International Monetary Monitor

Date: 11/04/2023
Newsletter No. 17

The Fed: Back to the Drawing Board

By John Greenwood

Introduction and Overview

- Despite the US Treasury's reassurances about the safety of bank deposits, money continues to flow out of banks and into money market funds (MMFs).
- The underlying cause is a design flaw in the Fed's modus operandi, stemming from the Fed's exclusive focus on conducting monetary policy through interest rates, not through control of the money supply.
- During the days of "scarce reserves" the Fed did not pay interest on reserves. Although reserve requirements acted as an implicit tax on banks, resulting in marginally lower returns to depositors, the difference was not enough to generate flows out of banks and into MMFs or other financial institutions.
- However, having substantially raised capital requirements after the GFC, and having conducted numerous rounds of QE so that banks now operate in a regime of "ample reserves", it was unreasonable to expect banks to hold large reserve deposits at the Fed without remuneration. Hence the payment of interest on reserves (IOR) from 2011.
- Another set of reforms involved money market funds. After several MMFs had "broken the buck" in the 2007-08 crisis period, the SEC reformed the structure of MMFs in 2016, making them safer and more liquid.
- However, because "safe" government MMFs have been able, since March 2021, to access the Fed's overnight reverse repo (RRP) window at 5 bp over the lower end of the FF range, they are now attracting funds from the banks.
- While the yield curve remains inverted, and while the overall level of wholesale money market rates remains far above rates available on deposits at banks, the disintermediation threatens the financial stability of smaller banks.
- The combination of record high IOR payments (which discourage banks from lending or purchasing longer-dated securities), and intermediation out of banks and into MMFs spells further declines in broad money (M2).
- Either the US economy will continue towards recession later this year and a steep decline of inflation in 2024, or there will be further bank and non-bank crises in 2023 forcing a more drastic turnaround in Fed policy towards easing.

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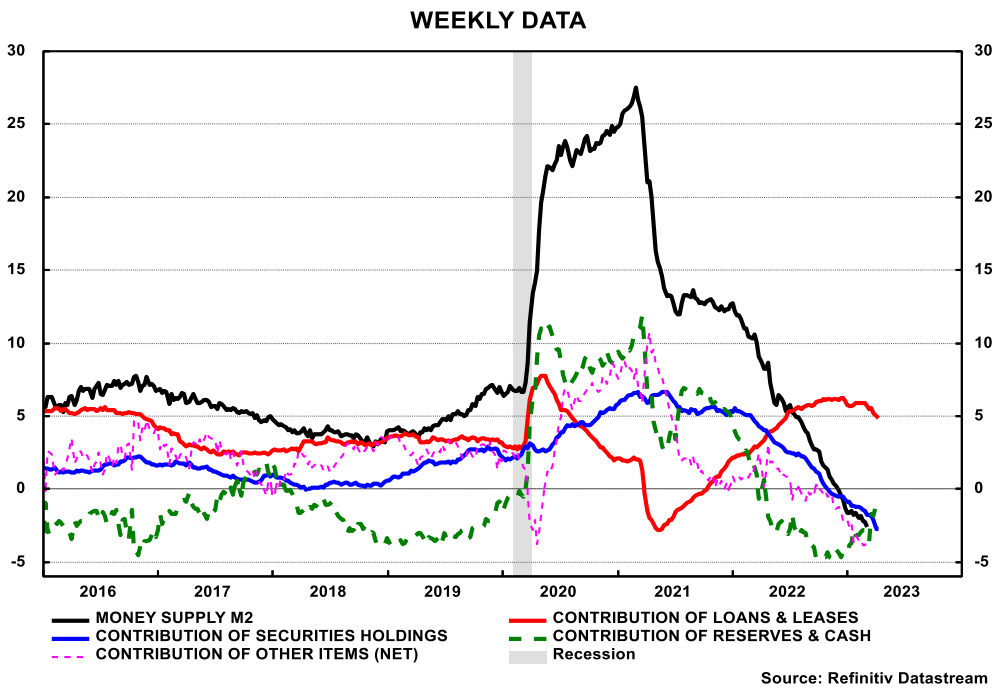
1. The Underlying Problem: Money Supply Shrinkage

Having created excess money growth in 2020-21, which led to inflation in the US economy in 2021-22, the Fed is now faced with the opposite problem: it is not creating enough money. As a consequence, the US faces the prospect of recession in late 2023 or 2024 and a steep decline of inflation in 2024-25. Figure 1 shows the contributions to M2 money growth of the asset counterparts on commercial banks' balance sheets. The sum of the four components – loans, securities, reserves, and other items (the residual) – equals the growth rate of M2.

