# ECONOMIC VIEWPOINT

# Another Form of Monetary Tightening Continues

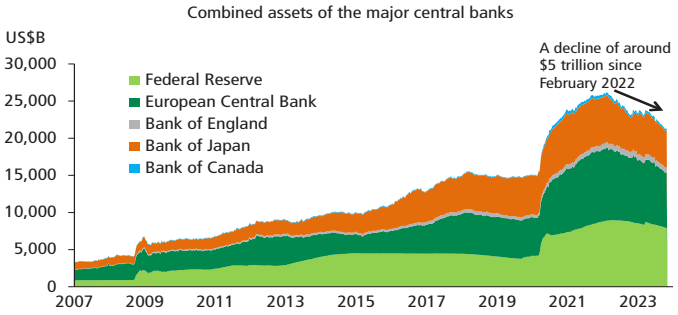
By Hendrix Vachon, Principal Economist

Many central banks appear to have ended their rate-hiking cycles. But interest rate hikes aren't the only mechanism tightening monetary conditions. After bloating their balance sheets during the pandemic, most central banks are currently in a tightening cycle. Unless a major recession or financial instability arises, most central banks will stay on this path in 2024. Since this is reducing the excess liquidity in financial markets, it may be a factor that prevents global bond yields from falling as much as could otherwise be expected.

## Balance Sheets Have Already Shrunk by Almost US$5 Trillion

This Economic Viewpoint will focus on changes to the balance sheets of the five major central banks for the G7 countries and the eurozone. In late winter 2022, the assets of these central banks totalled around US$27 trillion. Since then, this amount has gone down by nearly US$5 trillion (graph 1).

**GRAPH 1**
**Central Bank Balance Sheets Are Shrinking**

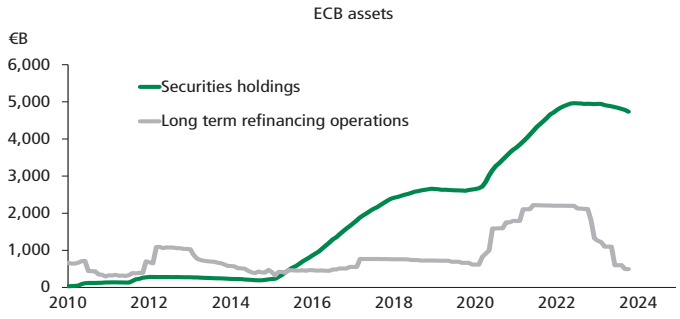



Sources: Datastream and Desjardins Economic Studies

The **European Central Bank (ECB)** has done the most in this respect. At the peak, it held almost €8.8 trillion in assets, representing slightly more than 36% of the total assets for all five major central banks. The most recent figures show that the ECB's assets are now close to €7 trillion. Once converted to US dollars, that's a nearly US$2.4 trillion drop, which factor in the euro's depreciation against the greenback over the same period.

The ECB achieved this reduction in its balance sheet mainly by letting loans granted to financial institutions under its targeted longer-term refinancing operation (TLTRO) program expire. The ECB also started trimming its asset holdings by ceasing to reinvest in securities acquired under its asset purchase program (APP) once they matured (graph 2). It has indicated that it will keep reinvesting in securities acquired under the pandemic emergency purchase programme (PEPP) until at least the end of 2024.

**GRAPH 2**
**The European Central Bank's Long Term Refinancing Operations Are Maturing**




Sources: Datastream and Desjardins Economic Studies

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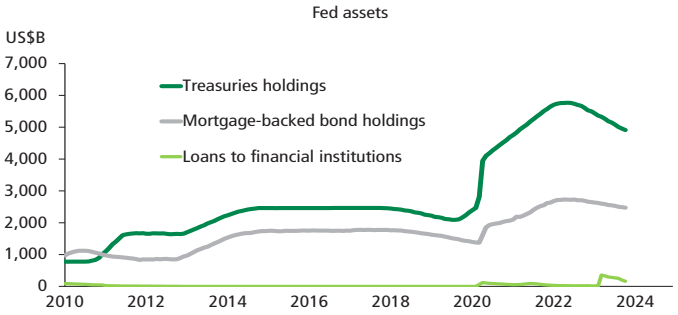
Meanwhile, the **US Federal Reserve (Fed)** has pruned its balance sheet by slightly more than US$1 trillion since its peak. In May 2022, it announced that it would stop reinvesting in some of its assets as they mature. It initially capped the monthly decline at US$30 billion for US Treasuries and US$17.5 billion for mortgage-backed securities until August 2022. It then raised these ceilings to US$60 billion and US$35 billion respectively, bringing the maximum possible decline to US$95 billion. But its balance sheet rarely shrinks by that much, since the value of the securities maturing each month isn't often that high.

