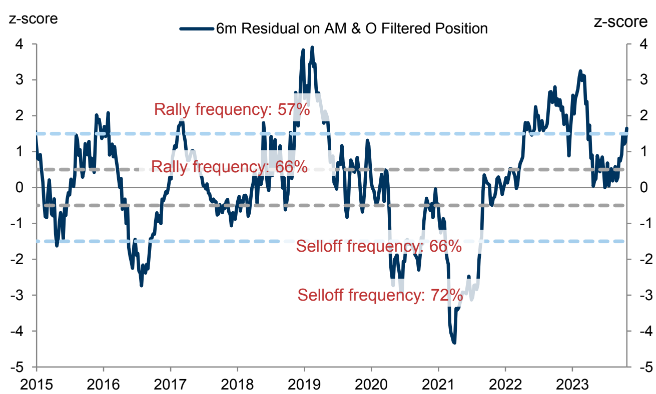
### GS Fund Positioning Indicator




Source: Goldman Sachs Global Investment Research

### Residual of 10y UST yield changes on filtered AM position vs 6m ahead change in 10y UST yield

Gray lines denote +/- 0.25 standard deviations




Note: 6m residual changes on yield in filtered position (z-score) and 6m ahead change in 10s

Source: CFTC, Goldman Sachs Global Investment Research

### CFTC Commitment of Traders and Traders in Financial Futures

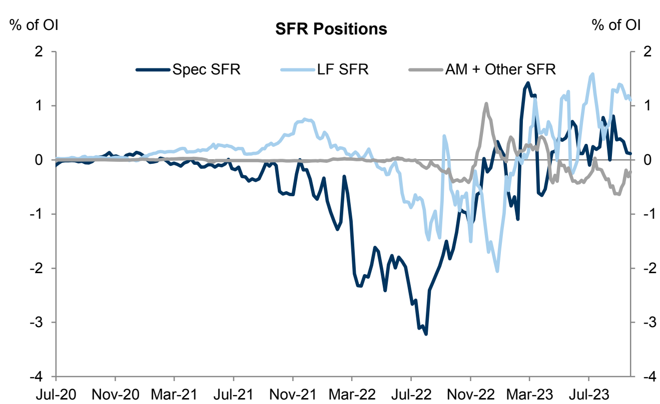
Duration-weighted net position by investor type

**Duration-Weighted Positioning, by Contract**

| $mm/bp | SFR | TU | FV | TY | TN | US | WN |
|---|---|---|---|---|---|---|---|
| Spec Current | 1.4 | -48.0 | -44.3 | -36.7 | -21.4 | -16.8 | -65.3 |
| Spec 1w Change | -0.2 | -2.5 | 4.7 | 6.8 | -0.7 | 4.7 | -0.1 |
| LF Current | 16.0 | -52.8 | -72.2 | -88.3 | -27.4 | -43.7 | -114.7 |
| LF 1w Change | -1.0 | -0.9 | 0.8 | 0.6 | -0.8 | 4.2 | 0.4 |
| AM + Other Current | -3.6 | 55.6 | 94.2 | 94.7 | 40.4 | 55.9 | 115.2 |
| AM + Other 1w Change | 1.5 | 0.6 | 0.9 | 1.5 | 3.7 | -2.4 | 1.7 |
| Dealer Current | -12.4 | -7.1 | -24.6 | -12.8 | -8.4 | -18.0 | -5.0 |
| Dealer 1w Change | -0.8 | 0.2 | -1.6 | -1.9 | -1.0 | -1.5 | 0.1 |

Source: CFTC, Goldman Sachs Global Investment Research

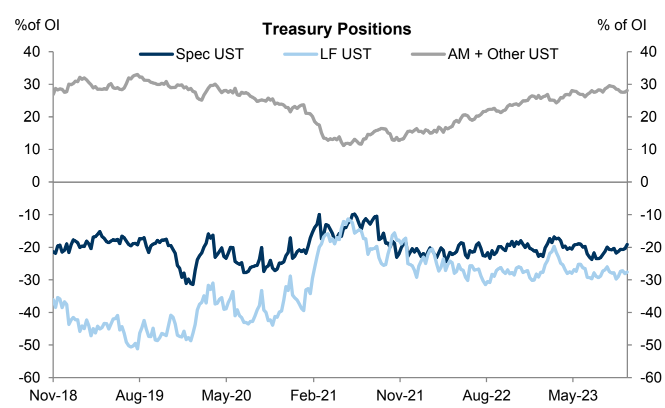
### Net positions in Eurodollars




Note: Duration-weighted net position (long - short) as a % of duration-weighted gross exposure (long + short + spreading)