Figure 1. Loan growth is the only positive contributor to M2 growth.



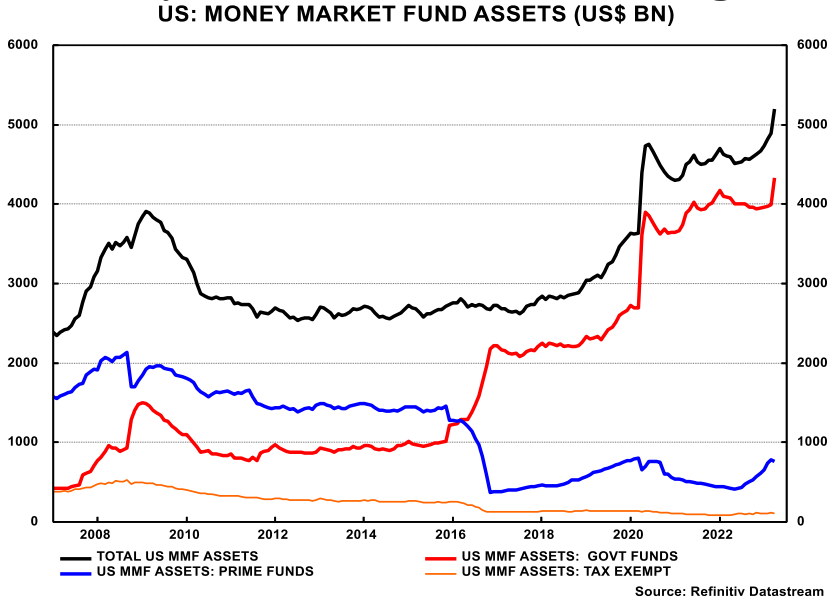
During 2020-21 all four asset counterparts were contributing positively to M2 growth as loan growth was vigorous (at least initially); banks were purchasing securities; the Fed was doing QE and thereby adding reserves to bank's assets; and other items remained positive. By contrast, in 2022-23 banks have been selling securities; since June 2022 the Fed has been doing QT reducing banks' holdings of reserves; and the residual (bank debt, equity issues etc) has been contributing negatively to M2 growth. Only bank lending is growing positively, contributing +4.8 percentage points to M2 growth. The result is a shrinkage in the total stock of broad money M2 of -2.6% over the year to March 3rd.

The purpose of this paper is to show how Fed policies are contributing – intentionally or unintentionally – to this highly contractionary outcome. Since the Fed is not targeting the money supply, the outcomes are mostly unintended results of its interest rate policies or its other strategies. The analysis will show that due to a combination of interest rate strategies pursued by the Fed and the incentives offered to banks and MMFs, deposit funds are flowing out of the banks and the incentives to

banks to expand their balance sheets by making loans or purchasing securities are gradually diminishing as rates rise.

2. The Flows into Money Market Funds

Figure 2. Money Market Fund balances at new high of $5.2 tn.



The recent runs on Silicon Valley Bank, First Republic Bank, and Signature Bank together with the illiquidity of – and losses suffered by – these banks' long-term (HTM or Hold-to-Maturity) security portfolios tiggered their closures and/or acquisition by other banks. The runs also led to the US Treasury announcing that deposit guarantees would be extended to all depositors at these banks, even to those depositors with funds in excess of $250,000. More recently with the further steepening of the yield curve, and despite the US Treasury's reassurances about the safety of bank deposits, money has continued to flow out of banks and into money market funds (Figure 2).

The underlying cause of this disintermediation is a design flaw in the Fed's modus operandi, resulting from the Fed's insistence on managing monetary policy through close interest rate control rather than focusing on the broad money supply. But first we must understand what has happened with money market funds and the menu of rates available from the Fed.

Figure 2 above shows the total assets of US MMFs since the GFC. In the early days of the 2007-09 crisis several funds "broke the buck" – meaning that the assets held by MMFs declined below $1.00 per share in value. Funds were liquidated or asset managers were compelled to compensate shareholders. As a consequence, the SEC introduced reforms in 2016 that divided the two main classes of funds into government funds (99.5% of whose assets could only be invested in cash, short-duration Treasury bills, or repos on T-bills) and prime funds (whose assets could be invested in more risky, private sector assets such as commercial paper). All

institutional funds were required to adopt variable net asset values (NAVs), and only some retail government MMFs were able to maintain fixed NAVs per share of $1.00. Liquidity fees and redemption gates also became mandatory.