**GRAPH 3**
**The Federal Reserve Has Stopped Reinvesting in Securities as They Mature, up to a Maximum of US$95B per Month**



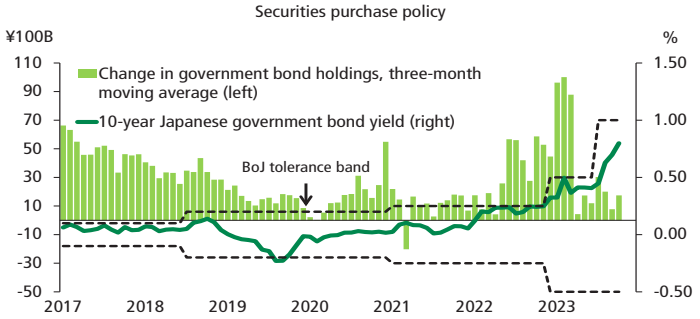

Sources: Datastream and Desjardins Economic Studies

The Fed might have been able to pare more off its balance sheet if it hadn't had to bump up its aid to the financial system in the spring of 2023, when a number of regional banks ran into trouble. As a result, it lent an additional $300 billion to financial institutions even as it cut back its bond holdings (graph 3). But this line item on the Fed's balance sheet has nevertheless already fallen by around half since the spring.

The situation for the **Bank of Japan (BoJ)** is more complex. Its main asset purchase program is still in place and the pace of purchases fluctuates significantly, since it depends on changes in the yield on 10-year Japanese government bonds. The BoJ has a 0% target for this bond yield and buys more bonds if it needs to bring it down. Over the past year, the 10-year yield has stayed well above 0%. This initially forced the BoJ to buy more bonds, but the central bank widened its tolerance band so it could quickly slow down its purchases (graph 4).

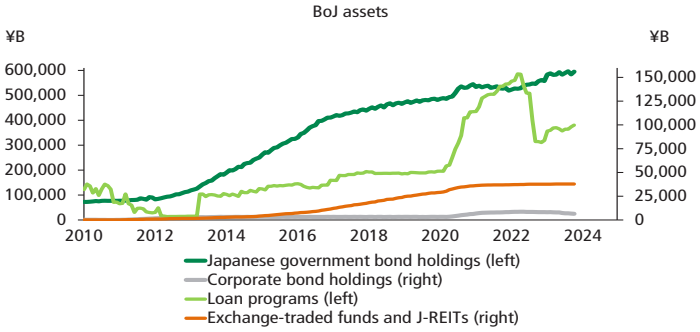
However, certain line items on the BoJ's balance sheet still decreased. That's what happened with the loans it grants through various programs, although they recently started ticking back up (graph 5). The BoJ also began pruning its corporate bond holdings. Meanwhile, its holdings of Japanese real estate investment trusts (J-REITs) and exchange-traded funds have remained relatively unchanged. Overall, the Bank of Japan's balance sheet shrank briefly in 2022, before expanding slightly in 2023. But the yen's sharp depreciation caused the US dollar

**GRAPH 4**
**The Bank of Japan Buys More Bonds When the 10-Year Yield Gets Too High**



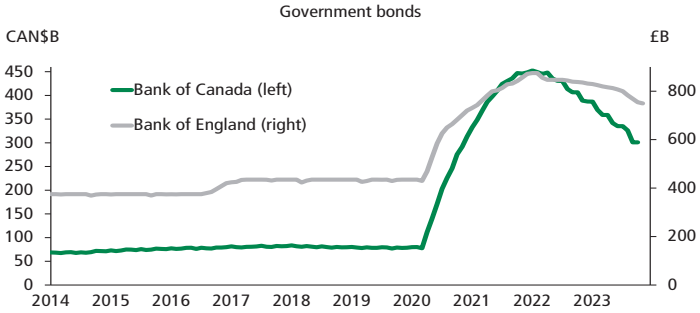

Sources: Datastream and Desjardins Economic Studies

**GRAPH 5**
**The Bank of Japan Has Pared Back on Its Loans More than Anything Else**




Sources: Datastream and Desjardins Economic Studies

**GRAPH 6**
**The Bank of Canada and the Bank of England Are Trimming Their Bond Holdings**




Sources: Datastream and Desjardins Economic Studies

value of the BoJ's balance sheet to sink further. It's fallen by approximately US$1.3 trillion since winter 2022.

