PAGE ONE Economics®

Temporary Open Market Operations and Large-Scale Asset Purchases

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> "The temporal quality of all things was being firmly impressed upon me."
> —George Peppard

Introduction

The Federal Reserve, the central bank of the United States, uses **monetary policy** to promote maximum employment and price stability. In doing this, the Federal Reserve employs tools such as open market operations and the use of interest on excess **reserves**. When banks hold large amounts of reserves, the scale of traditional **open market operations** is not sufficient to influence the short-term lending rate of commercial banks. Moreover, when those short-term interest rates are close to zero, unconventional monetary policy tools may be needed to support the flow of credit to households and businesses.

Monetary Policy Target Ranges and Interest Rate on Excess Reserves

The Federal Reserve's **Federal Open Market Committee (FOMC)** adjusts monetary policy to match economic conditions by raising or lowering its target range for the federal funds rate, the rate that banks charge each other for overnight loans. To steer the effective federal funds rate, keeping it above its lower-limit target rate and below its upper-limit target rate, the Federal Reserve began paying interest on excess reserves (IOER) in October 2008. The Federal Reserve now uses the IOER rate as its principal tool for guiding the federal funds rate within the target range.[1] Between December 2015 and December 2018, as the federal funds target range was raised from 0-0.25 to 2.25-2.50, the IOER rate was raised nine times. Similarly, between August 2019 and the time of this writing, the federal funds target range was lowered from 2.25-2.50 to 0-0.25, and the IOER rate was lowered five times.

Figure 1 shows that the effective federal funds rate has stayed within the target range—except for one single day, September 17, 2019. Although banks hold large amounts of reserves, these are not equally liquid across all financial institutions. That is, some types of assets are more easily convertible into cash—with relatively little loss of value in the conversion process—than others. A temporary imbalance in the interbank supply

GLOSSARY

Fannie Mae (Federal National Mortgage Association): Public-private enterprise established as a federal agency in 1938 and chartered by Congress as a private company in 1968. Its mission is to provide liquidity and stability to the U.S. housing and mortgage markets by bundling mortgage loans into tradable securities.

Federal Open Market Committee (FOMC): A Committee created by law that consists of the seven members of the Board of Governors; the president of the Federal Reserve Bank of New York; and, on a rotating basis, the presidents of four other Reserve Banks. Nonvoting Reserve Bank presidents also participate in Committee deliberations and discussion.

Freddie Mac (Federal Home Loan Mortgage Corporation): Government-sponsored enterprise chartered by Congress in 1970. Its mission is to provide liquidity, stability, and affordability to the U.S. housing market by purchasing mortgage loans from lenders.

Monetary policy: Central bank actions involving the use of interest rate or money supply tools to achieve such goals as maximum employment and stable prices.

Mortgage-backed securities: Debt obligations, such as bonds, that represent claims on the interest and principal payments of residential mortgage loans. Most of these securities are issued by the government-sponsored enterprises Fannie Mae and Freddie Mac.

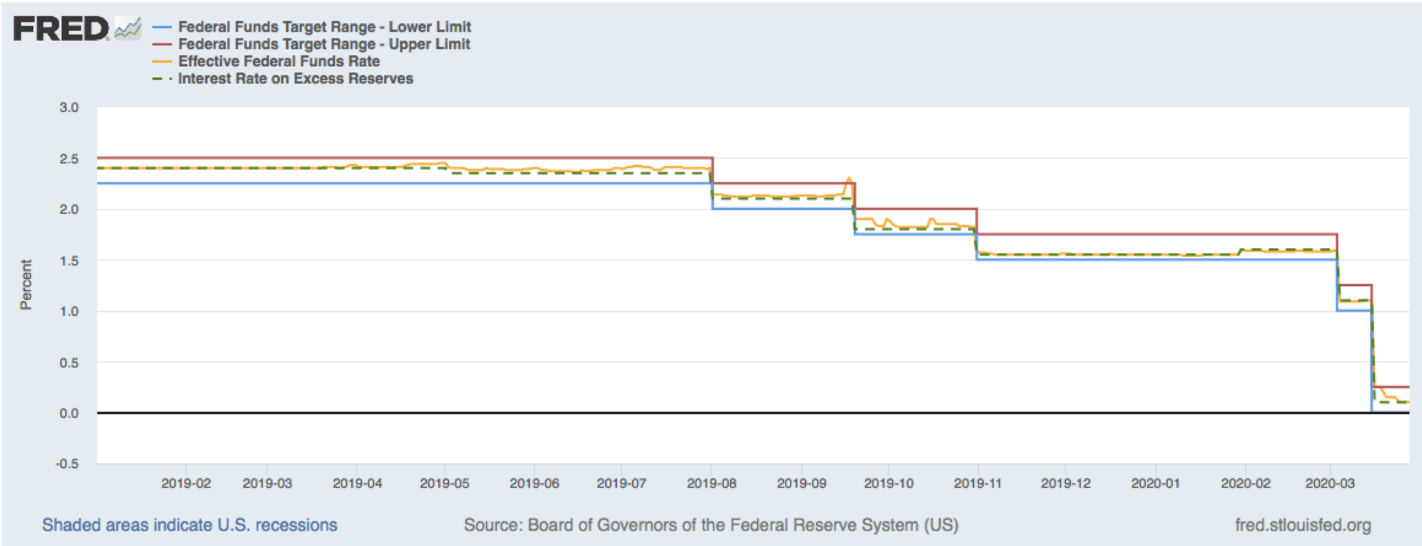
Open market operations: The buying and selling of government securities through primary dealers by the Federal Reserve in order to influence the money supply.

