

THE FEDERAL RESERVE AND THE MONEY SUPPLY

The Federal Reserve is America's *central bank*. It has the unique right to create U.S. dollars. Counterparts abroad: the Bank of Japan, the Bundesbank, the Bank of England, etc.. Jan. 1 the Bundesbank, Banque de France, Banca d'Italia will cede their roles to the new European Central Bank.

A central bank's balance sheet (simplified):

Assets

Liabilities

Government bonds

Money

In an *open-market operation* the CB prints money to buy more bonds, putting more money into circulation – or sells bonds to withdraw money from circulation. This affects the interest rate – and because the interest rate affects spending, it affects the economy

DETERMINATION OF THE INTEREST RATE

Two ways to think about it:

1. i must be such as to make supply and demand for money equal. Reason: if people regard their money holdings as inadequate, they will try to sell bonds (or borrow). But you can't have sellers without buyers: price of bonds will fall (interest rate rise) until no net selling. And conversely if people are holding more money than they want.
2. i must be such as to make supply and demand for *bonds* equal. This is equivalent!

Usually thinking in terms of money is more convenient.

FORCES THAT CHANGE INTEREST RATES:

1. Changes in money demand: most important are changes in Y and changes in price level. We leave P on one side, to return later (crucial role in long run). But other things equal, higher Y leads to higher money demand (more transactions), and hence to higher interest rate. This is the *LM relationship*.
2. Changes in money supply: basically under control of central bank. Higher M implies lower i .

Interest rate matters to economy, because high i means low spending (housing and other investment), low i high spending.

MONEY SUPPLY: SOME MORE DETAIL

Actually a two-tier structure: Federal Reserve plus private banks:

Fed

Assets

Liabilities

Bonds

Monetary base (aka High-powered money)

Banks

Assets

Liabilities

Reserves

Bank deposits

Loans

Bonds

Monetary base = reserves + currency

HOW AN OPEN MARKET OPERATION WORKS

(simplified case: no currency, banks hold constant proportion of deposits as reserves – say, 0.2)

1. Fed buys \$100 million in bonds from banks
2. Banks lend out \$100 million; it must return as deposits.
3. Banks lend out \$80 million; this must return as deposits.
4. Banks lend out \$64 million

Eventual *money multiplier* is $1 + 0.8 + 0.64 + \dots = 5$

In general, in economy with no currency, money multiplier is $1/d$, where d is reserve/deposit ratio.

In economy with currency (most US monetary base is, in fact, currency), also need to know currency/deposit ratio.

Formula is:

When it matters: when banks are in trouble (US 1930-31, Japan now)

MONETARY POLICY:

1. Money supply can be changed at short notice – all it takes is a phone call to banks.
2. The Fed actually sets a target range for short-term interest rate, which is revised roughly every 6 weeks.
3. Most advanced countries have found it a good idea to give the central bank a lot of independence. (Otherwise temptation to politicize policy – e.g., print a lot of money in run-up to elections).
4. Why can't anyone understand what Alan Greenspan is saying?