



# A Very Different Federal Reserve Funding Model

Bill Nelson | June 16, 2021

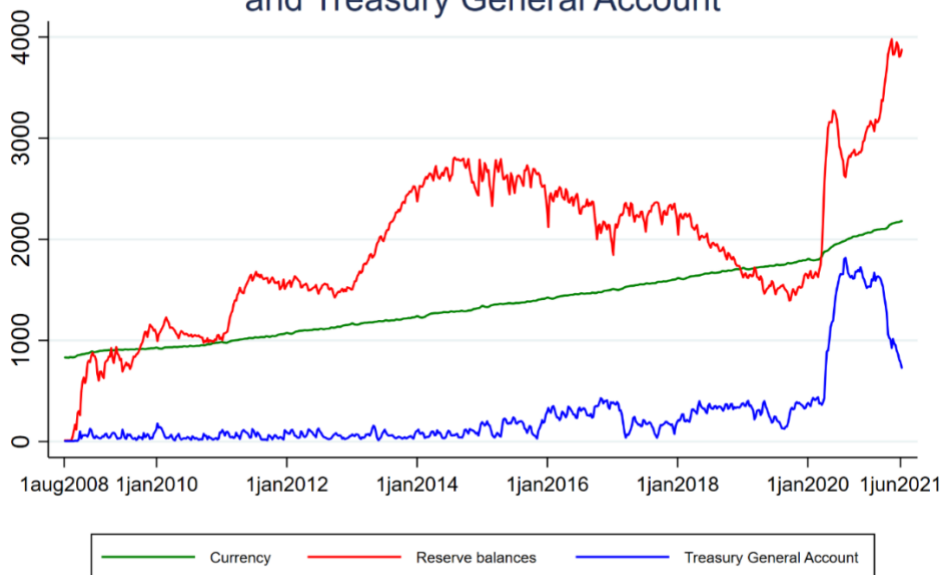
Most people never consider how the Federal Reserve is funded, or actually think of it as funded at all. But Federal Reserve funding has important consequences, and a quiet revolution in that funding has occurred over the past dozen years. Whereas the Fed used to be funded almost entirely by currency, funding from banks is now nearly twice as important as currency, and funding from Treasury and foreign official institutions is considerable as well. Perhaps most revolutionary, beginning in April the Fed has relied on funding from money market mutual funds to finance its continued growth.

## FED FUNDING SOURCES

### Currency

Traditionally, the Federal Reserve has funded itself almost entirely through the issuance of perpetual, interest-free bonds – better known as currency. The Federal Reserve’s assets were relatively small, and thus currency could supply 93 percent of its funding needs. (See line 1 of table 1 and the green line in exhibit 1.) And currency pays no interest, meaning that the Fed would almost always turn a profit on its balance sheet.<sup>1</sup>

Exhibit 1: Currency, Reserve Balances, and Treasury General Account



Source: Board of Governors of the Federal Reserve System (US).

<sup>1</sup> If interest rates were negative, the combination of a zero-interest-paying liability and negative-interest-earning assets could result in negative net interest margin.

## Banks

As a result of the Global Financial Crisis, however, the Federal Reserve grew its balance sheet dramatically, and currency issuance could not fund that growth. Thus, between 2009 and 2014, the Fed also borrowed massively from commercial banks in the form of deposits by those banks at the Fed called “reserve balances.” (Reserve balances are an asset of the bank and a liability of the Fed.) (See line 2 of table one and the red line in exhibit 1.) To attract reserves, the Fed offered an attractive rate of interest.<sup>2</sup> Reserve balances exceeded currency as the Fed’s most important source of funds from 2009 through 2018 when, with the Fed slowly allowing its securities portfolio to run off, currency briefly again took the top spot. Reserve balances eclipsed currency again when the Fed needed to finance its massive asset purchases in response to the COVID-19 crisis – purchases that are continuing. Reserve balances are now more than twice the size of outstanding currency.