Source: CFTC, Goldman Sachs Global Investment Research

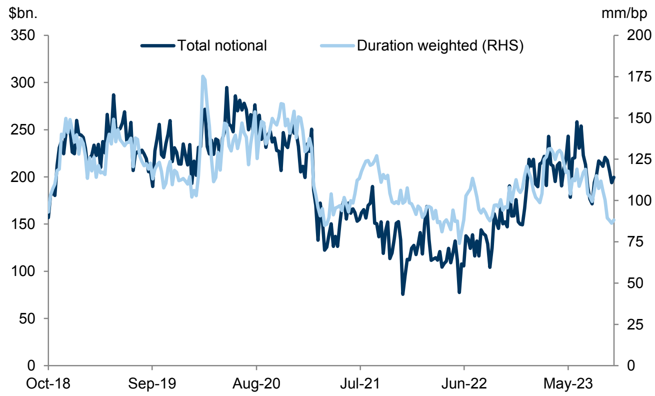
### Net positions in UST futures




Note: Duration-weighted net position (long - short) as a % of duration-weighted gross exposure (long + short + spreading)

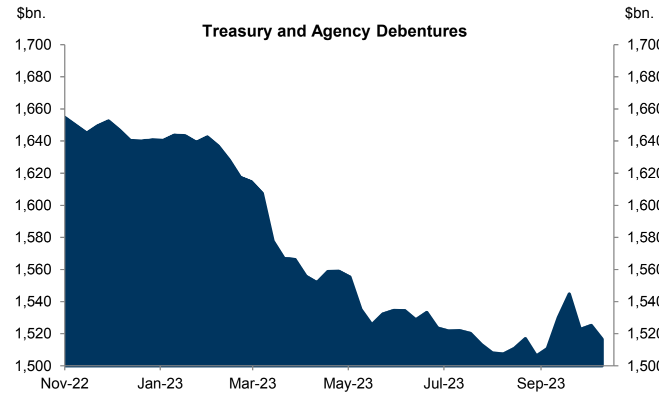
Source: CFTC, Goldman Sachs Global Investment Research

**Primary dealer transactions**
Net dealer position in US Treasuries



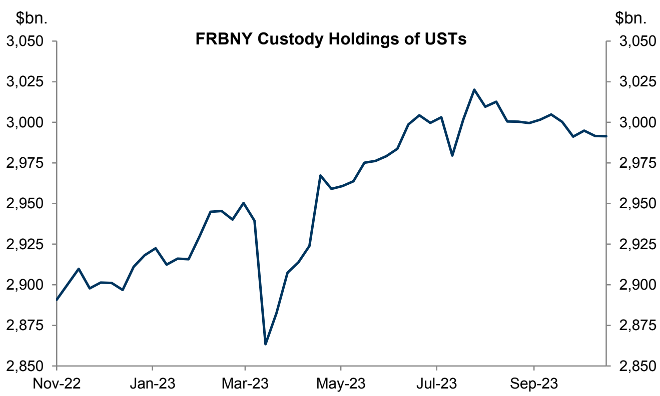

Source: Federal Reserve Bank of New York, Goldman Sachs Global Investment Research

**US Commercial Banks' Holdings of Treasury and Agency Securities**
Total domestic and foreign holdings, all commercial banks