The chart shows the dramatic realignment of the industry in 2015-16, with government fund assets rising strongly and prime fund assets falling – each by more than $1 trillion. Not surprisingly, when the Covid pandemic struck in March 2020 there was a dash-for-cash and government MMFs surged by another $1.2 trillion to $3.9 trillion by the beginning of May 2020. The assets of government MMFs were maintained at close to $4 trillion until the start of March 2023 and since then they have jumped by a further $300 billion.

3. The Fed offers near-market returns on reserves and on O/N RRPs.

During the days of "scarce reserves" before the GFC the Fed did not pay interest on reserves. In 2007 the Fed's total balance sheet was less than $1 trillion: cash currency accounted for around $800 billion, and the level of reserves held by banks was generally well below $20 billion. Although the lack of remuneration on reserves acted as a tax on member banks, since the level of reserves was so low, the overall cost to the banks in revenue foregone was small. Naturally, this resulted in marginally lower interest rates paid to depositors, but this was not enough to encourage flows out of banks and into MMFs or other financial institutions. Competition ensured a narrow range of rates in the money markets among banks and non-banks (including MMFs).

Figure 3. The menu of rates now available from the Fed.

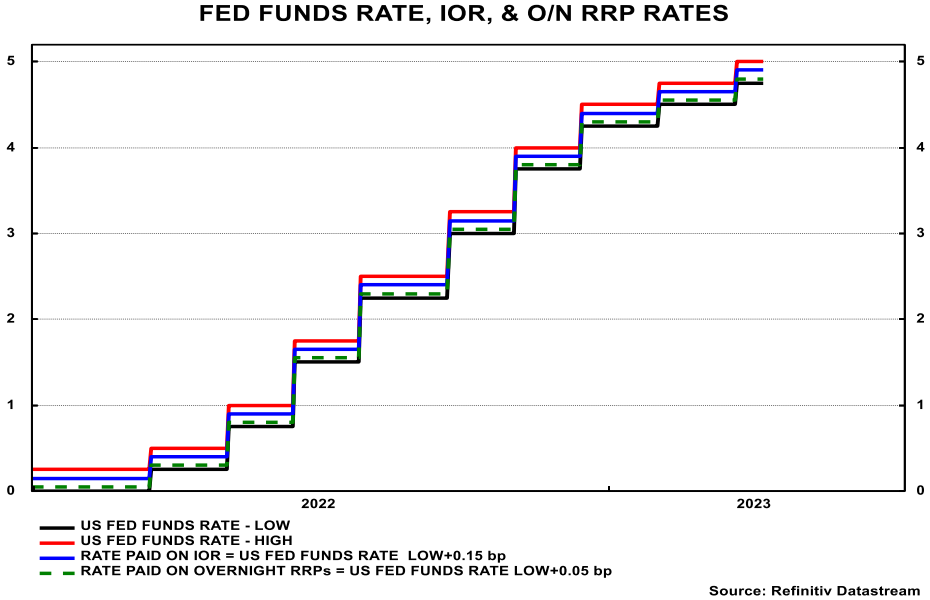


Figure 3 shows four rates: the upper and lower bounds of the Fed funds range, and the two intermediate rates for IOR and O/N RRPs. It should be mentioned that the Fed also offers an open-ended repo rate to lend funds to borrowers on its asset side.

However, after the GFC regulators substantially raised capital requirements for commercial banks and the Fed conducted numerous rounds of QE so that banks built

up large amounts of reserves. The Fed designates the new regime one of "ample reserves". Moreover, since it was unreasonable to expect banks to hold large reserve deposits at the Fed without remuneration, the Fed obtained authorisation from Congress to start paying interest on reserves (IOR) from 2011. Currently, the IOR rate is set at the lower bound of the Fed funds range plus 15 basis points (equal, in April 2023, to 4.75% +0.15% = 4.90%) as shown by the blue line in Figure 3.

