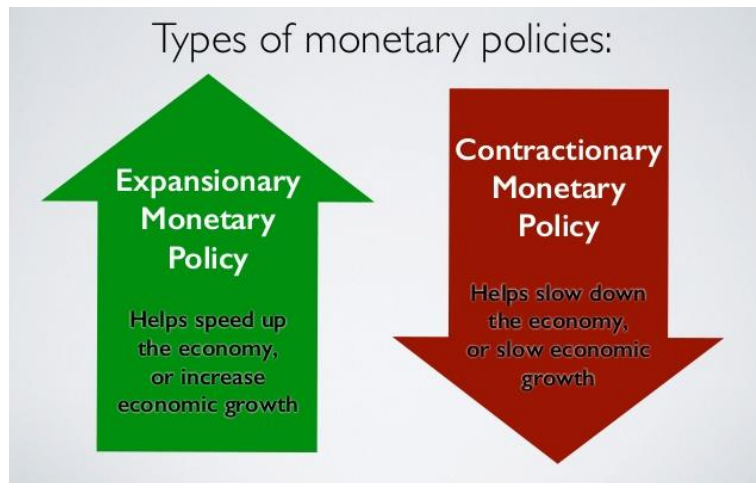


# Monetary Policy



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## Introduction to Monetary Policy

- Reemphasize Chapter 13's points: The Fed's Board of Governors formulates policy, and twelve Federal Reserve Banks implement policy.
- The fundamental objective of monetary policy is to aid the economy in achieving full-employment output with stable prices.
  - To do this, the Fed changes the nation's money supply.
  - To change money supply, the Fed manipulates size of excess reserves held by banks.
- Monetary policy has a very powerful impact on the economy, and the Chairman of the Fed's Board of Governors, Alan Greenspan currently, is sometimes called the second most powerful person in the U.S.

## Consolidated Balance Sheet of the Federal Reserve Banks

- The assets on the Fed's balance sheet contains two major items.
  - Securities which are federal government bonds purchased by Fed, and
  - Loans to commercial banks (Note: again commercial banks term is used even though the chapter analysis also applies to other thrift institutions.)
- The liability side of the balance sheet contains three major items.
  - Reserves of banks held as deposits at Federal Reserve Banks,
  - U.S. Treasury deposits of tax receipts and borrowed funds, and
  - Federal Reserve Notes outstanding, our paper currency.

## The Fed has Three Major "Tools" of Monetary Policy

- Open-market operations refer to the Fed's buying and selling of government bonds.

- Buying securities will increase bank reserves and the money supply (see Figure 15-1).
- If the Fed buys directly from banks, then bank reserves go up by the value of the securities sold to the Fed. See impact on balance sheets using text example.
- If the Fed buys from the general public, people receive checks from the Fed and then deposit the checks at their bank. Bank customer deposits rise and therefore bank reserves rise by the same amount. Follow text example to see the impact.
  - Banks' lending ability rises with new excess reserves.
  - Money supply rises directly with increased deposits by the public.
  - When Fed buys bonds from bankers, reserves rise and excess reserves rise by same amount since no checkable deposit was created.
  - When Fed buys from public, some of the new reserves are required reserves for the new checkable deposits.
  - Conclusion: When the Fed buys securities, bank reserves will increase and the money supply potentially can rise by a multiple of these reserves.
  - Note: When the Fed sells securities, points a-e above will be reversed. Bank reserves will go down, and eventually the money supply will go down by a multiple of the banks' decrease in reserves.
  - How the Fed attracts buyers or sellers:
    - When Fed buys, it raises demand and price of bonds which in turn lowers effective interest rate on bonds. The higher price and lower interest rates make selling bonds to Fed attractive.
    - When Fed sells, the bond supply increases and bond prices fall, which raises the effective interest rate yield on bonds. The lower price and higher interest rates make buying bonds from Fed attractive.
- The reserve ratio is another "tool" of monetary policy. It is the fraction of reserves required relative to their customer deposits.
  - Raising the reserve ratio increases required reserves and shrinks excess reserves. Any loss of excess reserves shrinks banks' lending ability and, therefore, the potential money supply by a multiple amount of the change in excess reserves.
  - Lowering the reserve ratio decreases the required reserves and expands excess reserves. Gain in excess reserves increases banks' lending ability and, therefore, the potential money supply by a multiple amount of the increase in excess reserves.
  - Changing the reserve ratio has two effects.
  - It affects the size of excess reserves.
  - It changes the size of the monetary multiplier. For example, if ratio is raised from 10 percent to 20 percent, the multiplier falls from 10 to 5.
  - 4. Changing the reserve ratio is very powerful since it affects banks' lending ability immediately. It could create instability, so Fed rarely changes it.
  - 5. Table 15-2 provides illustrations.
- The third "tool" is the discount rate which is the interest rate that the Fed charges to commercial banks that borrow from the Fed.