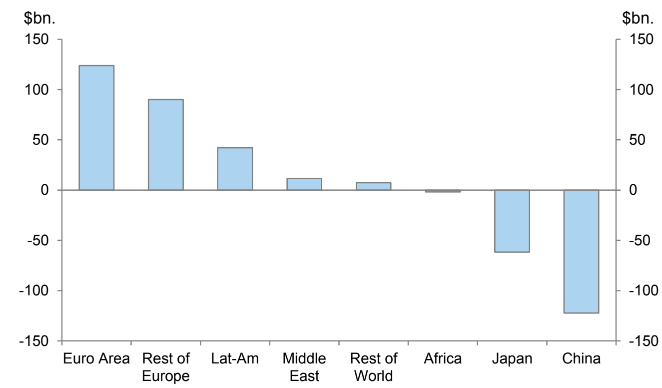

Source: Federal Reserve Board

**NY Fed Custody Holdings**
Marketable US Treasuries



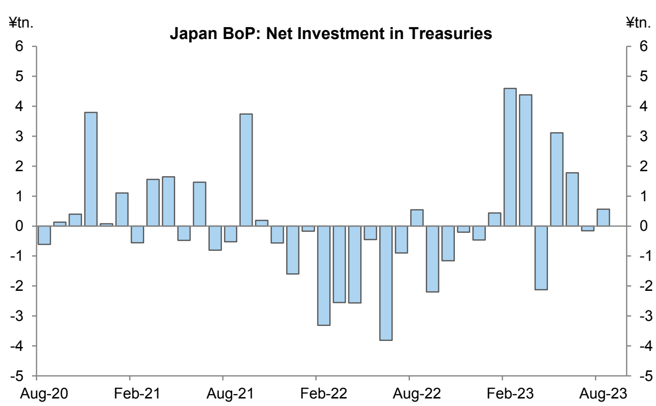

Source: Federal Reserve Bank of New York

**US TIC Treasury Flows**
12m change in valuation-adjusted holdings of USTs, by holder of debt



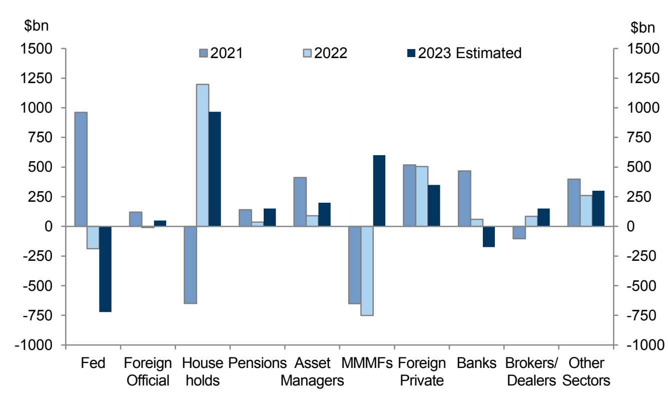

Source: US Treasury, Goldman Sachs Global Investment Research

**Net monthly purchases of short and long term US Treasuries by Japanese investors**




Source: Bank of Japan, Haver Analytics

**Flow of Funds annual net purchases of US Treasuries, by sector**

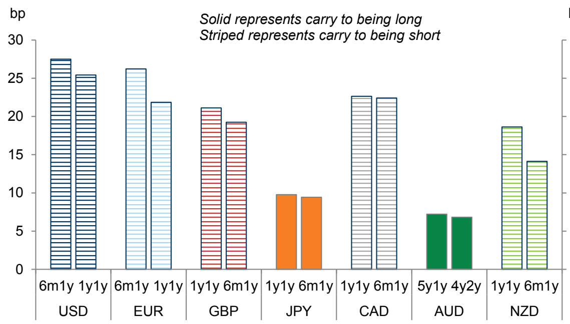


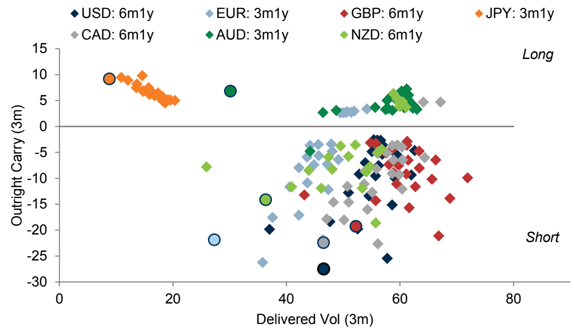

Source: Federal Reserve Board, Goldman Sachs Global Investment Research

# Carry/Rolldown Monitor

## Outright Carry

Bar chart shows top two carry points by currency, with solid reflecting carry to a long position and striped carry to a short position. Scatter illustrates top 25 carry/vol points by currency, with top point by currency noted

