In the United States the Fed carries out monetary policy, and in this chapter we look at tools it uses to do so. Monetary policy can mean several different things and the vagueness of the term causes confusion from time to time. When we talk about monetary policy, we mean changes in the one of the tools of monetary policy. These changes may then have consequences for the price level, real output, the interest rate, and so forth; but we will refer to these as the results, effects, or consequences of the policy and not the policy itself.

The Policy Tools

There are three main policy tools in the hands of the Fed, and we have already introduced them in the previous chapter. The three tools are:

1) the discount rate
2) reserve requirements
3) open market operations

We now turn to the details of each.

a. the discount rate

As we mentioned earlier, the discount rate is the interest rate the Fed charges on loans that it makes to banks. In the early days of the Fed the discount rate played an important role in monetary policy. If the Fed wanted to increase the money supply, it would lower the discount rate. The lower discount rate would encourage banks to borrow from the Fed. When the borrowing occurred, the Fed issued new currency in making the loan, and the money supply increased. Raising the discount rate would contract the money supply.
Originally the regional Feds set their own discounts rates, and this gave them a good deal of power. Over time, however, local credit markets have become integrated into a national one, and different regional rates are no longer viable. Moreover, any discount rate change must now be approved by the Board of Governors. In practice, the FOMC decides discount rate changes at its meetings.

Fed lending has also changed over time. The Fed has always made loans to banks that have short-term liquidity problems. For example, the Fed made substantial loans in 1984 to the very large Continental Illinois Bank of Chicago when the Chicago bank suffered severe liquidity problems because of loan defaults. It also lends to some smaller banks in tourist or agricultural areas where loan demand is seasonal, and local banks do not have access to national credit markets. However, when the Fed set the discount rate below other short-term interest rates, it did not, in general, lend to all comers. In particular, it did not lend, or at least continue to lend, to banks that wanted to profit from the differential between the discount rate and the rate at which the bank could lend.

Once the Fed stopped lending to all comers, what was the purpose of the discount rate policy? Many argued that it acted as a signal through which the Fed could announce its intentions to the public. For example, suppose the public feared that inflation was about to accelerate. The Fed could increase the discount rate to allay these fears. Discount rate changes receive considerable publicity, and would signal to the public that the Fed takes the problem of inflation seriously. On the other hand, if the economy turned toward recession, the Fed could lower the discount rate to convey its concern and willingness to act to counter the downturn.

In January of 2003 the Fed changed its discount policy. It now sets the discount rate above other short-term rates. This policy eliminates the incentive to borrow at the discount rate to expand loans since funds may be had cheaper elsewhere. Instead of a cheap source of funds, the Fed now serves in the role of the lender of last resort for banks that are in some trouble or that lack access national credit markets.

b. reserve requirements

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1 Formally, what used to be called the discount rate is now called the primary credit rate. Nevertheless, most economists and commentators still refer to the rate at which the Fed lends to banks as the discount rate and so will we.
The Fed obtained the power to set legal reserve requirements for its member banks in 1935. The power was expanded to include all depository institutions in 1980. The reserve requirement is like a tax. If the Fed raises the reserve requirement, then some assets must be held as reserves instead of loans, and will not earn interest. Higher reserve requirements lower bank profits just like a tax and are an aspect of the Fed's regulatory function. Nevertheless, changes in reserve requirements are usually discussed under the heading of monetary policy because they can have strong effects on bank lending.

Changing reserve requirements has a powerful influence on the lending behavior of banks. For example, suppose the required reserve ratio is 15%. This means a bank that has $5,000,000 in deposits must hold $750,000 as reserves in its vault or as deposits at the Fed. The bank can lend the remaining $4,250,000. Now, if the Fed lowers the required reserve ratio to, say, 10%, required reserves fall to $500,000, and the bank can make $250,000 worth of new loans. Lowering the reserve ratio increases the amount of lending that banks can do, and typically banks welcome reductions in required reserve ratios and oppose increases.

However, any change in reserve requirements, up or down, can be very costly for banks. Banks must carefully manage their assets in order to meet these legal requirements, and changes in the law are followed by costly adjustment periods as bankers learn how best to meet the new requirements. Frequent changes in required reserve ratios would be very disruptive, and would make bank management a more difficult task than it already is. So, though changes in the required reserve ratio can have powerful effects, they are seldom used as a tool of monetary policy. Indeed, the reserve requirement on transactions deposits (checkable-type deposits) has been set at 10% since 1992.²

² This is a bit of a simplification. Reserve requirements are not the same for every dollar of deposits. In August of 2005 the reserve requirement was 0% on the first $7 million, 3% from deposits of $7 to $47.6 million, and 10% on deposits above 10%. The exemption amount, $7 million, and the low reserve tranche, $47.6 million, change more or less on an annual basis. Go here for a history since 1980 www.federalreserve.gov/monetarypolicy/reservereq.htm#table2.
c. open market operations

We listed three monetary tools, and have concluded that the first two are either no longer powerful or not used very often. The third had better be important, and indeed it is. Open market operations, the buying and selling of government securities, are far and away the most important monetary policy tool in the hands of the Fed.

To see how the purchase of a government security changes the money supply, suppose that the Fed buys a government bond from you for $100. You hand over the bond to the Fed, so there is one less government bond in the hands of the public. The Fed pays you by issuing a new $100 bill, and the stock of money increases by $100. When the Fed buys a government security, the money supply increases. This is shown schematically in Figure 20.1.

Now suppose the Fed sells $100 worth of government bonds to the public. When the buyer receives the bond, she pays with $100 in cash, and the supply of currency falls. There is one less $100 bill in circulation, and one more in the stacks at the Fed. When the Fed sells government securities, the money supply declines.

We could complicate the story a little bit, and let the Fed pay or receive payment by check. This would not change our result. Suppose in the above example the Fed wrote you a check instead of giving you a crisp new bill. You would take the check to your bank, and deposit it in your account. That ends the story so far as you are concerned, and if we stopped here, it would look as if the money supply did not change. But the story continues. Your bank will present the check to the Fed. At this stage the Fed just adds $100 to your bank's deposits with them. But
remember, deposits at the Fed are very close substitutes for currency and we count them in the money supply. So, if the Fed pays you with a check, the monetary base increases by the same $100 that it would have had the Fed pay you in new currency. The only difference is that the increase shows up as an increase in deposits at the Fed instead of a larger stock of currency.

Conclusion

The Fed has three policy tools, but of these three only open market operations is employed usefully in the day-to-day conduct of monetary policy. Open market operations have emerged as the dominant tool because they possess several very desirable feature. First, they are divisible in the sense that the Fed may buy relatively few or many government bonds. Open market operations are also anonymous, so the Fed doesn't have to announce its action continuously. Finally, open market operations are reversible in the sense that if the Fed sells too many bonds today, it can buy back some tomorrow at little cost and with little publicity.