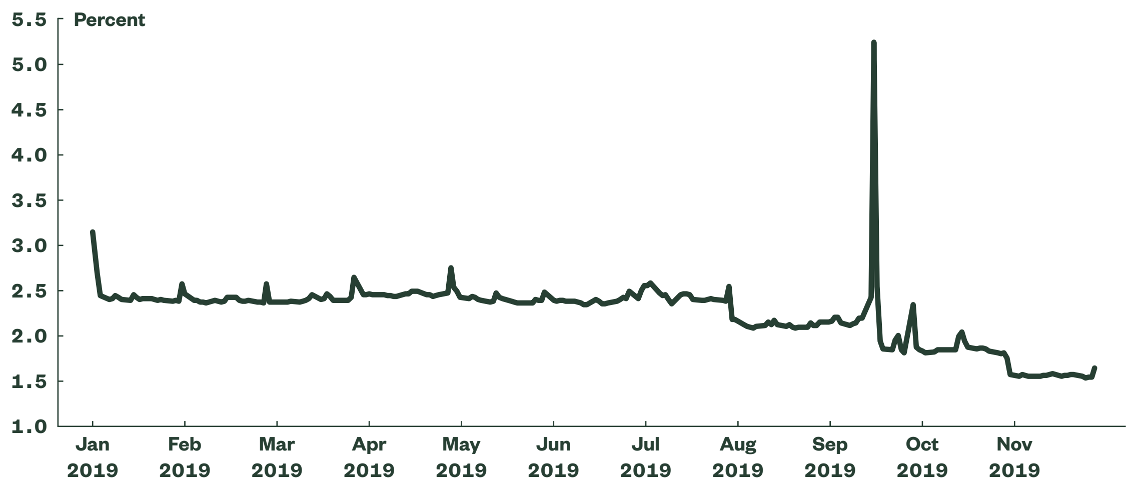
**3 May, 2022**

# Quantitative Tightening Part 4: Impact on the Money Markets

The Fed's Quantitative Tightening (QT) implementation should begin after the May FOMC meeting (see QT part 3 for size and timing of implementation). We would expect that, over time, excess liquidity in the money markets will be drained and we could see upward pressure on some short term money market rates.

When we look at the events of the last QT (2018–2019), the Fed did not anticipate how quickly the reduction in reserves and subsequent increased holding of US Treasuries (UST) would cause a crisis in the short term funding markets. In September 2019, (20 months after the beginning of QT), Treasury repo funding levels spiked to 10% as dealers needed to borrow cash to fund UST, and overnight bi-party and tri-party reverse repo levels rose to over 5%. The relatively "new" SOFR rate showed extraordinary volatility and caused considerable consternation over the viability of this new LIBOR replacement rate. Looking back, we see the funding pressures emerging at each month end (Jan–Aug 2019) leading up to the fateful day in September.

Figure 1
**SOFR Rate**

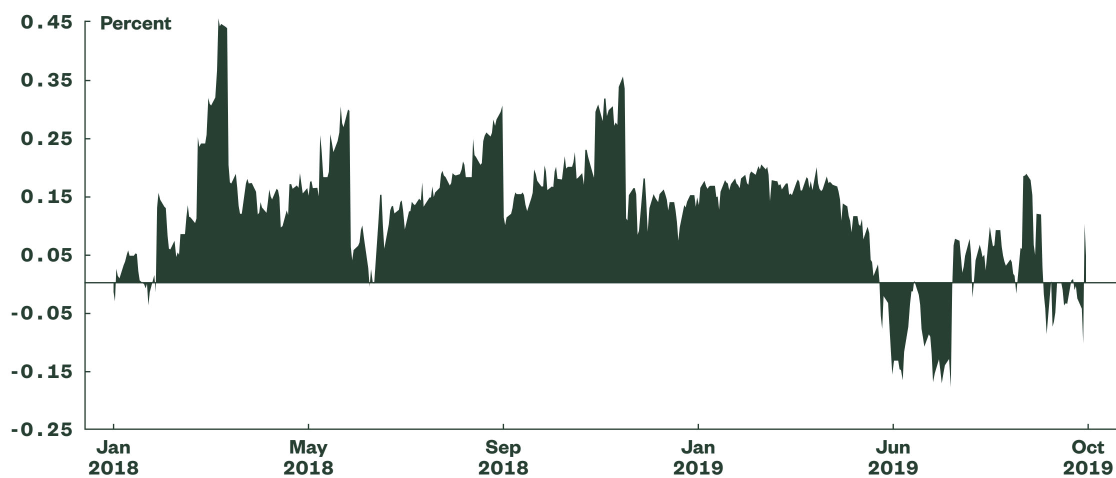



Source: Bloomberg, as of December 31, 2019.