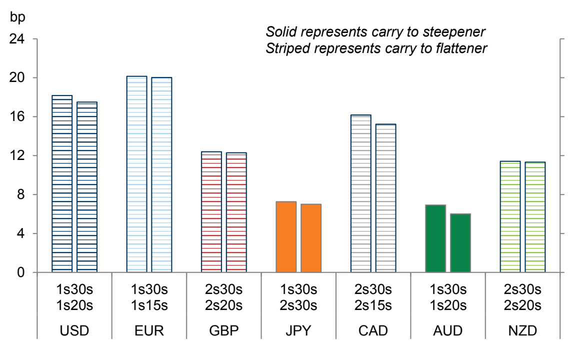


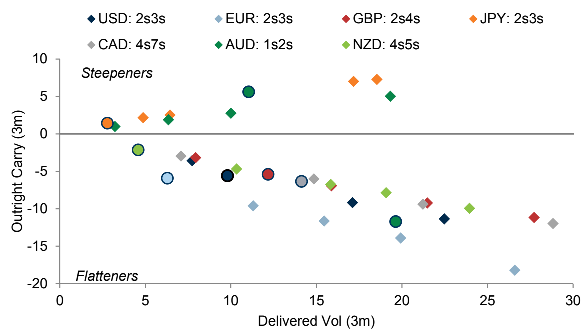




Source: Goldman Sachs Global Investment Research

## Curve Carry

Bar chart shows top two carry curves by currency, with solid reflecting carry to a steepening position and striped carry to a flattening position. Scatter illustrates top 5 carry/vol curves by currency, with top curve by currency noted

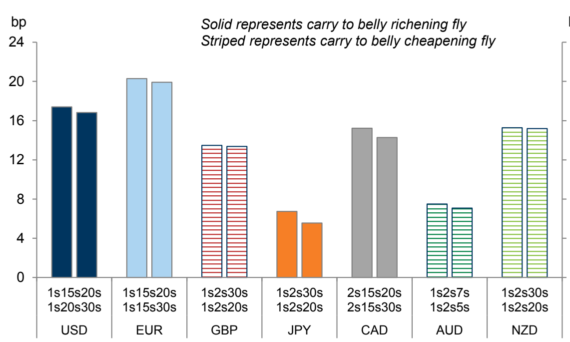


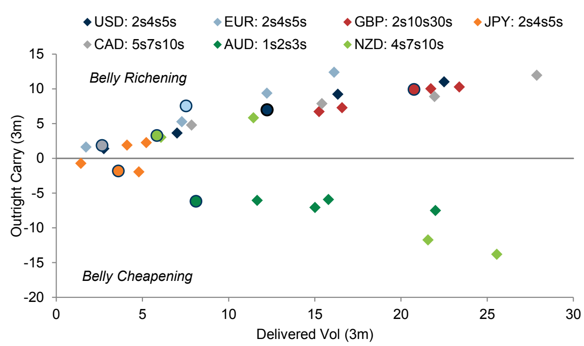




Source: Goldman Sachs Global Investment Research

## Fly Carry

Bar chart shows top two carry flies by currency, with solid reflecting carry to a belly-richening fly and striped carry to a belly-cheapening fly. Scatter illustrates top 5 carry/vol flies by currency, with top fly by currency noted