The **Bank of England (BoE)** and the **Bank of Canada (BoC)** came in last with a total balance sheet reduction of around US $400 billion, mostly as a result of ceasing to reinvest in their bond holdings as they mature (graph 6). The BoC has not set a cap on this decline, so the amount that rolls off its balance sheet

each month can change significantly depending on how many bonds mature. Meanwhile, the United Kingdom set an annual maximum of £80 billion, which it then increased to £100 billion in October 2023.

## We Won't See Pre-pandemic Levels Anytime Soon

Despite the current pullback, it will be some time before central banks bring their balance sheets back down to where they were before the pandemic. The ECB might even slow the pace of decline slightly, since fewer long-term refinancing operations will be maturing. By the end of 2024, the total value of these maturities could dwindle to just under €500 billion. Maturing securities purchased under the APP would be added to this total. These are expected to reduce the size of the ECB's balance sheet by another €375 billion by the end of 2024[1].

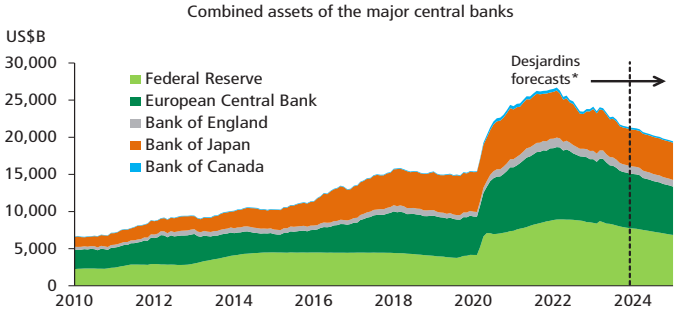
The Fed expects its balance sheet to shrink by about the same amount as in recent quarters. It doesn't expect to hit the US$95 billion cap on securities rolling off its balance sheet very often. Based on the average for the past 12 months, we can expect the monthly drop to be around US $75 billion. That would add up to a total decrease of more than US$1 trillion by the end of 2024, with an additional decline of US$100 billion in loans to the financial system. Of course, this could all change if financial stress ramps back up.

Meanwhile, if the Bank of England sticks to its current pace of £100 billion annually, it would shrink its balance sheet by a total of £120 billion over the last 2 months of 2023 and all of 2024. As for the Bank of Canada, available data on maturities points to a reduction of just over CAN$60 billion by the end of next year[2].

The Bank of Japan hasn't said much about what it plans to do with its balance sheet. The only clear indication is that it wants to trim approximately ¥3 trillion from the current value of its corporate bond holdings. As for its government bond holdings, we can assume that the BoJ will significantly limit its purchases since it's becoming increasingly flexible about achieving its target for the 10-year bond yield. In fact, it could even raise this target along with its policy rate. But even if its government bond holdings level off, the BoJ's lending program to boost credit may slightly inflate its balance sheet. If the program maintains the same pace as the past few months, it would add more than ¥10 trillion to the BoJ's balance sheet by the end of 2024.

Ultimately, our forecasts for the five major central banks suggest that they could trim another $2 trillion off their balance sheets by the end of next year (graph 7). These forecasts assume exchange rates would remain unchanged. Once we factor in our foreign exchange rate forecasts, which see the greenback depreciating later in 2024, the total reduction in the US dollar value of central bank balance sheets wouldn't be quite so high.

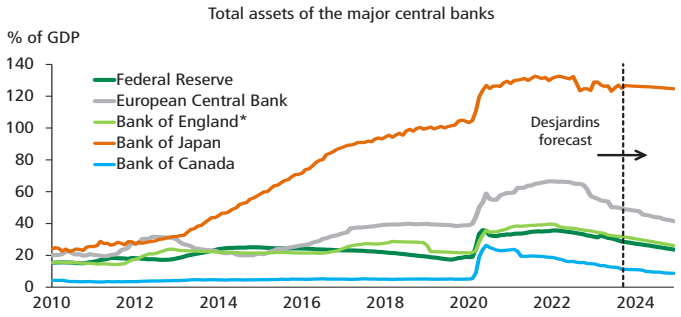
**GRAPH 7**
**Towards an Additional Decline of around $2 Trillion by the End of 2024**