Why did this happen? Simply put primary dealers did not have the capacity to provide funding to all of the UST that were in the market. As the Fed stopped their reinvestment, it was left to the primary dealers to make up for the decline in demand. They, in turn, needed funding on this additional supply and turned to the repo market. At that point, excess reserves had only declined by $700bn to $1.5tn and it was thought that the Fed would like to see excess reserves drop to closer to $1tn. However, the funding crisis of September halted QT, and the Fed began to reinvest their maturing UST and MBS.

There are a few things that are different this time around and thus we don't anticipate the funding stress we saw in 2019 to occur in 2022 or even 2023. Why? First: the levels of excess liquidity is significantly higher in today's market. Back in September 2017 when QT was announced, daily utilization of the Fed's RRP reached $96bn by year end. Conversely, in Q1 2022 daily utilization was already averaging $1.6tn. In order for the participation in this RRP program to decline there needs to be a more favorable alternative — i.e., the offer on dealer repo needs to trade at or above the Fed's RRP rate (currently 0.30%) and/or 1-month T-bill yields need to be at or above this rate. Both were the case starting in H1 2018. In 2018, 1-month bill yields averaged 16 bps above the Fed's RRP offered rate. In H1 2019 they averaged 15 bps above the RRP. Presently, over the past 30 days, the 1-month bill has yielded 9bps **below** the RRP offered rate.

Figure 2
**Yield Spread — 1 Month T-bill vs. Fed Reverse Repo (RHS)**




Source: Bloomberg, as of December 31, 2019.

Second and most important: the Fed established two financing programs that were made permanent in July 2021. The Standing Repo Facility (SRF) will allow primary dealers to fund UST and MBS with a program limit of $500bn. The Foreign and International Monetary Authorities (FIMA) repo facility will be limited to $60bn per counterparty of UST held at the New York Fed. This second program should alleviate pressures on the FX market in times of stress (think March 2020). Both of these programs will have a similar but opposite effect of the Fed RRP's floor on short term rates, instead providing a ceiling on short term rates. The current SFR and FIMA rates are the top of the Fed's target rate range and we expect that to remain the case going forward.

Given these new programs, how long before we start to see upward pressure on short term yields, similar to what was seen in 2018 & 2019? Sadly, this author suspects it will be a long time. The Fed does not plan to allow their T-Bill holdings to roll off as they mature, but rather they plan to use the holdings as a top up to reach the $60bn QT ceiling for UST. Therefore it is expected that only ~$40bn of T-Bills will mature off the Fed's balance sheet this year, and we might not see all T-Bills roll off the balance sheet until 2025. The Treasury is currently paying down ~$350bn of T-Bills due to incoming tax receipts, which is typical for Q2. In the second half of the year, some estimate the US Treasury will need to increase T-Bill issuance by ~$360bn in order to cover H1 paydowns as well as the additional cash the US Treasury will need due to the Fed's QT. This supply will most likely not satisfy demands by money market funds and other short term investors; thus, we should continue to see excess balances at the Fed's RRP.

As the calendar turns to 2023 there are many variables that will impact market levels, most notably: reserve balances/bank deposits, MMF balances and T-Bill supply. It is possible we see MMF balances continue to grow as the market rate of return they offer will out-yield bank deposits, and ultimately banks allow this to happen as most are "over deposited". If the MMF bid holds strong then we may continue to see high balances in the RRP. This MMF bid will be the "anchor" rate in the money markets and is unlikely to see any funding pressure, (similar to September 2019), before 2024. I type that with caution as we know things can often change fast and for any number of reasons.

Source: State Street Global Advisors.