Source: Goldman Sachs Global Investment Research

# Treasury Supply Monitor

### Gross Treasury auction size estimates by year end, with GS projections

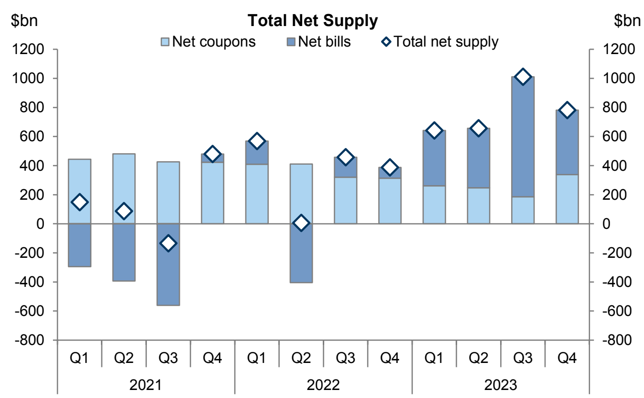
| Monthly Auction Amounts at End of Calendar Year ($ billions) | 2y FRNs | 2y | 3y | 5y | 7y | 10y | 20y | 30y | 5y TIPS | 10y TIPS | 30y TIPS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| YE-21 (CY) | 26 / 24 (r) | 56 | 54 | 57 | 56 | 39 / 36 (r) | 23 / 20 (r) | 25 / 22 (r) | 19 / 17 (r) | 16 / 14 (r) | 9 / 8 (r) |
| YE-22 (CY) | 24 / 22 (r) | 42 | 40 | 43 | 35 | 35 / 32 (r) | 15 / 12 (r) | 21 / 18 (r) | 21 / 19 (r) | 17 / 15 (r) | 9 / 8 (r) |
| YE-23 (CY, GS) | 28 / 26 (r) | 57 | 50 | 58 | 40 | 40 / 37 (r) | 16 / 13 (r) | 24 / 21 (r) | 22 / 20 (r) | 17 / 15 (r) | 9 / 8 (r) |
| YE-24 (CY, GS) | 30 / 30 (r) | 69 | 58 | 70 | 44 | 42 / 39 (r) | 16 / 13 (r) | 25 / 22 (r) | 24 / 22 (r) | 19 / 17 (r) | 10 / 9 (r) |
| YE-25 (CY, GS) | 30 / 30 (r) | 69 | 58 | 70 | 44 | 42 / 39 (r) | 16 / 13 (r) | 25 / 22 (r) | 24 / 22 (r) | 20 / 18 (r) | 11 / 10 (r) |

* Original Issue / Reopening listed for FRNs, 10s, 20s, 30s, and TIPS.

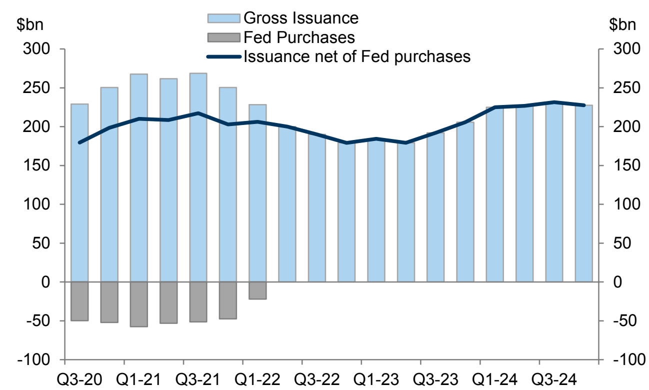
| US Treasury Net Issuance by Calendar Year ($ billions) | Net Coupons | Fed | Net of Fed | Net Bills | Fed | Net of Fed |
|---|---|---|---|---|---|---|
| CY 2022 | 1288 | -168 | 1456 | -73 | -37 | -36 |
| CY 2023, GS | 385 | -648 | 1033 | 1984 | -74 | 2058 |
| CY 2024, GS | 1355 | -570 | 1925 | 450 | -84 | 534 |
| CY 2025, GS | 1785 | -90 | 1875 | 150 | 0 | 150 |

| Duration supply ($bn 10y equiv) | | |
|---|---|---|
| Gross supply | Fed | Net of Fed |
| 2392 | 66 | 2326 |
| 2284 | 0 | 2284 |
| 2733 | 0 | 2733 |
| 2766 | 0 | 2766 |