- An increase in the discount rate signals that borrowing reserves is more difficult and will tend to shrink excess reserves.
  - A decrease in the discount rate signals that borrowing reserves will be easier and will tend to expand excess reserves.
- "Easy" monetary policy occurs when the Fed tries to increase money supply by expanding excess reserves in order to stimulate the economy. The Fed will enact one or more of the following measures.
  - The Fed will buy securities.
  - The Fed may reduce reserve ratio, although this is rarely changed because of its powerful impact.
  - The Fed could reduce the discount rate, although this has little direct impact on the money supply.
- "Tight" monetary policy occurs when Fed tries to decrease money supply by decreasing excess reserves in order to slow spending in the economy during an inflationary period. The Fed will enact one or more of the following policies:
  - The Fed will sell securities.
  - The Fed may raise the reserve ratio, although this is rarely changed because of its powerful impact.
  - The Fed could raise the discount rate, although it has little direct impact on money supply.
- For several reasons, open-market operations give the Fed most control of the three "tools."
  - Open-market operations are most important. This decision is flexible because securities can be bought or sold quickly and in great quantities. Reserves change quickly in response.
  - The reserve ratio is rarely changed since this could destabilize bank's lending and profit positions.
  - Changing the discount rate has little direct effect, since only 2-3 percent of bank reserves are borrowed from Fed. At best it has an "announcement effect" that signals direction of monetary policy.

### **Monetary Policy, Real GDP, and the Price Level: How Policy Affects the Economy**

- Cause-effect chain:
  - Money market impact is shown in Key Graph 15-2.
    - Demand for money is comprised of two parts (Recall Chapter 13).
      - Transactions demand is directly related to GDP.
      - Asset demand is inversely related to interest rates, so total money demands is inversely related to interest rates.
    - Supply of money is assumed to be set by the Fed.
    - Interaction of supply and demand determines the market rate of interest, as seen in Figure 15-2(a).
    - Interest rate determines amount of investment businesses will be willing to make. Investment demand is inversely related to interest rates, as seen in Figure 15-2(b).

- Effect of interest rate changes on level of investment is great because interest cost of large, long-term investment is sizable part of investment cost.
- As investment rises or falls, equilibrium GDP rises or falls by a multiple amount, as seen in Figure 15-2(c).
- Expansionary or easy money policy: The Fed takes steps to increase excess reserves, which lowers the interest rate and increases investment which, in turn, increases GDP by a multiple amount. (See Column 1, Table 15-3)
- Contractionary or tight money policy is the reverse of an easy policy: Excess reserves fall, which raises interest rate, which decreases investment, which, in turn, decreases GDP by a multiple amount of the change in investment. (See Column 2, Table 15-3)
- Aggregate supply and monetary policy:
  - Easy monetary policy may be inflationary if initial equilibrium is at or near full-employment.
  - If economy is below full-employment, easy monetary policy can shift aggregate demand and GDP toward full-employment equilibrium.
  - Likewise a tight monetary policy can reduce inflation if economy is near full-employment, but can make unemployment worse in a recession.