Reserves (bank): The sum of cash that banks hold in their vaults and the deposits they maintain with Federal Reserve Banks.

Treasuries: The collective name for the bills, bonds, and notes issued by the U.S. Treasury on behalf of the federal government.

Figure 1

Effective Federal Funds Rate, Upper and Lower Target Ranges, and Interest Rate on Excess Reserves



SOURCE: FRED®, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/graph/?g=qNol.

and demand for short-term funding resulted in that spike in the federal funds rate.

Temporary Open Market Operations

The Federal Reserve Bank of New York conducts open market operations for the FOMC. To maintain the effective federal funds rate within the target ranges, the FOMC has directed the New York Fed to increase overnight bank reserves by purchasing securities from financial institutions through temporary open market operations.

Overnight repurchase agreements, which is the technical name of these temporary open market operations, are either repurchase agreements (*repos*) or reverse repurchase agreements (*reverse repos*). Under a repo, the New York Fed buys a security today under an agreement to resell that security to the same seller tomorrow. This is a short-term collateralized loan by the Federal Reserve that increases reserves in the banking system. Under a reverse repo, the New York Fed sells a security today under an agreement to buy that security back from the purchaser tomorrow. This is short-term collateralized borrowing by the Federal Reserve that decreases reserves in the banking system. Both repos and reverse repos are temporary because their effect on bank reserves is reversed automatically without further action.

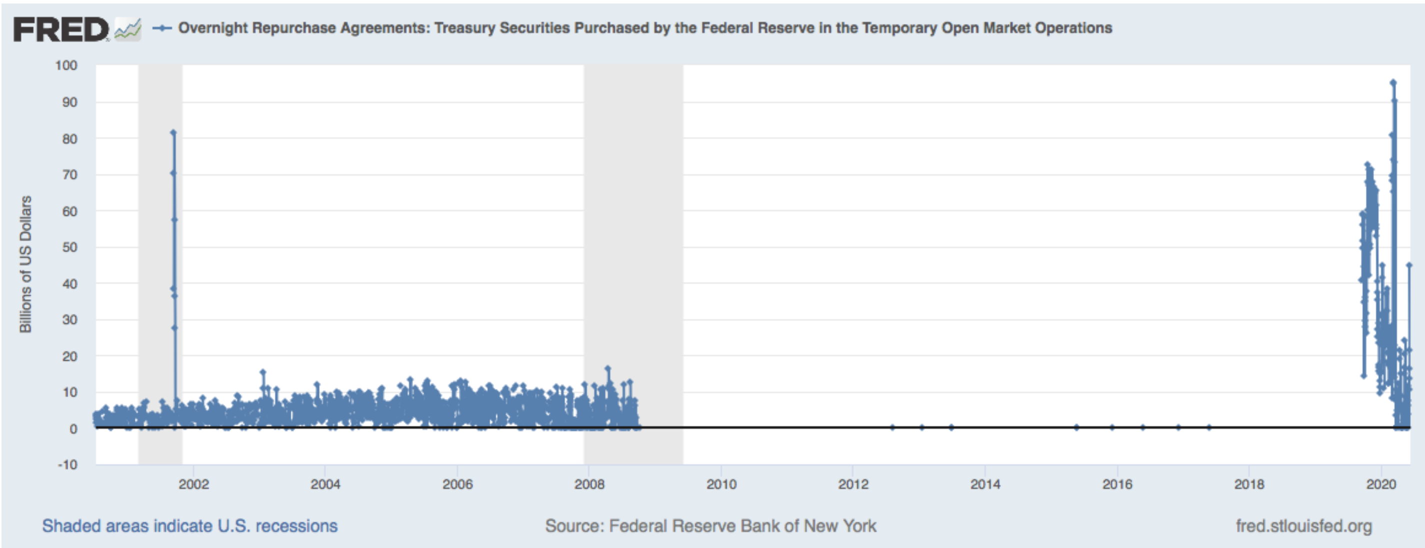
The Federal Reserve System used these temporary open market operations prior to 2008 to provide short-term liquidity to banks and ensure the federal funds rate was at target. Because the smooth functioning of financial markets is key to U.S. households and businesses having access to credit, temporary open market operations are very important for addressing the short-term reserve needs of financial institutions.