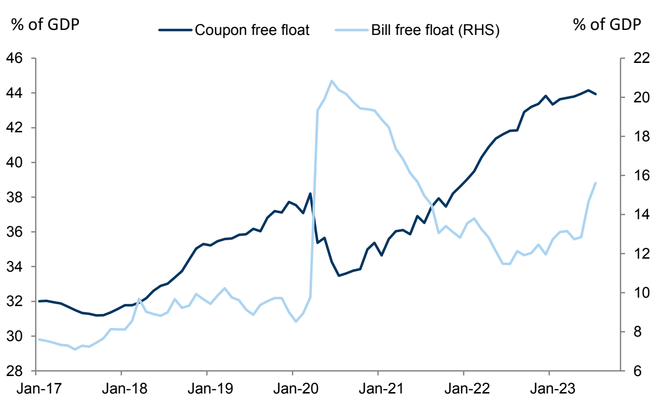
### Net issuance per quarter




### Average monthly UST issuance, gross and net of Fed purchases; $bn 10y equivalents

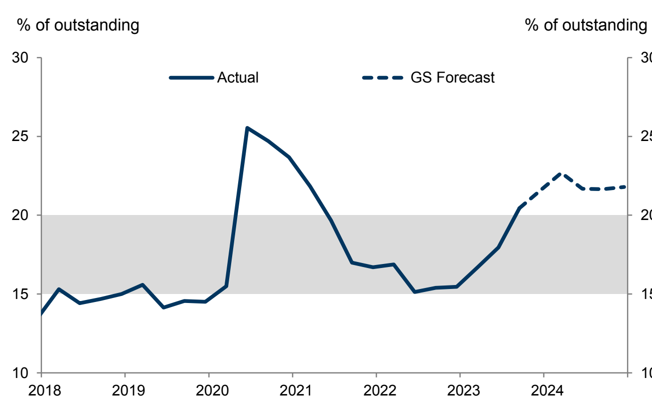



### Free float (Treasuries outstanding less Fed and foreign official holdings) as % of GDP




### Bills as a share of Treasuries outstanding and GS forecast

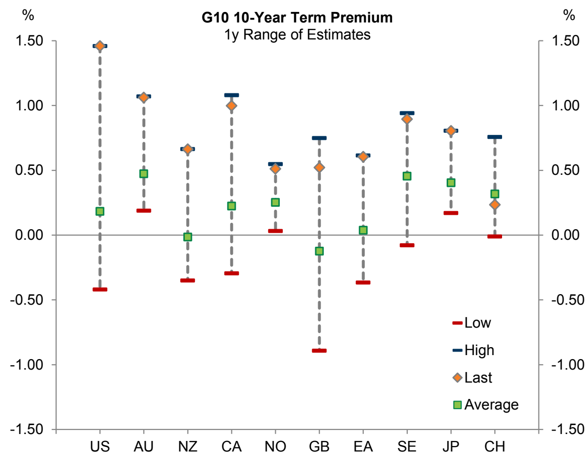
Gray shading denotes TBAC recommended 15-20% range