## Part 1: Quantitative Tightening and Its Implications

**Weekly FI Commentary 03/24/2022**

Given all the talk heating up from the Fed on quantitative tightening (QT), we thought we'd offer some views on how we think the Fed will approach QT.

*How will the Fed conduct quantitative tightening?*

The Fed has stated that they'll implement QT primarily through cessation of reinvestment for both US Treasuries and MBS. Active selling of Treasuries by the Fed is very unlikely in our view. The last time the Fed conducted QT in 2017–18, they opted not to sell Treasuries outright but rather to simply cease reinvestment. Active selling would create more volatility in an already uncertain environment exacerbated by geopolitical risk. In addition, selling particularly in the long end of the curve would significantly tighten financial conditions.

However, the probability that the Fed actively sells MBS has increased. We think a solely passive runoff of their MBS portfolio is unlikely given how slow prepayment speeds are for the coupons they hold and given the Fed's urgency to shrink its balance sheet to fight high inflation.

The Fed has stated that they want to conduct balance sheet normalization "in a predictable manner" with their rate framework being their primary policy tool and balance sheet runoff being conducted seamlessly "in the background." In our view the Fed will most likely establish caps and floors for the reinvestment portion of their QT program to give market participants clarity and structure. A floor would open the door to selling down the road if MBS paydowns alone fail to meet the threshold.

*What are your expectations on the timing and speed of QT, as well as priorities or weights among different assets and/or maturities?*

**Timing** The Fed's quantitative easing (QE) program concluded this month, and the Fed has indicated a willingness to start QT after the first rate hike, which came last week. The FOMC will meet again in May, June, and July. Given how high inflation continues to print as well as the deleterious effects of the war in Ukraine on both inflation (upside risks) and growth (downside risks), we think a May implementation of QT is likely. We expect to hear much more about the specifics of their approach to QT in the minutes of last week's FOMC meeting, which will be released in early April.

**Speed** The January meeting minutes revealed the Fed's unease with the size of their $9tn balance sheet. The environment today is markedly different than during the last episode of QT in 2017–2018. Inflation is high and persistent, the balance sheet is significantly larger (2x), and the labor market and economic activity are stronger than in 2017. We believe this will translate to a faster implementation of QT. In the prior episode the first rate hike was announced in December 2015 and QT started in October 2017. We expect a quicker overall pace of execution with less than 1 year between initial and terminal runoff caps (vs. a 1-year ramp up from initial to terminal size in 2017–18).

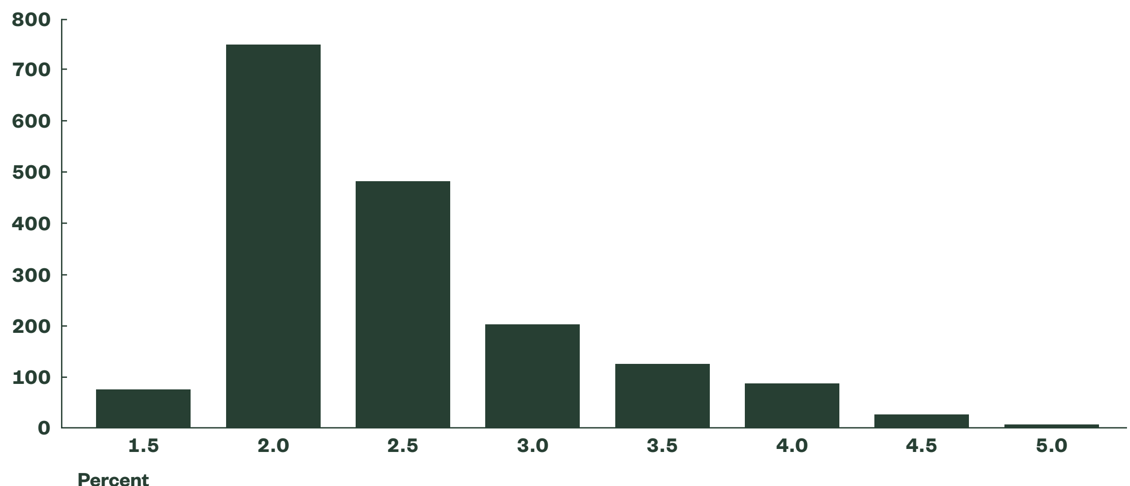
**Assets/Maturities** In the January meeting minutes, the Fed outlined their principles for reducing the size of their balance sheet, expressing more urgency in shrinking their MBS holdings vs. Treasuries:

> **"[T]he Committee should reduce… securities holdings over time in a predictable manner primarily by adjusting the amounts reinvested of principal payments received from securities held in the SOMA. [T]he SOMA should hold primarily Treasur[ies] in the longer run. … [M]any participants commented that sales of agency MBS or reinvesting some portion of principal payments received from agency MBS into Treasur[ies] may be appropriate at some point in the future to enable suitable progress toward a longer-run SOMA portfolio composition consisting primarily of Treasury securities."**

Within the Treasuries portfolio, we expect the Fed to distribute repurchases in the 5–10 year (or further out) portions of the yield curve, so as not to counteract the Fed's policy rate tightening at the short end. The Fed also has to exercise some caution with repurchases, which could accelerate curve inversion.

The Fed's MBS holdings are highly concentrated in 30yr low coupon conventionals with $1.25tn of their $2.7tn in MBS holdings in 2% and 2.5% coupons (see Figure 1) that made up the majority of new production origination during the Covid crisis.

Figure 1
**Fed MBS Holdings are Concentrated in 2% and 2.5% Coupons**




Source: Federal Reserve, Credit Suisse, as of February 16, 2022.

The Fed's approach to MBS QT will determine which coupons will be most affected. If the main goal is to reduce the overall size of their MBS holdings, the Fed would likely have to outright sell their 2% and 2.5% exposures to accomplish this. These two coupons make up the bulk of their portfolio composition and are longer-duration assets that would otherwise have a slow natural runoff given their slow prepayment speeds, especially in a rising rate environment.

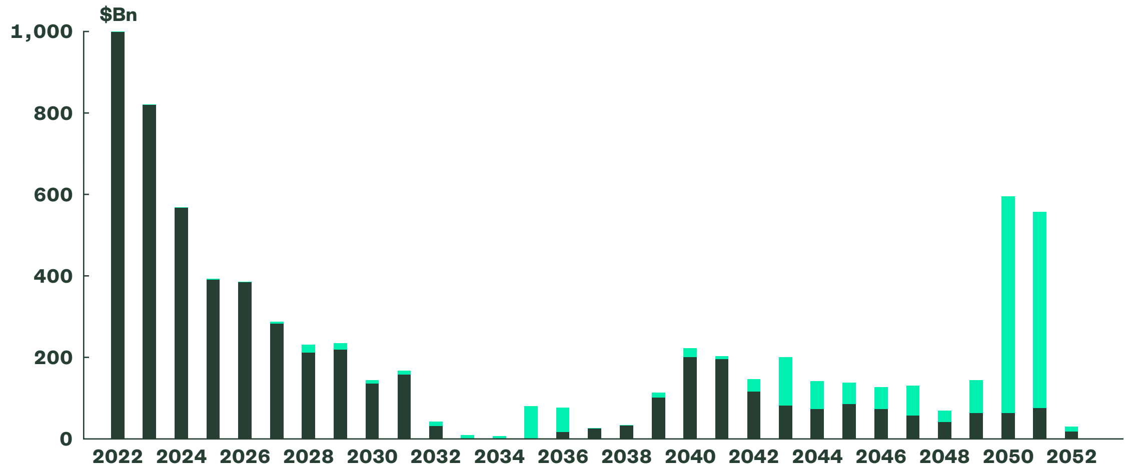
## Part 2: Implementation (QT)

**Weekly FI Commentary 03/31/2022**

*What is the maturity structure of securities held by the Fed and applicable for QT?*

The Fed currently holds $5.75tn of US Treasuries and $2.74tn of MBS as of March 25th. Figure 2 shows the maturity structure of securities on the Fed's balance sheet.

Figure 2
**Fed's US Treasury Holdings Concentrated 5 Years and in; MBS Holdings are Longer Maturity**




Sources: Bloomberg, Federal Reserve, as of March 30, 2022.