As Figure 2 shows, the Trading Desk at the New York Fed conducted temporary open market operations almost daily between 2000 and late 2008, and only sporadically between 2008 and late 2019 because reserves were quite abundant during that period. The size of each operation depends on daily market conditions. Because of the different scales of purchases, some data points look like an ant parade at the bottom of the horizontal axis! But that is a lesson in data visualization better left for another day.

Large-Scale Asset Purchases

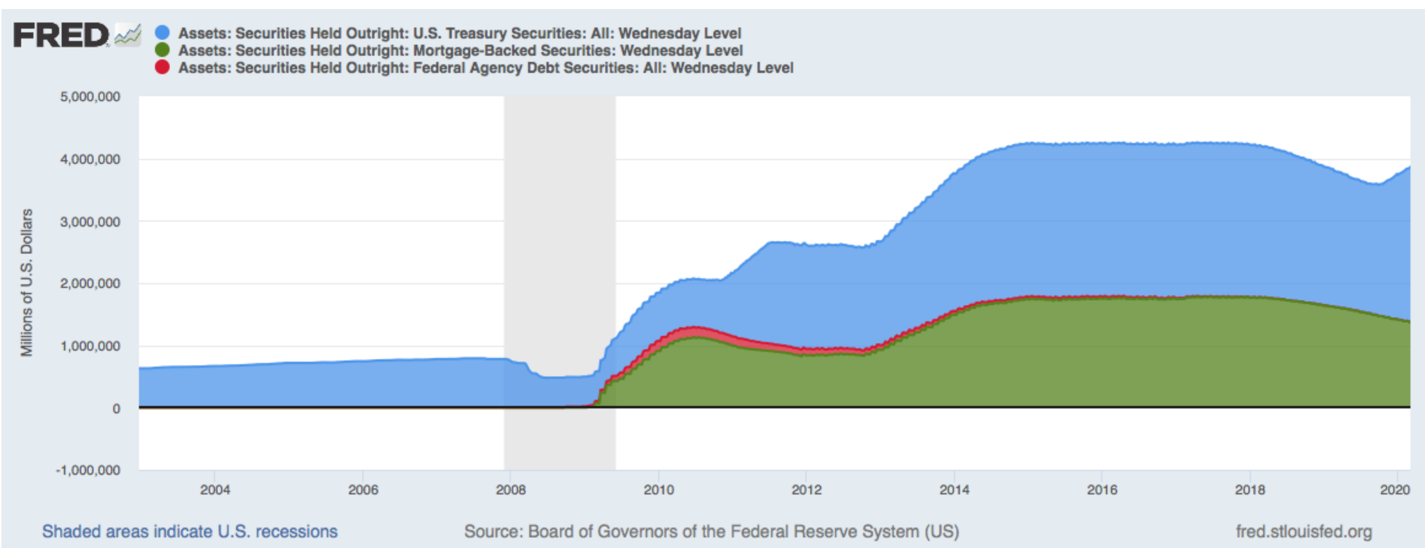
The Federal Reserve has also used other monetary policies to support the flow of credit to households and businesses. These policies are called large-scale asset purchase (LSAP) programs—although they are often referred to as “quantitative easing.” LSAP programs are called *unconventional* policy measures to distinguish them from the open market operations described above.

Figure 2
Overnight Repurchase Agreements



SOURCE: FRED®, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/graph/?g=oUQB.

Figure 3
Federal Reserve System Assets



NOTE: Prior to 2008, the Federal Reserve held U.S. Treasury securities (blue) when implementing monetary policy through open market operations. The LSAP programs added mortgage-backed securities (green) and federal agency debt securities (red) to the Federal Reserve portfolio.

SOURCE: FRED®, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/graph/?g=qNtO.