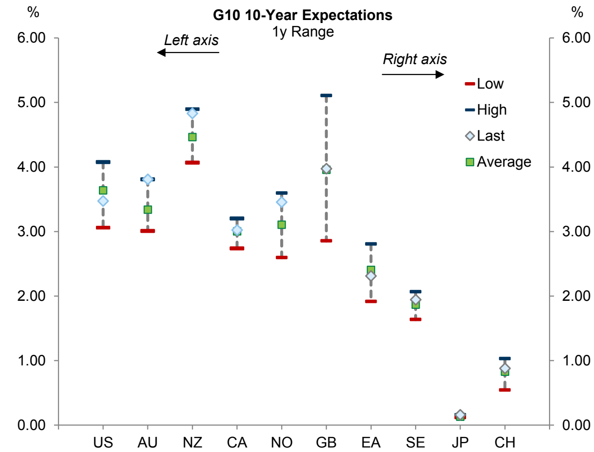



Source: Haver Analytics, US Treasury, Goldman Sachs Global Investment Research

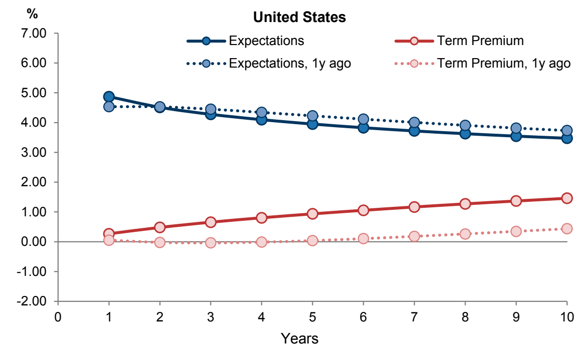
# GS Term Premium Decomposition

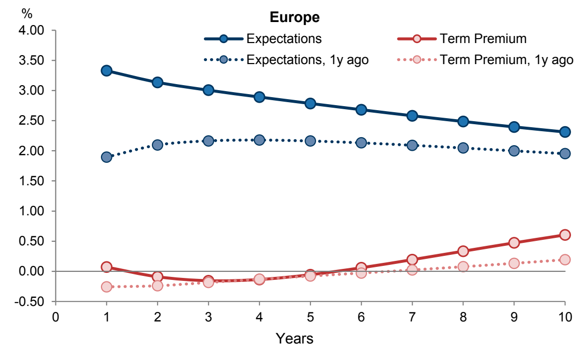
### 1y Range of G10 10y Yields, by Term Premium and Expectations Components