*Forecasts assume constant exchange rates
Sources: Datastream and Desjardins Economic Studies

Another way of analyzing central bank balance sheets is to look at them in terms of the size of the economy. That would eliminate the impact of exchange rates as well as improve historical comparisons. Currently, the size of central bank balance sheets as a percentage of nominal GDP is still well above pre-pandemic levels, but the gap is rapidly decreasing. This is expected to continue next year, taking our economic growth and inflation forecasts into account (graph 8). By the end of 2024, the size of the ECB's balance sheet could be fairly close to its 2019 average, with a difference of less than 2.5 percentage points. The difference for the BoC and the BoE would be slightly less than 4 percentage points, while it would be more than 5 percentage points for the Fed (graph 9 on page 4).

**GRAPH 8**
**Balance Sheet Size as a Share of GDP Is Falling Further**

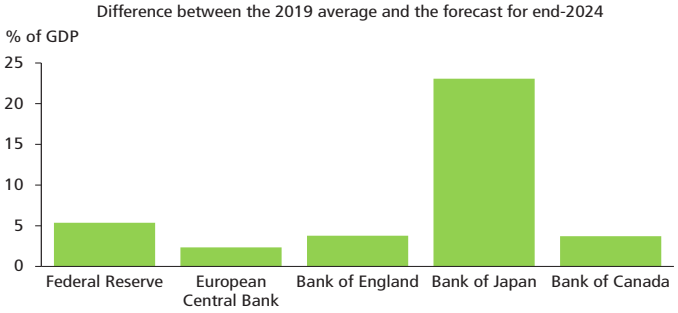



*Estimates using partial data as of October 2014
Sources: Datastream and Desjardins Economic Studies

1
European Central Bank, TLTRO data, accessed November 14, 2023
European Central Bank, APP data, accessed November 14, 2023

2
Bank of Canada, data on federal bonds, accessed on November 14, 2023
Bank of Canada, data on other securities held, accessed on November 14, 2023

**GRAPH 9**
**The European Central Bank's Balance Sheet Is Getting Back Faster to Its Pre-pandemic Size**

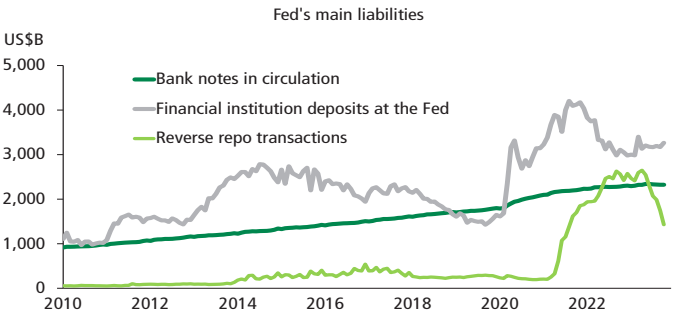



Sources: Datastream and Desjardins Economic Studies

## But This Isn't the Best Way to Measure Excess Liquidity

The size of central bank balance sheets can give us an idea of how the amount of excess liquidity is changing, but it's not the best way to measure it. A more precise measurement would involve looking at central bank liabilities, particularly deposits from financial institutions. In theory, these deposits are surplus money that could be redeployed within the financial system to spur credit growth. Central banks sometimes also use reverse repurchase (reverse repo) agreements to drain some of the excess liquidity. These transactions involve selling securities with a promise to buy them back them later, which temporarily withdraws money from the financial system. The Fed makes heavy use of these kinds of transactions (graph 10).

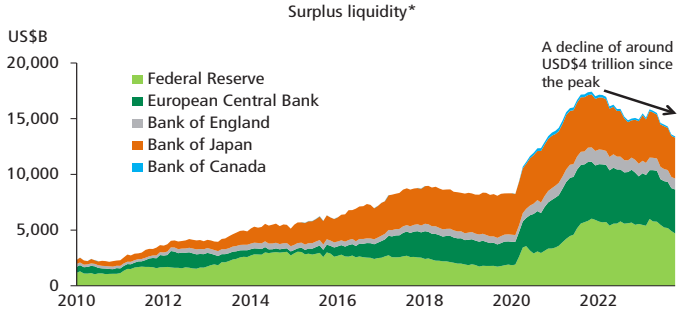
**GRAPH 10**
**The Fed Has Made Heavy Use of Reverse Repo Transactions**