The Fed's stated preference to hold Treasuries (as opposed to mortgages/non-Treasuries) longer term implies that all of their MBS holdings will be subject to QT. Unwinding the Fed's Treasuries portfolio will be a more gradual, longer-term process. In the past the Fed stated that they needed to do more work and have further discussions on the appropriate size of the balance sheet. We expect to hear more specificity next week in the March FOMC minutes release.

*What are some likely scenarios for how the Fed will conduct QT?*

We think the Fed will establish caps and floors for the reinvestment portion of their QT program, consistent with how they implemented QT in 2017-18. At the time, the initial cap was $10bn ($6bn Treasuries, $4bn MBS) on a balance sheet that was half its current $9tn size. Back then the Fed increased their monthly caps by $10bn per quarter, maxing out at a terminal cap of $50bn.

In Figure 3 we show a range of scenarios looking at size and timing of initial and terminal caps. Our considerations for "best case" and "worst case" scenarios are from the perspective of the probability that the Fed successfully engineers a soft landing.

Figure 3
**Potential Fed QT Scenarios**

| Scenario | Initial Cap ($bn) | Terminal Cap ($bn) | Timing from Initial to Terminal |
|---|---:|---:|---:|
| Base Case | 10 | 50 | 1 year |
| Best Case | 20 | 100 | < 1 year |
| Worst Case | > 20 | > 100 (incl. US Treasury Sales) | < 1 year |

Sources: State Street Global Advisors, Federal Reserve.

Fed officials have recently been more vocal in their support for considering MBS asset sales during this QT cycle. Recent conversations with market participants revealed that investors are not overly concerned about outright selling if the selling is marginal. We think an approach to QT closest to market expectations of the accelerated program shown above will be the best case for investors. Under this scenario, the Fed's imposing a modest floor (e.g. $10bn per month) would provide a number of benefits. It would signal marginal selling; help them wind down their book with speed, predictability, and structure; and likely not be disruptive to the markets.

On the other hand, the worst-case scenario would be if the Fed makes a hawkish policy mistake and inadvertently manufactures a hard landing/recession by being too aggressive in their tightening. If the Fed were to signal an aggressive QT program that exceeds market expectations (e.g. a $50bn floor), this would signal significant outright selling and cause increased volatility as participants reassess the Fed's approach to asset sales.

*What is the likelihood that QT causes yield curve inversion and how might the Fed respond to prevent it?*

Unfortunately you can't prevent what has already happened, with the intermediate part of the yield curve having been inverted for some time. The 5s30s curve inverted recently and the 2s10s very briefly on Tuesday. We think further inversion is likely in Q2 given the following factors:

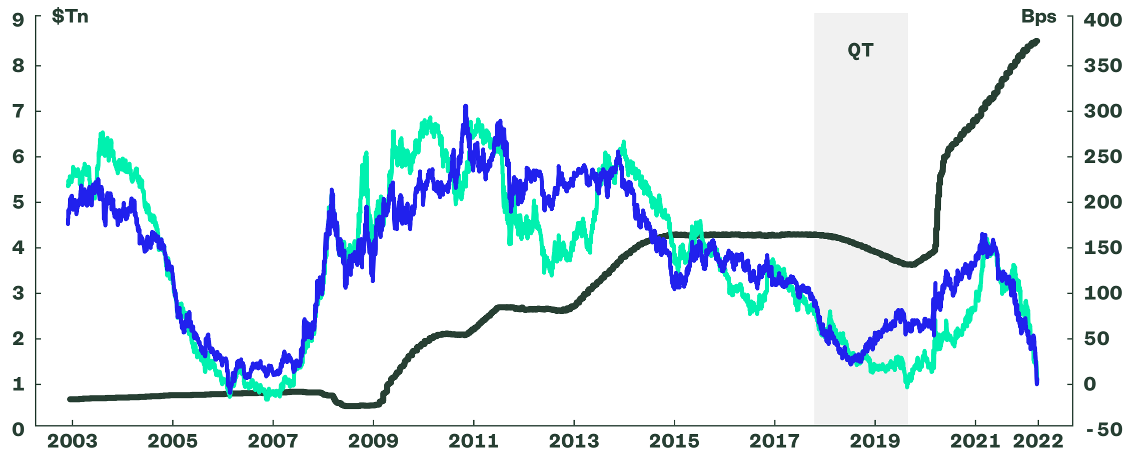
- We're late in the economic cycle;
- The Fed is in the early stages of monetary policy tightening including QT;
- The war in Ukraine exacerbates risks to financial conditions and the economy.