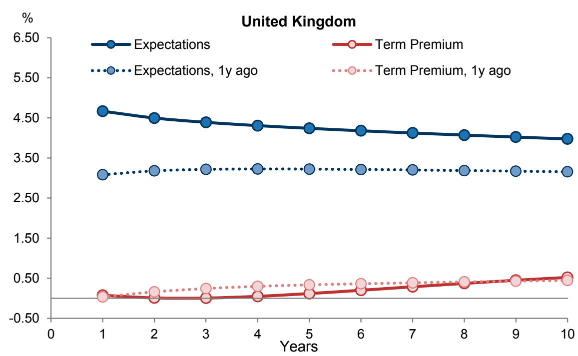


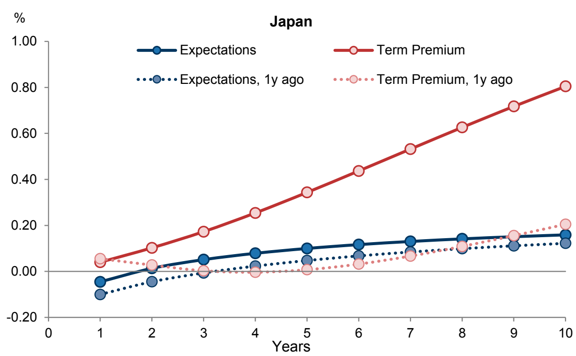




### Term Structure of Fitted Yields, by Component




Source: Goldman Sachs Global Investment Research

# 2023 Trade Recommendations

| GS Rates Trades | | | | | | |
|---|---|---|---|---|---|---|
| **Active** | **Entry Date** | **Opened** | **Latest** | **Stop** | **Target** | **Performance** |
| 1. Short 10y Bund vs OIS | 31-Mar-23 | 0.49 | 0.35 | 0.60 | 0.20 | +14 bps |
| 2. Short 2y2y straddles (unhedged, return in abp) | 18-Aug-23 | 0.00 | 0.12 | -0.26 | 0.64 | +12 abp |
| 3. Short 1y2y vs 1y10y straddles, vega neutral (levels in bp returns) | 15-Sep-23 | 0.00 | 0.36 | -0.40 | 1.00 | +36 bps |
| 4. Receive 1y (USD) OIS | 22-Sep-23 | 5.47 | 5.38 | 5.60 | 5.20 | +9 bps |
| 5. 1y1y/5y5y AUD swap curve flattener | 26-Oct-23 | 1.06 | 0.86 | 1.35 | 0.60 | +20 bps |
| 6. 6m2y/6m10y JPY OIS steepener | 3-Nov-23 | 0.74 | | 0.55 | 1.10 | |
| **Closed** | **Entry Date** | **Closed** | **Performance** | | | |
| 1. Jan/Mar BoC meeting OIS flattener | 6-Jan-23 | 19-Jan-23 | +9 bps | | | |
| 2. Long 10y US Breakeven | 16-Dec-22 | 27-Jan-23 | +24 bps | | | |
| 3. Sell SFRZ3 | 11-Nov-22 | 7-Feb-23 | +33 bps | | | |
| 4. Sell 6m2y Receivers | 11-Nov-22 | 8-Feb-23 | +20 bps | | | |
| 5. 2s10s Bund Swap spread curve flattener | 3-Feb-23 | 8-Feb-23 | -1 bps | | | |
| 6. Sell 6m 10s30s USD curve floor vs long 6m2y payer | 30-Sep-22 | 10-Feb-23 | +11 bps | | | |
| 7. Sell 6m5y5y USD midcurve receivers | 9-Dec-22 | 17-Feb-23 | +26 bps | | | |
| 8. Short 10y OATs | 13-Jan-23 | 22-Feb-23 | +37 bps | | | |
| 9. Sell BAZ3 | 10-Feb-23 | 1-Mar-23 | +75 bps | | | |
| 10. Belly cheapening SFRZ3/M4/Z4 fly hedged w/ M4 1y MC call | 27-Jan-23 | 10-Mar-23 | +12 bps | | | |
| 11. Sell 3m2y delta-hedged straddles | 10-Feb-23 | 10-Mar-23 | -8 bps | | | |
| 12. 10y/10y20y SOFR curve steepeners | 3-Mar-23 | 13-Mar-23 | +29 bps | | | |
| 13. 5s30s JGB curve steepeners | 3-Mar-23 | 13-Mar-23 | -9 bps | | | |
| 14. Long ERM4 vs. short SFRM4 | 31-Mar-23 | 4-Apr-23 | -23 bps | | | |
| 15. SFRU3/U4 steepener (0.65:1 weighted, modified from unweighted) | 17-Apr-23 | 26-Apr-23 | -14 bps | | | |
| 16. SFRU3/U4 steepener (0.65:1 weighted) | 28-Apr-23 | 19-May-23 | +21 bps | | | |
| 17. Pay Dec 23 FOMC OIS | 5-May-23 | 19-May-23 | +38 bps | | | |
| 18. Sell 3m5y5y USD midcurve straddles (levels in bp return) | 31-Mar-23 | 9-Jun-23 | +18 bps | | | |
| 19. Pay Sep 23 BoC OIS | 19-May-23 | 9-Jun-23 | +41 bps | | | |
| 20. Pay 3m3m AUD swaps | 7-Apr-23 | 9-Jun-23 | +79 bps | | | |
| 21. Short 10y BTPs vs Bonos | 21-Apr-23 | 12-Jun-23 | -20 bps | | | |
| 22. Pay 3m3m AUD swaps | 9-Jun-23 | 7-Jul-23 | +4 bps | | | |
| 23. Short SFRU4 / Long BAU4 | 9-Jun-23 | 10-Jul-23 | +24 bps | | | |
| 24. 5s30s JGB curve steepeners | 16-Jun-23 | 28-Jul-23 | +9 bps | | | |
| 25. Long 1y US CPI swap | 16-Jun-23 | 28-Jul-23 | +10 bps | | | |
| 26. Sell 3m1y1y USD midcurve receiver (levels in bp return) | 14-Jul-23 | 2-Aug-23 | +30 bps | | | |
| 27. Long Feb-53 TIPS (bp of real yld) | 4-Aug-23 | 17-Aug-23 | -14 bps | | | |
| 28. Short 1y1y vs 1y10y receivers, vega neutral (return in bp running) | 14-Jul-23 | 15-Aug-23 | +94 bps | | | |
| 29. Long 5y20y US CPI swap | 31-Mar-23 | 29-Sep-23 | +28 bps | | | |
| 30. 2s10s JGB curve steepeners | 28-Jul-23 | 13-Oct-23 | +14bps | | | |
| 31. Pay Dec 23 RBA OIS | 8-Sep-23 | 27-Oct-23 | +14bps | | | |
| 32. Short 5y UST vs SOFR | 28-Jul-23 | 3-Nov-23 | +8bp | | | |

Note: Potential profit/loss estimates are given as per unit of duration risk, through yesterday's close.

Source: Goldman Sachs Global Invetsment Research

# Disclosure Appendix

## Reg AC

We, Praveen Korapaty, George Cole, Bill Zu, Simon Freycenet, Ravi Raj and Gustavo Pereira, hereby certify that all of the views expressed in this report accurately reflect our personal views, which have not been influenced by considerations of the firm's business or client relationships.

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