Between 2008 and 2012, three separate LSAP programs were used to lower the interest rate on loans that take months or years to repay.[2] These interest rates are called long-term interest rates and determine the cost of household mortgages and business borrowing—among other types of lending. The LSAP programs acquired long-term **Treasuries** and **mortgage-backed securities** issued by government-sponsored agencies such as **Freddie Mac** and **Fannie Mae**. These two organizations facilitate the workings of the mortgage market by purchasing mortgage loans from lenders and building those loans into tradable securities. Research by Michael Kiley (2018) shows that LSAP programs stimulate overall economic activity.[3]

On March 15, 2020, at the onset of the COVID-19 pandemic in the United States, a fourth LSAP program was announced. This program was expanded on March 23 with the addition of agency debt securities to the previously planned purchases of U.S. Treasury and mortgage-backed securities. By supporting critical financial market functions, the Federal Reserve promotes the stability of the financial system that facilitates access to credit for households and businesses.[4]

As Figure 3 shows, the Federal Reserve started the first three LSAP programs on three separate dates: specifically, November 2008, November 2010, and September 2012. Each program had different sizes, depending on monetary policy projections. The FOMC planned to gradually reduce the holdings of these securities by holding them until they mature, rather than by selling them back in financial markets. The process was called *balance sheet normalization* and started in October 2017. You can see the volume of Federal Reserve holdings of Treasuries and mortgage-backed securities declining soon afterward.

To ensure an ample supply of bank reserves, the Federal Reserve modified its balance sheet normalization process in January 2019. Since August of that year, the New York Fed has been reinvesting all the principal payments from maturing agency debt and mortgage-backed securities into purchasing short-term Treasuries.[5] Figure 3 shows how the balance on mortgage-backed securities has continued to decrease while the balance on Treasuries has increased. As the fourth LSAP program described above unfolds, the balance sheet of the Federal Reserve will show increased holdings of those assets. You can see the latest values of the Federal Reserve's balance sheet in this FRED® graph: https://fred.stlouisfed.org/graph/?g=qqwu.

Conclusion

The strategy to manage monetary policy since 2008 has included employing new tools. Some of these, like the use of IOER, have permanently replaced previous tools. Other existing tools, such as temporary open market operations, are now used more frequently. Finally, unconventional tools, in the form of LSAP programs, have been used on four different occasions to support the flow of credit to households and businesses and promote the stability of the financial system itself. ■

Notes

[1] You can learn more about the management of monetary policy by reading "A New Frontier: Monetary Policy with Ample Reserves"; https://www.stlouisfed.org/education/page-one-economics-classroom-edition/monetary-policy-ample-reserve.

[2] The Federal Reserve Bank of New York describes those three programs in detail here: https://www.newyorkfed.org/markets/programs-archive/large-scale-asset-purchases.

[3] Kiley, M. T. "Quantitative Easing and the 'New Normal' in Monetary Policy." Finance and Economics Discussion Series (FEDS), Board of Governors of the Federal Reserve System, January 2018; https://www.federalreserve.gov/econres/feds/quantitative-easing-and-the-quotnew-normalquot-in-monetary-policy.htm.

[4] The FOMC describes that fourth LSAP program in detail here: https://www.federalreserve.gov/newsevents/pressreleases/monetary20200323b.htm.

[5] The FOMC describes that aspect of monetary policy in detail here: https://www.federalreserve.gov/newsevents/pressreleases/monetary20190320c.htm.

Name______________________________________ **Period**________

Federal Reserve Bank of St. Louis *Page One Economics*®:

"Temporary Open Market Operations and Large-Scale Asset Purchases"

After reading the article, answer the following questions:

1. Which of the following is the most frequently used tool of monetary policy?
   a. Large-scale asset purchases
   b. Interest on excess reserves
   c. Reverse repurchase agreements
   d. Repurchase agreements

2. When the interest on excess reserves is _______________, the effective federal funds rate _______________.
   a. lowered; increases
   b. raised; decreases
   c. lowered; decreases
   d. raised; stays constant

3. What is the technical name of the short-term open market operations conducted by the Federal Reserve Bank of New York?
   a. Overnight repurchase agreements
   b. Large-scale asset purchases
   c. Quantitative easing
   d. Interest rate on excess reserves

4. Which of the following statements about the short-term open market operations conducted by the Federal Reserve Bank of New York is true?
   a. They are unconventional monetary policy tools.
   b. They were used only after 2008.
   c. They target long-term interest rates.
   d. They have been used before 2008.

5. What is the technical name of the monetary policy popularly known as "quantitative easing"?
   a. Large-scale asset purchases
   b. Overnight repurchase agreements
   c. Operation twist
   d. Interest rate on excess reserves

6. Which of the following is an unconventional monetary policy tool?
    a. Federal funds target range
    b. Temporary open market operations
    c. Large-scale asset purchases
    d. Interest on excess reserves

7. Which type of assets are purchased through the LSAP programs?
    a. Short-term assets
    b. Long-term assets
    c. Stocks
    d. Foreign currencies

8. How is the balance sheet of the Federal Reserve "normalized"?
    a. By selling securities back in financial markets
    b. By reinvesting principal payments into new security purchases
    c. By conducting daily temporary open market operations
    d. By holding securities until they mature