



# INVESTMENT UPDATE

On March 15<sup>th</sup>, 2020 as COVID was spreading like—well, like a global pandemic—the US Federal Reserve announced an immediate injection of \$700 billion to supply liquidity to a panicky US population. Thus, another round of “quantitative easing” was launched, a follow-up to the multi-year period of “QE” that the Fed implemented after the 2008 global financial crisis.

The GFC, as it’s now referred to, marked the first time the US central bank had resorted to QE. It was a move borne out of a lack of options, as the Fed found itself, after lowering the Fed funds rate (the overnight lending rate among banks) to zero percent, unable to further stimulate the US economy using conventional tools. You will recall that home prices were falling, the stock market was crashing, and households were over-levered with high debt levels and high interest expenses. The Fed’s first foray into QE was meant to address these issues.

In essence, QE programs use a country’s central bank to purchase bonds in the open market, soaking up the supply of bonds, which (all things equal) pushes bond prices up and sends bond yields lower. In the years following the GFC, the Fed used successive rounds of QE to bring down longer-term interest rates by targeting purchases of both Treasury and US agency-issued mortgage-backed securities (MBS) to shore up the housing market and to lower the cost of borrowing for households and businesses. When accompanied by effective communication from the central bank, QE also provides a level of assurance to nervous markets that while no investments are free of risk, at least the financial markets will continue to operate with support, if needed, from the government.

Over the years, there’s been some debate regarding how effective QE programs are at suppressing interest rates. As the chart on this page shows, it appears that purchases of government bonds (the stacked green and blue bars) initially brought Treasury yields down from 2009–2013, but 10-year yields rose in 2013–2014, during the third and final round of the post-GFC QE program. There were obviously other factors influencing

interest rates through this period; QE didn’t take place in a vacuum, and we obviously don’t know how rates—and the economy—might have moved in the absence of QE.

Nevertheless, when COVID hit in 2020, the Fed immediately dialed the Fed funds rate to zero and rolled out a QE plan that instantly dwarfed that of the GFC-era program. Whereas the Fed grew its investment portfolio by \$3.7 trillion over a seven-year period from 2008–2015, in March of 2020 alone the Fed purchased more than \$1.2 trillion of Treasuries and MBS—a sum so large it doesn’t fit on our chart. To put that into perspective, the entire basket of marketable Treasuries at the time

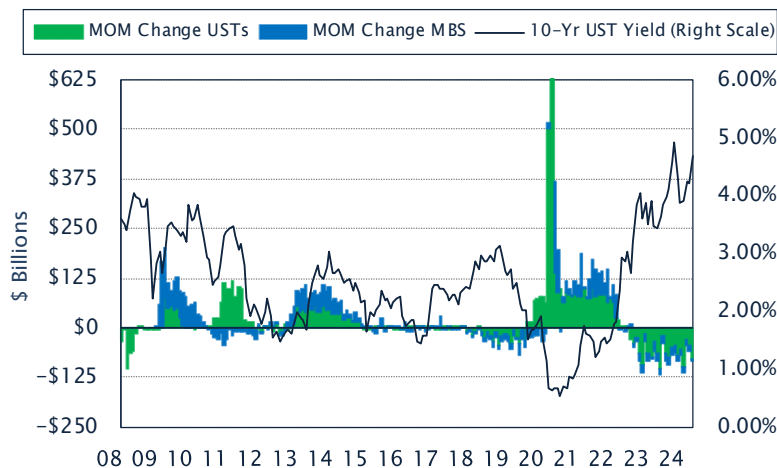
was less than \$15 trillion.

Over the next two years, the Fed continued to purchase bonds at a rapid pace, and by mid-2022 the Fed’s investment portfolio held more than \$5.8 trillion in Treasuries and \$2.7 trillion in MBS—together, nearly \$5 trillion larger than the pre-COVID portfolio.

Buying bonds in giant quantities in order to calm markets, inject liquidity, and bring down interest

rates seems like a no-lose proposition, except for one major flaw: it’s a major headache to reverse out of the QE cul-de-sac. For one thing, investors become inured by the presence of QE—the benefits (such as they are) work silently, and become most apparent only once they are threatened to be taken away. A closer look at the chart shows that after holding the size of its portfolio steady from 2015 until early 2018, the Fed began to allow its investment portfolio to “roll off”—that is, it allowed some bonds to mature (or in the case of MBS, to pay down principal), without reinvesting the proceeds. As a result, the Fed’s investment portfolio shrank by roughly \$500 billion from 2018–2019.

The shrinking of the Fed’s balance sheet was curtailed by COVID, with the result that we only have limited data on the effects of the Fed’s quantitative tightening (QT) episode. This didn’t give investors much comfort when the time came to wind down the COVID QE program in 2022, especially when Fed Chair Jerome Powell declared “I would just stress how un-



certain the effect is of shrinking the balance sheet" when the current QT program debuted in May of that year. The plan, as announced, would see a more rapid roll off of bonds compared to the 2018–2019 QT episode, targeting reductions of Treasury holdings of \$60 billion per month and MBS of \$35 billion per month (both targets were expected to ramp up to these levels after a three month period).

