13.7: Monetary Policy

Learning Objectives

- Describe monetary policy and the Fed's three main policy tools
- Explain and demonstrate how the central bank executes monetary policy by changing the discount rate
- Explain and demonstrate how the central bank executes monetary policy through changing reserve requirements

The most important function of the Federal Reserve is to conduct monetary policy. Article I, Section 8 of the U.S. Constitution gives Congress the power "to coin money" and "to regulate the value thereof." As part of the 1913 legislation that created the Federal Reserve, Congress delegated these powers to the Fed.

We learned earlier that credit is the grease in an economic system. Central banks use **monetary policy** to manage interest rates and thus the availability of credit. Changes in credit conditions influence the levels of economic activity (i.e. real GDP, employment and prices).

Watch It

First, watch this video for an overview of monetary policy and to understand how the Fed utilizes open market operations, the required reserve ratio, and the discount rate to impact the economy. Afterwards, we will examine these tools in more detail.

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How a Central Bank Executes Monetary Policy

Monetary policy operates through a complex mechanism, but the basic idea is simple. The Fed supplies (or withdraws) reserves to the banking system, which affects the availability of credit generally. (It might be helpful to refer back to "How Banks Create Money" or this video about the money multiplier in the previous module for a review.)

A central bank has three traditional tools to implement monetary policy in the economy:

- **Changing the discount rate**, which is the interest rate charged by the central bank on the loans that it gives to other commercial banks
- **Changing reserve requirements**, which determine what level of reserves a bank is legally required to hold
- **Open market operations**, which involves buying and selling government bonds with banks

First, recall the way banks work. They accept deposits from individuals and businesses, a portion of which they hold as reserves. The remaining deposits are lent out, either as loans or to the government by purchasing Treasury securities.

Every business day, banks receive new deposits and existing depositors make withdrawals. This means that the bank's reserves go up and down. Some days a bank ends up with more reserves than required by the Fed. These are called excess reserves. Other days the bank ends up with fewer reserves than required. This is a problem that needs to be addressed quickly.

One option is to enter the federal funds market. The federal funds market is not affiliated with the federal government. Rather, it is a private market where commercial banks go to lend excess reserves for a 24 hour period to other commercial banks with a reserve shortfall. The **federal funds rate** is the interest rate on these overnight, interbank loans. The federal funds rate is possibly the best indicator of credit conditions on short term loans, and changes in credit conditions are quickly reflected by changes in the federal funds rate. We will see the importance of this later.

Changing the Discount Rate

The Federal Reserve was founded in the aftermath of the Financial Panic of 1907 when many banks failed as a result of bank runs. As mentioned earlier, since banks make profits by lending out their deposits, no bank, even those that are not bankrupt, can withstand a sufficiently long bank run. As a result of the Panic, the Federal Reserve was founded to be a "lender of last resort." In the event of a bank run, sound banks (banks that were not bankrupt) could borrow as much cash as they needed from the Fed's discount "window" to quell the bank run. The interest rate banks pay for such loans is called the **discount rate**. (They are so named because loans are made against the bank's outstanding loans "at a discount" of their face value.) Once depositors became convinced that the bank would be able to honor their withdrawals, they no longer had a reason to make a run on the bank. In short, the Federal Reserve was originally intended to provide credit passively, but in the years since its founding, the Fed has taken on a more active role with monetary policy.

Borrowing from the Fed is an alternative to borrowing in the federal funds market for commercial banks that find themselves short of required reserves. This option created the opportunity for the Fed to more actively conduct monetary policy by raising or lowering the discount rate. If the central bank raises the discount rate, then commercial banks will reduce their borrowing of reserves from the Fed, and instead borrow from the federal funds market, or for more serious needs, call in loans to replace those reserves. The net effects of raising the discount rate will be a decrease in the amount of reserves in the banking system. Fewer reserves will support fewer loans; the money supply will fall and market interest rates will rise. If the central bank lowers the discount rate it charges to banks, the process works in reverse.

In the Federal Reserve Act, the phrase "…to afford means of rediscounting commercial paper" is contained in its long title. Changing the discount rate was seen as the main tool for monetary policy when the Fed was initially created.

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In recent decades, the Federal Reserve has made relatively few discount loans. Before a bank borrows from the Federal Reserve to fill out its required reserves, the bank is expected to first borrow from other available sources, like other banks. This is encouraged by Fed's charging a higher discount rate than the federal funds rate. Given that most banks borrow little at the discount rate, changing the discount rate up or down has little impact on their behavior. More importantly, the Fed has found from experience that open market operations are a more precise and powerful means of executing any desired monetary policy. This is a good example of how monetary policy has evolved and how it continues to do so.

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Watch It

Watch the selected clip from this video to see how the Fed can use the discount rate to impact interest rates.

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Changing Reserve Requirements

A second method of conducting monetary policy is for the central bank to raise or lower the **reserve requirement**, which, as we noted earlier, is the percentage of each bank's deposits that it is legally required to hold either as cash in their vault or on deposit with the Fed. If the Fed were to raise the reserve requirement, banks would have to hold a greater amount in reserves; thus, they have less money available to lend out, and credit would be harder to obtain economy-wide. If the Fed were to lower the reserve requirement, banks would be allowed to hold a smaller amount in reserves, and they will have a greater amount of money available to lend out, increasing the availability of credit.

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At the end of 2013, the Federal Reserve required banks to hold reserves equal to 0% of the first $13.3 million in deposits, then to hold reserves equal to 3% of the deposits up to $89.0 million in checking and savings accounts, and 10% of any amount above $89.0 million. Small changes in the reserve requirements are made almost every year. For example, the $89.0 million dividing line is sometimes bumped up or down by a few million dollars. In practice, large changes in reserve requirements are rarely used to execute monetary policy. A sudden demand that all banks increase their reserves would be extremely disruptive and difficult to comply with, while loosening requirements too much would create a danger of banks being unable to meet the demand for withdrawals.

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Try It

These questions allow you to get as much practice as you need, as you can click the link at the top of the first question (“Try another version of these questions”) to get a new set of questions. Practice until you feel comfortable doing the questions.

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Glossary

[glossary-page]
[glossary-term]discount rate: [/glossary-term]
[glossary-definition]the interest rate charged by the central bank on the loans that it gives to other commercial banks[/glossary-definition]
[glossary-term]federal funds rate: [/glossary-term]
[glossary-definition]the interest rate on overnight, interbank loans.[/glossary-definition][glossary-term]open market operations: [/glossary-term][glossary-definition]the central bank selling or buying Treasury bonds to influence the quantity of money and the level of interest rates[/glossary-definition]
[glossary-term]reserve requirement:[/glossary-term][glossary-definition]the percentage amount of its total deposits that a bank is legally obligated to to either hold as cash in their vault or deposit with the central bank[/glossary-definition][/glossary-page]