Sources: Datastream and Desjardins Economic Studies

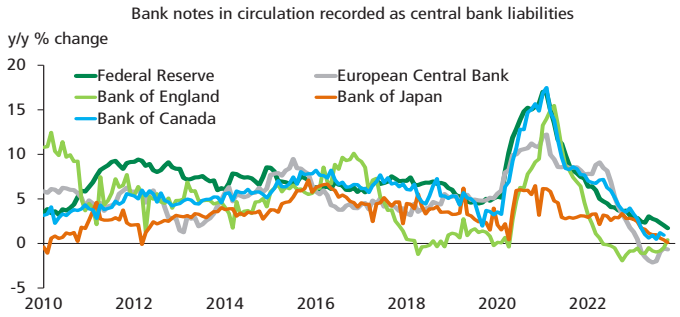
For the five major central banks under discussion, surplus liquidity reached a record high of nearly US$17.5 trillion at the end of 2021. Since then, the surplus has dropped by just over US$4 trillion, which is less than the reduction in central bank balance sheets (graph 11). This may seem counterintuitive, since you might think excess liquidity should go down at least as quickly as the value of central bank assets. It could even be

**GRAPH 11**
**Surplus Liquidity Fell More Slowly than Balance Sheet Sizes**




* Financial institution deposits at central banks and reverse repurchase agreements.
Sources: Datastream and Desjardins Economic Studies

**GRAPH 12**
**The Value of Bank Notes in Circulation Is Growing Much More Slowly**



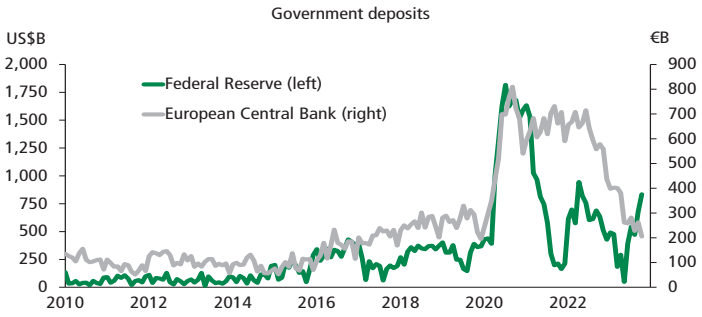

Sources: Datastream and Desjardins Economic Studies

expected to fall faster since bank notes in circulation, which are also a central bank liability, tend to increase over time. That said, the value of bank notes in circulation has grown much more slowly over the past year and even slipped into negative territory in the eurozone and the United Kingdom (graph 12). But this hasn't had a big enough impact to explain why excess liquidity hasn't decreased as much as central bank assets.

The explanation lies with other line items on central bank balance sheets, especially government deposits, which are also included in liabilities. These deposits have been highly volatile in recent years, fluctuating by as much as hundreds of billions of dollars for the Fed and hundreds of billions of euros for the ECB (graph 13 on page 5). If these deposits plummet, other central bank liabilities don't have as much room to drop. Another factor to consider is that sharp interest rate swings are undermining central bank profits. They often need to pay more interest on their deposits than they earn on their assets. In the US, we can see the impact of this reduced profitability since the Fed's capital value, which is on the liability side of its balance sheet, has slipped into negative territory (graph 14 on page 5).

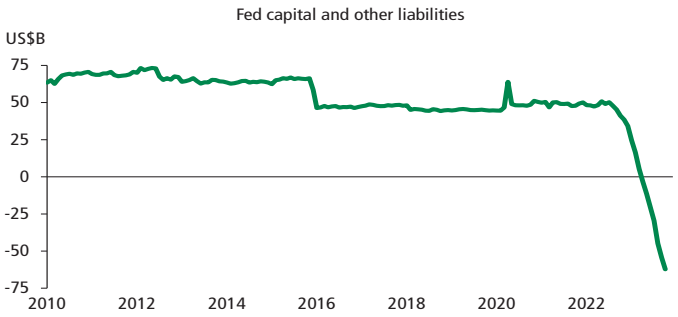
Consequently, predicting excess liquidity can quickly become a complex task. For 2024, we've limited ourselves to just a few