### **Effectiveness of Monetary Policy**

- Strengths of monetary policy:
  - It is speedier and more flexible than fiscal policy since the Fed can buy and sell securities daily.
  - It is less political. Fed Board members are isolated from political pressure, since they serve 14-year terms, and policy changes are more subtle and not noticed as much as fiscal policy changes. It is easier to make good, but unpopular decisions.
  - In the 1980s and 1990s Fed policy is given much credit for achieving a prosperous economy with low inflation and high employment.
- Shortcomings of monetary policy:
  - Control is weakening as technology makes it possible to shift from money assets to other types; also global finance gives nations less power.
  - Cyclical asymmetry may exist: a tight monetary policy works effectively to brake inflation, but an easy monetary policy is not always as effective in stimulating the economy from recession.
  - The velocity of money (number of times the average dollar is spent in a year) may be unpredictable, especially in the short run and can offset the desired impact of changes in money supply. Tight money policy may cause people to spend faster; velocity rises.
  - The impact on investment may be less than traditionally thought. Japan provides a case example. Despite interest rates of zero, investment spending remained low during the recession.
- Currently the Fed communicates changes in monetary policy through changes in its target for the Federal funds rate. (Key Question 5)

- The Fed does not set either the Federal funds rate or the prime rate; (see Figure 15-3) each is established by the interaction of lenders and borrowers, but rates generally follow the Fed funds rate.
  - The Fed acts through open market operations, selling bonds to raise interest rates and buying bonds to lower interest rates.
- Links between monetary policy and the international economy:
  - Net export effect occurs when foreign financial investors respond to a change in interest rates.
  - Tight monetary policy and higher interest rates lead to appreciation of dollar value in foreign exchange markets; lower interest rates from an easy monetary policy will lead to dollar depreciation in foreign exchange markets (see Figure 12-6d).
  - When dollar appreciates, American goods become more costly to foreigners, and this lowers demand for U.S. This is the desired effect of a tight money policy. Conversely, an easy money policy leads to depreciation of dollar, greater demand for U.S. exports and higher GDP. This policy has the desired outcome for expanding GDP. exports, which tends to lower GDP.
  - Monetary policy works to correct both trade balance and GDP problems together. An easy monetary policy leads to increased domestic spending and increased GDP, but it also leads to depreciated dollar and higher U.S. export demand, which enhances GDP and erases a trade deficit. The reverse is true for a tight monetary policy, which would tend to reduce net exports and worsen a trade deficit.

### **The Big Picture (see Key Graph, Figure 15-4) Shows Many Interrelationships**

- Fiscal and monetary policy are interrelated. The impact of an increase in government spending will depend on whether it is accommodated by monetary policy. For example, if government spending comes from money borrowed from the general public, it may be offset by a decline in private spending, but if the government borrows from the Fed or if the Fed increases the money supply, then the initial increase in government spending may not be counteracted by a decline in private spending.
- Study Key Graph 15-4 and you will see that the levels of output, employment, income, and prices all result from the interaction of aggregate supply and aggregate demand. In particular, note the items shown in red that constitute, or are strongly influenced by, public policy.
- Try Quick Quiz 15-4.

### **LAST WORD: For the Fed Life is a Metaphor**

- The media use colorful terms to describe the Federal Reserve Board and its chair, Alan Greenspan. They may loosen or tighten reins while riding herd on a rambunctious economy!
- The Fed has been depicted as a mechanic, with references to loosening or tightening things, and to the economy running beautifully or acting sluggish, accelerating, or going out of control.
- The warrior metaphor has been used-fighting inflation, plotting strategy, protecting the dollar from attack.

- The Fed has been depicted as the fall guy in terms of administration officials "leaning heavily" on it and telling the Fed to ease up or to relax.
- As a cosmic force, the Fed satisfies three criteria-power, mystery, and a New York office.