In addition, because the Fed is hyper-anxious to ensure that all money market rates trade within or close to the Fed funds range of 25 basis points, it has also opened a facility for MMFs and FHLBs to place overnight funds with the Fed at the lower bound of the Fed funds range plus 5 basis points (i.e., 4.75% +0.05% = 4.80%) as shown by the green dashed line in Figure 3.

All this follows from the Fed's view that monetary policy is solely about setting short-term interest rates. The orthodox FOMC belief is that changes in the Fed funds rate will create a "liquidity effect" on financial conditions sufficient to steer the economy and inflation. But this leads the Fed to ignore any possibility of feedback effects from either excess or inadequate money growth – such as the crisis in the repo market in September 2019, or the excess money growth in 2020-21 followed by the emergence of inflation in 2021-22. In fact, the 2019 repo crisis led the FOMC to double down on interest rate control by offering the RRP facility and the open-ended repo facility – both measures designed to keep money market interest rates within the narrow bounds of the Fed funds target range. As I explained in the previous issue of this Newsletter (#16), this prioritisation of the overnight interest rate over all other objectives has led the FOMC into conducting a highly erratic monetary policy when measured in terms of the rate of growth of broad money.

Figure 4. The effect of offering O/N RRPs to MMFs.

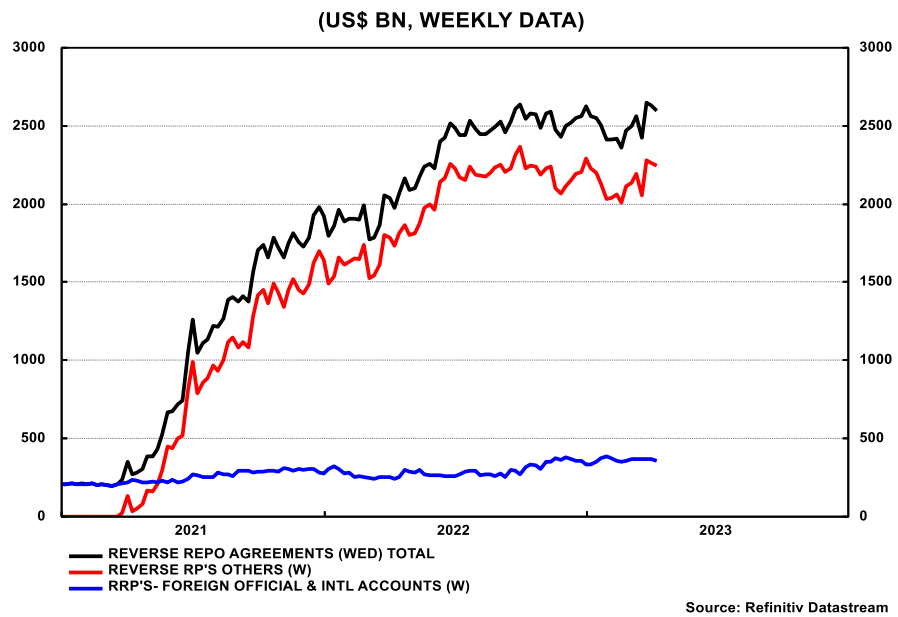


Figure 4 shows the absolute size of the disintermediation effect. Total RRPs include funds held by foreign official accounts and domestic entities such as MMFs and

FHLBs. The foreign official accounts are generally about $250-350 billion. However, as Figure 4 also shows, starting in March 2021 the New York Fed opened the O/N RRP facility to MMFs and FHLBs (who are not member banks and therefore do not benefit from the IOR available to member banks). The effect was immediate. Whereas foreign official and international accounts (shown in blue) did not increase their holdings of RRPs very much, domestic MMFs with funds available started to place substantial deposits with the Fed. By June 2022 the daily amounts from domestic sources were exceeding $2 trillion, and the latest data show placements of close to $2.3 trillion daily. This is equivalent to 42% of MMF assets being placed at the Fed every day.

While this policy is designed to ensure that the range for the Fed funds rate dominates all other rates in the market (because the Fed's IOR and RRP rates are more attractive than other rates), the policy also appears to threaten the financial stability of smaller banks. This has happened because government MMFs are now viewed as "safe" and have stable NAVs per share, and because they now benefit from the Fed's offer at the overnight RRP window of 5 bp over the lower end of the Fed funds range. The result is that government MMFs are attracting funds from those banks that are unwilling or unable to pay full market rates on deposits. This has led to a substantial shift of funds (or disintermediation) from banks to MMFs. Since March 2022 bank deposits have fallen $363 billion while assets in MMFs have risen $304 billion to $5.2 trillion.