## The Treasury Department

Another source of Fed funding is the Treasury. Historically, the Treasury had placed most of its deposits – basically, tax receipts that had not yet gone out as federal spending – at commercial banks. A 2019 BPI blog – [“Two Little-Noticed and Self-Inflicted Causes of the Fed’s Current Monetary Policy Implementation Predicament”](#) – explains why the Fed’s borrowing from the Treasury (in the form of the Treasury’s deposit at the Fed, the “Treasury General Account” or TGA) has increased. (See line 3 of table 1 and the blue line in exhibit 1). In the fall of 2008, the Treasury increased the TGA to help the Fed finance its emergency lending. From 2009-2015, the interest rates that banks paid on Treasury deposits (along with all other market rates) were essentially zero, but the interest rate the Fed paid on deposits was 25 basis points; therefore, the Treasury kept funds in the TGA and out of direct bank deposits because it saved taxpayers money. Even though the Fed does not pay interest on the Treasury General Account, it invests the funds in government securities and remits the interest earned to Treasury; moreover, the TGA deposits reduce banks’ reserve deposits one-for-one, allowing the Fed to lower the interest expense it incurs when it pays banks interest on reserve balances. With all of Treasury’s cash in the TGA, the account rose further in 2015 when the Treasury reassessed the amount of cash it needed for emergencies. In total, the TGA rose from \$5 billion on average before the GFC to \$1.8 trillion in July 2021 and has fallen since.

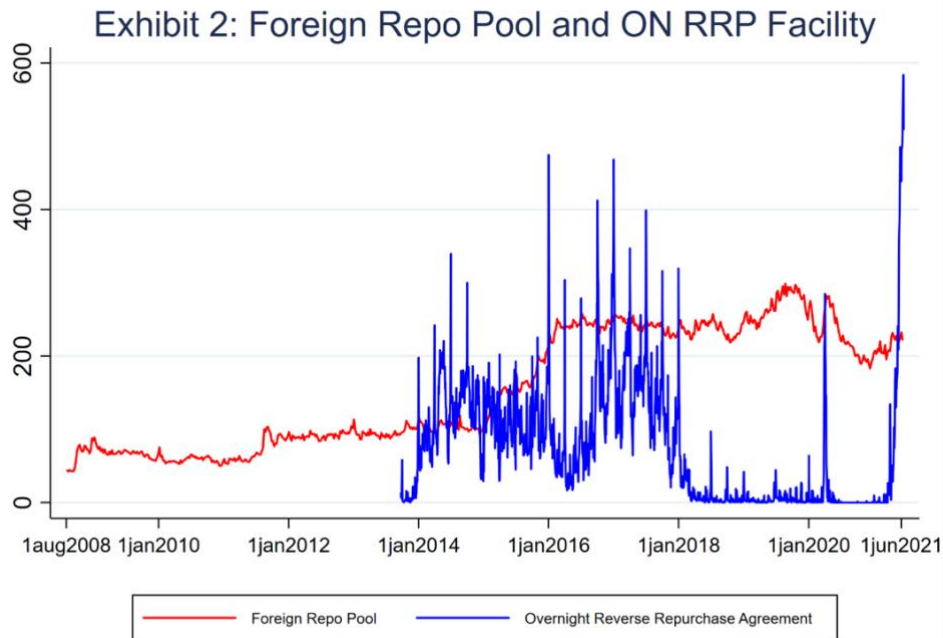
Table 1							
Fed creditors*							
		June 27, 2007		December 25, 2019		June 9, 2021	
		\$billion	percent	\$billion	percent	\$billion	percent
1	Public (currency)	775	93	1,754	43	2,180	28
2	Banks	10	1	1,648	40	3,917	49
3	Treasury	4	0	352	9	674	9
4	Foreign official	30	4	254	6	246	3
5	Money market funds	0	0	0	0	503	6
6	Other	17	2	114	3	394	5
7	Total	836	100	4,127	100	7,913	100

\*Data are from the Federal Reserve’s H.4.1 statistical release. “Foreign official” includes foreign RRP’s and foreign deposits.