**GRAPH 13**
**Government Deposits Have Been Highly Volatile in Recent Years**




Sources: Datastream and Desjardins Economic Studies

**GRAPH 14**
**The Fed Is Now Losing Money, as Shown by Its Capital Value**

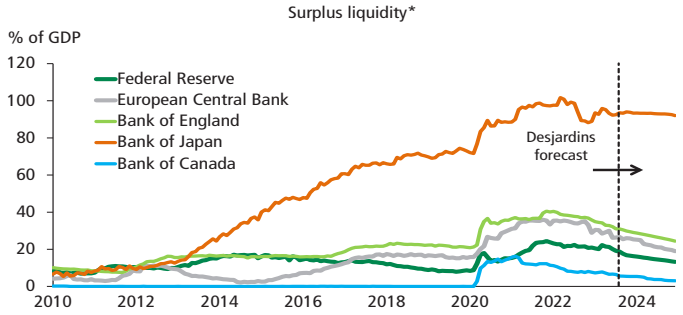



Sources: Datastream and Desjardins Economic Studies

assumptions. Basically, we expect that next year surplus liquidity will fall in proportion to the amount that central bank balance sheets will shrink. We also expect some impact from an uptick in the value of bank notes in circulation, assuming that this growth ends up at around 2% in 2024, which historically speaking would still be low. It's hard to predict how government deposits will change. The ECB's current level already seems close to its pre-pandemic average. For the Fed, government deposits still look much higher than average, which suggests they might fall by around US$300 billion. We've made no assumptions about the Fed's capital or the impact of lower profits at other central banks. We've also assumed that the other balance sheet items won't change.

By the end of next year, we expect surplus liquidity to shrink by around US$1.2 trillion, including the impact of exchange rate movements. If we look at it all as a share of nominal GDP, significant declines seem on the way, but we don't expect any central bank to return to pre-pandemic levels (graph 15). Excess liquidity would still be about 3% higher for the ECB, the BoE and the BoC.

**GRAPH 15**
**Surplus Liquidity Should Fall by the Equivalent of Several More Percentage Points of GDP in 2024**




* Financial institution deposits at central banks and reverse repurchase agreements.
Sources: Datastream and Desjardins Economic Studies

## How much excess liquidity would be just right?

Would going back down to pre-pandemic levels be enough? It's hard to say. The Fed could very well accept such an outcome as it seemed comfortable with the surplus liquidity it had back then. It may get back to where it was prior to the pandemic in late 2025 or early 2026 if it sticks to the same downward trend.

Meanwhile, for the ECB and BoE, the right amount of excess liquidity is probably less than it was before the pandemic. Back then, neither of these two central banks had the time to try to significantly reduce their surplus liquidity. They could need another few years to reach the same level achieved by the Fed prior to the pandemic, if that's what they both decide to do.

The BoC is unusual among this group of central banks because of its lack of surplus liquidity before the pandemic. It probably won't want to fully drain off the current surplus because of the implementation of a real-time payment system and the new operating framework with a floor system that is currently in use (where the overnight rate is equal to the deposit rate). A recent discussion paper talked about a surplus of $20 billion to $60 billion, which could be reached in 2025 at the current pace.

The BoJ hasn't officially begun monetary tightening just yet. That means the size of its balance sheet and the surplus liquidity it maintains won't be going down significantly anytime soon. This excess liquidity currently amounts to more than 90% of Japanese GDP.

## Implications

In conclusion, a lot of surplus liquidity is still floating around, and the process of draining it away is expected to continue through 2024 and even beyond. By the end of next year, the equivalent of nearly US$1.2 trillion could be withdrawn from the financial system. This takes into account our forecast that many currencies will appreciate against the US dollar. If we assume that exchange rates won't change, the amount is larger and may be even higher than the US public deficit expected for next year (around US$1.5 trillion according to the Congressional Budget Office's most recent projections).

That's a heft sum that may affect bond yields. During the pandemic, huge public deficits were funded in part by central banks that printed money to purchase massive amounts of securities. This helped bring down bond yields. Now we're seeing the process work in reverse. This may not be enough to keep bond yields from sliding next year, but it could limit the extent of the drop.

This will be one factor among many that could influence bond yields. They could also be affected by changes to central bank main policy rates, the size of public deficits, private sector financing needs, the willingness of households to save and foreign investors' appetite for these new securities.

The Fed's heavy use of reverse repo transactions could be a mitigating factor. Some of the excess liquidity is temporarily sterilized with these transactions. They currently total more than US$1 trillion. If the reduction in the Fed's balance sheet is followed by a slowdown in its reverse repo transactions, markets may find it easier to absorb the inflow of securities, even if it means taking on more duration risk. The Fed may ultimately have to reduce excess deposits from financial institutions, probably in 2025. However, it may not have to reduce them by much, since excess liquidity could quickly be getting close to where it was as a share of GDP in 2019.