Figure 5. The surge in O/N RRPs by MMFs.

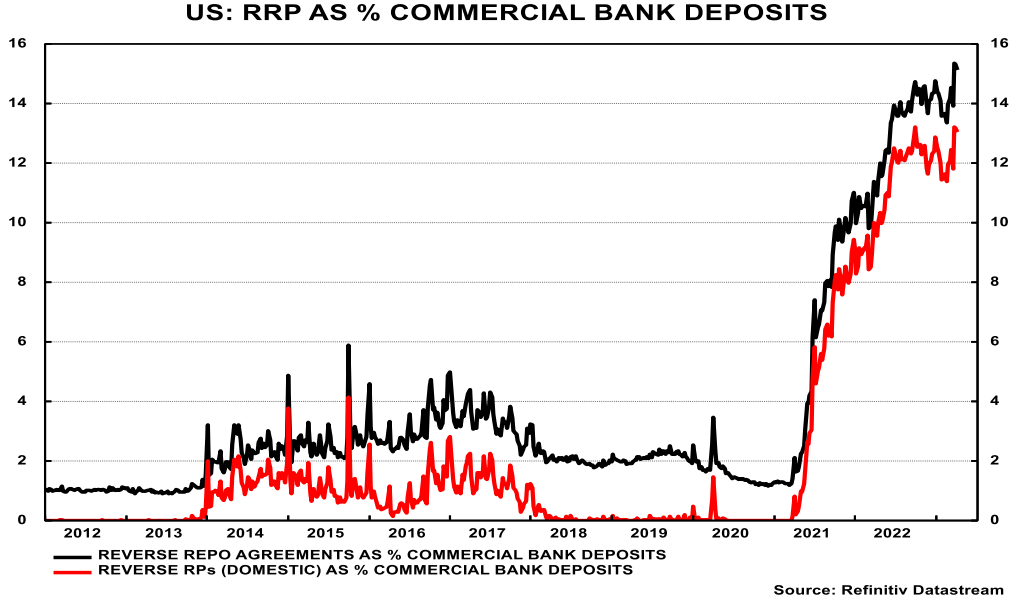


Figure 5 shows the volume of O/N RRPs as a percentage of total deposits in the US commercial banking system. Using weekly deposits of all commercial banks in the United States and ignoring RRPs done by foreign official and international entities, as of April 7th RRPs had drained just over 13% of deposits from the banking system.

Summary and Conclusion

- Despite the US Treasury's reassurances about the safety of bank deposits, money continues to flow out of banks and into MMFs.
- The underlying cause of this disintermediation is a design flaw in the Fed's modus operandi.
- During the days of "scarce reserves" the Fed did not pay interest on reserves. Although reserve requirements acted as an implicit tax on banks, resulting in marginally lower returns to depositors, the difference was not enough to generate flows out of banks and into MMFs or other financial institutions.
- However, having substantially raised capital requirements after the GFC, and having conducted numerous rounds of QE so that banks now operate in a regime of "ample reserves", it was unreasonable to expect banks to hold large reserve deposits at the Fed without remuneration. Hence the payment of IOR.
- Another set of reforms involved the money market funds. After several had "broken the buck" in the 2007-08 crisis period, regulators reformed the structure of MMFs, giving Prime funds variable NAVs and only allowing Government funds to set their NAV per share at $1.00.
- However, because government MMFs are "safe" and because they now benefit from the Fed's offer at the overnight RRP window of 5 bp over the lower end of the FF range, they are attracting funds from the banks.
- This disintermediation threatens the financial stability of banks as long as the yield curve remains inverted, and as long as the overall level of wholesale money market rates remains far above rates available on deposits at banks.
- The combination of record high IOR payments (which discourage banks from lending or purchasing longer-dated securities), and intermediation out of banks and into MMFs spells further declines in broad money (M2).
- Either the US economy will continue towards recession later this year and a steep decline of inflation in 2024, or there will be further bank and non-bank crises (from disintermediation or the effect of the previous sharp rate hikes) in 2023 forcing an even more drastic turnaround in Fed policy towards easing.
- Investors should maintain high levels of liquidity and hold only trading positions in equities.
- Be ready for more severe equity declines later this year (or early next year) when a US recession takes hold and be prepared for more substantial declines in commodities and real estate.

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