<sup>2</sup> While the banking system as a whole has to hold whatever reserve balances the Fed creates, each bank voluntarily chooses the amount it wishes to hold so the Fed must pay a rate of interest on deposits sufficient for those individual holdings to add up to the aggregate supply. In fact, as discussed in this note, even the aggregate level of reserve balances is no longer fixed because borrowings from money funds is a substitute.

### Foreign Official Institutions

Foreign official institutions lend money to the Federal Reserve in two ways. First, foreign central banks and international and multilateral organizations have accounts at the Fed. Second, the Fed sweeps balances in those accounts into the “Foreign Repo Pool.” As described in the 2019 BPI blog cited above, the use of the Foreign Repo Pool rose rapidly after the GFC because the New York Fed removed constraints on its use and raised the interest rate a bit relative to other alternatives; moreover, commercial banks probably became more reluctant to hold foreign deposits because of higher capital requirements. (See line 4 of table 1 and the red line of exhibit 2).



Source: Board of Governors of the Federal Reserve System (US).

### Money Market Funds

In April of 2021, the Fed’s expanding assets exceeded the capacity of currency, reserve balances, foreign official institutions, and the TGA, which was declining, to finance. Instead, the Fed started funding its additional growth by borrowing heavily from money market mutual funds. (See line 5 of table 1 and the blue line of exhibit 2.) The Fed borrows from money market mutual funds at its Overnight Reverse Repurchase Agreement (ON RRP) facility, where the Fed receives cash from money funds and provides Treasury securities as collateral. The Fed pays banks 10 basis points for deposits, but it pays money market mutual funds 0 basis points. Nevertheless, since the beginning of April, Fed borrowing from banks in the form of reserve balances has been roughly flat while Fed borrowing from money funds at the ON RRP facility has grown by \$500 billion.<sup>3</sup>

It became relatively more profitable starting in April for money market funds to lend to the Fed at a zero rate of interest than for banks to do so at 10 basis points because the amount of capital a bank must maintain to make a loan to the Fed rose sharply. In response to the COVID crisis, the Fed had excluded reserve balances from the calculation of the supplementary leverage ratio (SLR). On March 19, 2021, despite the massive amount of reserve

<sup>3</sup> For a primer on the ON RRP facility and a prediction of its current growth, see the BPI blog “[The Overnight Reverse Repurchase Agreement Facility](#),” April 30, 2021.

balances created by QE, the Fed announced that the exclusion would expire as scheduled on March 31.<sup>4</sup> Perhaps anticipating the consequence of making it more expensive for banks to lend to the Fed, two days earlier the Fed had announced that it was raising the \$30 billion per counterparty cap on the ON RRP facility – which had existed since the official start of the facility in 2015 – to \$80 billion.

#### ISSUES ASSOCIATED WITH BORROWING FROM MONEY MARKET MUTUAL FUNDS

The FOMC had imposed the per-counterparty cap because it had some significant concerns about the ON RRP facility. The FOMC discussed the facility at length at several meetings in 2014, and the transcripts and minutes to the meetings enumerate the concerns:

- An uncapped ON RRP facility could cause financial instability during flights to safety in times of stress. Investors would shift out of commercial paper or bank deposits, sources of funding for the real economy, and into money funds that invested in the facility.
- The facility could significantly increase the Fed’s footprint in the nonbank financial sector.
- The facility would involve interacting regularly with nontraditional counterparties.
- If the interest rate offered on the ON RRP facility was too close to the IORB rate, the fed funds market, which then, as now, consisted almost entirely of GSEs (which do not receive interest on their deposits at the Fed) lending to banks, would collapse because the GSEs would instead lend to the Fed directly at the ON RRP facility.