Returning to the chart on the first page, we see that the current QT program has been accompanied by a rapid increase in 10-year Treasury rates, consistent with the concept that interest rates should rise (all else equal) when the Fed is, in essence, selling off part of its investment portfolio. Of course, all else is not equal, and we see that rates had already been rising for almost two years before the Fed's announcement to shrink its balance sheet. Yields on 10-year Treasuries had hit a modern-era low—0.53% in May of 2020, and were already 200 basis points higher when the Fed announced the end of its buying program. The main reason rates were rising was inflation—investors instinctively demand higher bond yields to offset the corrosive effects of rising inflation on future interest and principal payments. Clearly, the QT program didn't help to stabilize the bond market, but QT wasn't the primary driver; rising inflation was the main cause.

Despite its contribution to pushing rates higher over the past couple of years, the Fed's QT program has been successful in shrinking the Fed's bloated balance sheet. From a high-water mark of \$8.5 trillion in 2022, the Fed's investment portfolio now stands at \$6.8 trillion, as more than \$1.7 trillion of bonds have matured or (in the case of MBS) paid down principal. Yet another look, however, at the chart on page one shows that the scheduled combined \$95 billion per month planned runoff has fallen short of its goal, as the average balance sheet run off after two years has been around \$75 billion per month. That \$1.7 trillion decline should have been closer to \$2.2 trillion if things had gone to plan, and the Fed would be dealing with a balance sheet that's almost \$500 billion smaller than it is today.

This brings us to another problem with QT, specifically as it pertains to mortgage securities: MBS have, depending on what happens to interest rates, uncertain maturity schedules. This is the main reason why the run off of the Fed's investment portfolio hasn't kept pace with expectations, and has left the Fed holding a bigger share of its portfolio in MBS than it really wants. Without going into the weeds too deeply, because home mortgage rates are so high right now, fewer existing homeowners are refinancing their mortgage loans. In fact, the gap between current mortgage rates and the average US homeowner's mortgage rate is so wide that many homeowners are putting off the decision to move, or to upsize/downsize their homes, since they don't want (or can't afford) to give up their old, low rate mortgage. With so few early redemptions ("prepayments" in MBS-speak), the effective maturity of bonds collateralized by home

mortgages extends. In other words, the recent period of sticky, high interest rates has kept the Fed's MBS holdings from paying off principal as quickly as it had expected, while Treasury bonds, with known maturity dates, are maturing on schedule.

Fortunately, the Fed has been clear in its communications over the past year or so that MBS prepayments could remain persistently slow, and as a result the markets have been relatively quiescent about the slower pace of the portfolio's run off. And that's just as well, as the Fed announced this month that it would begin slowing the pace of QT nearly two years to the day after announcing the original paydown schedule. The schedule is now set to slow for Treasuries, allowing a run off of \$25 billion per month (down from \$60 billion), while the target for MBS of \$35 billion of run off per month remains in place. Again, without a significant drop in mortgage rates, it's unlikely the MBS roll off target will be met, given how low the refinancing incentive is for most homeowners (MBS have only run off at a pace of \$16 billion/month over the past two years).

Why slow the pace now—and what is the Fed's longer-term plan for its balance sheet, you ask? The reason for the slower pace of run off is to maintain the Fed's commitment to its "ample reserves" policy. As the Fed's investment portfolio (assets) shrinks, the corresponding bank reserves (liabilities) on the opposite side of the balance sheet also decline. Reserves are funds that Federal Reserve-member banks deposit at the Fed, and while those reserves were inflated during COVID, they are now shrinking back down to more reasonable levels. The Fed likes to control the level of reserves in the banking system to ensure that there's sufficient (but not too much) liquidity available for normal operations among member banks. Too few reserves could trigger a liquidity event. As a result, it makes sense for the Fed to set a slower glide path for shrinking both assets and reserves.

As for what is the right size for the Fed's balance sheet? That's the trillion dollar question, and nobody really wants to put a hard number on what the policy-neutral level of reserves might be. Currently, bank reserves at the Fed are still twice as big (even after adjusting for inflation) than they were pre-COVID, so the level of reserves is, to use the Fed's terminology, "ample." In fact, the Fed uses the phrase "ample reserve regime" to describe the entire post-2008 period, where the Fed has tried to err on the side of more reserves rather than undershooting.

While most bond investors are keyed into the Fed's plans for possible cuts in the Fed funds rate—and rightfully so, as it's the Fed's primary tool for adjusting monetary policy—there's good reason to keep an eye on how the Fed manages the winding down of its COVID-era QE program. So far, so good, but given the immense sums of dollars, a big policy error could have a significant impact on our market.