In our view, QT supports curve flattening. The Fed has been buying 5yr and 10yr Treasuries within its quantitative easing (QE) program. With QE tapering done and as the Fed starts to let its balance sheet run off, the Treasury Department won't be reissuing in the 5- to 10-year part of the curve. Rather, they'll be reissuing in T-bills, which supports further flattening.

In the December FOMC minutes some members noted that focusing on the balance sheet while the Fed tightens could help stave off curve flattening, enabling a healthier interest margin environment for financial firms. Others noted the uncertainty as to how different balance sheet policies would affect the shape of the curve.

The reality is the curve is very flat, and the forces we've discussed are exerting further bear flattening pressure on the yield curve. The war in Ukraine and high degree of uncertainty moving forward are likely to accelerate/shorten the economic cycle and speed up curve inversion.
In our view the war has increased inflation risks at the expense of growth, and the Fed is no doubt feeling greater urgency to speed up its tightening, as it may soon have to loosen policy once again if recession risks rise significantly. There may not be much the Fed can do to prevent curve inversion given how flat the curve is and the high degree of uncertainty in the current environment.

Figure 4
**How Much can the Fed do to Materially Change this Picture?**




Sources: Federal Reserve, Bloomberg, as of March 30, 2022.

## Part 3: Quantitative Tightening: Fed Minutes Wrap Up

**Weekly FI Commentary 04/14/2022**

No big surprises from the release of the Fed minutes last week: they outlined what they've been saying they would do, which is allow the balance sheet to run off at a faster pace and larger scale vs. when they did quantitative tightening (QT) in 2018–19. Given the much higher starting point of their $9+tn balance sheet today, the Fed will begin QT quickly, almost certainly at their May meeting, with a fast ramp-up time of three months from initial roll-off to the terminal cap of $95bn/month ($60bn Treasuries, $35bn agency mortgage-backed securities (MBS)). That would imply an initial cap of around $24bn. Recall from our publication two weeks ago that we laid out the following scenarios for the Fed's approach to QT:

Figure 5
**Figure Name**

| Scenario | Initial Cap ($bn) | Terminal Cap ($bn) | Timing from Initial to Terminal |
|---|---|---|---|
| Base Case | 10 | 50 | 1 year |
| Best Case | 20 | 100 | < 1 year |
| Worst Case | > 20 | > 100 (incl. US Treasury Sales) | < 1 year |

Sources: State Street Global Advisors, Federal Reserve.

What the Fed delivered last week was close to the best case scenario, but with a faster ramp up to the terminal cap than what was expected. We consider this "best case" in the sense that the terminal cap is large enough that they'll be able to put a significant dent in the size of the balance sheet over the next few years, but not so large that there's an adverse market reaction — and they should be able to allow QT to run in the background as they'd like.