As noted, to mitigate these concerns, the FOMC imposed a per-counterparty limit of \$30 billion and also explicitly stated that the ON RRP facility was only a temporary tool to assist with liftoff of the fed funds rate above the zero lower bound at a time when reserve balances were elevated.

Given the Fed’s actions, it would be tempting to conclude that the Fed has decided that these concerns are not that big of a deal after all. Not only has the Fed nearly tripled the counterparty cap, but it is also ramping up the ON RRP facility to fund ongoing growth, not as a temporary liftoff tool. The New York Fed is projecting that the Fed will acquire an additional \$1 trillion in securities by the end of next year, and the Treasury is planning on reducing the TGA significantly from its current level. If the Fed borrows from money market mutual funds to finance the expansion and fill the gap left by less borrowing from Treasury, then the ON RRP facility could approach \$2 trillion next year.

But the Fed cannot have concluded that the concerns are no longer relevant, because just two weeks ago it reiterated almost the same concerns it raised about the ON RRP facility with regard to what it calls “Pass-Through Investment Entities” or “PTIEs” but what most people call narrow banks. PTIEs, which only exist as a concept currently, would take wholesale deposits and invest exclusively in reserve balances.

On May 5, 2021, the Fed proposed new rules governing the applications for accounts by PTIEs (available [here](#)), reiterating concerns that the Fed had raised a year earlier when proposing that PTIEs earn low or zero interest on accounts (see [here](#)). In the proposals, the Fed indicated that PTIEs could attract destabilizing inflows during periods of stress, sapping funds from commercial banks and nonfinancial firms. The Fed also expressed concern that PTIEs could cause the fed funds market to collapse by providing GSEs better places to invest their excess cash.

Ironically, during the extensive discussion about the ON RRP facility at the April 2014 FOMC meeting, both President Rosengren and President George noted that “segregated balance accounts” might be a means to accomplish the objectives of the ON RRP facility without its attendant financial stability risks. Segregated balance

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<sup>4</sup> For additional information on how the SLR may be contributing to growth in the ON RRP facility, see the BPI blog “[Take-up at the Federal Reserve’s ON RRP Facility: Much Larger and More Persistent than Planned, Getting Larger, and the Reasons Why](#),” June 8, 2021.

accounts would have been bank deposits collateralized by reserve balances. They were discussed several times by the FOMC as a potential means to support liftoff by essentially extending access to reserve balances to anyone who invested in the accounts. Conceptually, PTIEs are just segregated balance accounts housed in a free-standing entity.

The Fed has repeatedly emphasized that money market funds are a source of instability in the financial system while banks are a source of strength. For instance, the “[funding risk](#)” section of the Fed’s most recent financial stability report begins: “Vulnerabilities from liquidity and maturity mismatches remain low at large banks, but structural vulnerabilities persist at some types of money market funds as well as bond and bank loan mutual funds.”

When the Fed adopted the SLR it projected reserve balances to decline to \$25 billion, not rise to \$4 trillion. As the Board deliberates how best to adjust the regulation to suit the current situation, it may wish to count as a cost of inaction on permanent SLR relief its growing reliance on financing from the money market mutual fund industry.

## CONCLUSION

These extraordinary times have called for extraordinary actions by the Fed and novel sources of funding. The Fed’s current plan is to keep expanding its holdings of Treasuries and agency MBS at its current pace of \$120 billion a month until it has made “substantial further progress” on both its inflation and employment objectives. As long as it is expanding, it will need to continue to increase its reliance on a range of funding sources including money market mutual funds. In fact, it may soon have to raise the interest rate it pays on borrowings from money funds above zero to keep money market rates from becoming negative.

In time, the Fed will stop expanding and even begin to contract its portfolio of securities either by simply allowing securities to mature without reinvestment or perhaps even by selling securities. Eventually, perhaps in several years, it will return to relying almost entirely on commercial banks and the public as its investors. That time would be hastened if the Fed reduced the capital charge it imposes on banks, but not money funds, for lending to it.

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