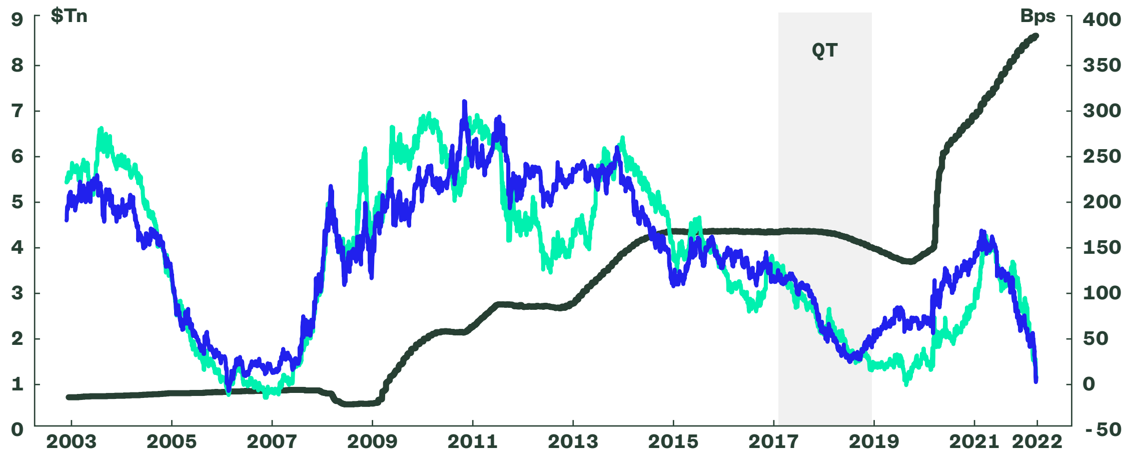
The Fed also acknowledged that agency MBS holdings would roll off the balance sheet very slowly if QT was implemented through reinvestment only, given slow prepayment assumptions as yields have risen strongly. Only 13% of the mortgage universe was refinanceable as of early March, vs. 80% two years ago and 60% 1 year ago, according to Morgan Stanley. Thus, the minutes concluded that (1) MBS would continue to make up a significant share of the Fed's balance sheet "for many years," and (2) MBS sales would be appropriate "after balance sheet runoff was well under way" to enable the Fed to work toward a longer-term SOMA portfolio

comprised of Treasuries. The Fed promised to announce any asset sales well in advance. We think this discussion is likely to heat up later this year, with a growing probability that MBS asset sales happen in 2023.

What are the investment implications? We think QT supports further curve flattening, as we saw when QT was announced back in 2017 and implemented 2018–19 (for further discussion, please see our Q&A pieces on QT parts 1 and 2). We are also cautious on MBS, given our view that spreads have been slower to reflect monetary policy tightening and QT than other sectors and that they remain below long run fair value. Banks and money managers are expected to play a major role in filling the demand gap left by a Fed that is stepping away from the mortgage market, and given the challenged environment, we think they'll have a hard time delivering on those expectations.

Figure 6a
**Figure Name**

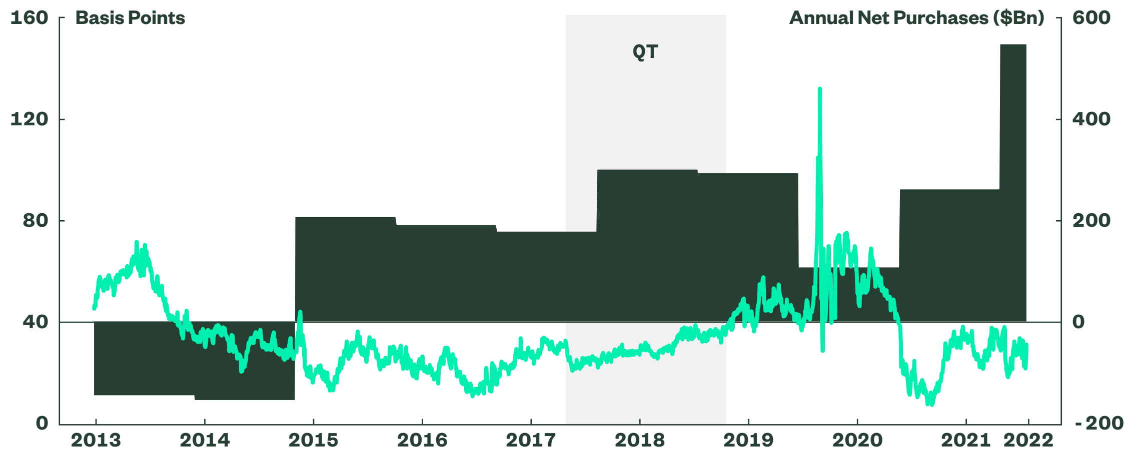
- Fed B/S (LHS)
- 2s10s
- 5s30S




Sources: Bloomberg, Federal Reserve, Bank of America, Morgan Stanley, as of March 31, 2022.

Figure 6b
**Figure Name**

- Banks and Money Mgrs (RHS)
- OAS




Sources: Bloomberg, Federal Reserve, Bank of America, Morgan Stanley, as of March 31, 2022.

Source: State Street Global Advisors.

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