

- Throughout history, there have been four basic types of money: commodity money, representative money, fiat money and check-book money.
- Money has three main functions: a medium of exchange, a standard of value (or unit of account) and a store of value.
- To accomplish its functions, the characteristics of money include portability, uniformity, acceptability, durability, divisibility and stability in value.
- M1 is the narrowest definition of money and consists of checkable deposits, traveler's checks and currency. Checkable deposits include demand deposits and account for about 75 percent of M1.
- M2 and M3 are broader definitions of money and include savings accounts and other time deposits.
- The demand for money is the sum of transactions demand, precautionary demand and speculative demand. The demand for money is determined by interest rates, income and the price level.
- $MV = PQ$ is the equation of exchange: Money times velocity equals price times quantity of goods. PQ is the nominal GDP.
- Velocity is the number of times a year that the money supply is used to make payments for final goods and services:
$$V = \frac{GDP}{M}$$
- Money is created when banks make loans. One bank's loan becomes another bank's demand deposit. Demand deposits are money. When a loan is repaid, money is destroyed.
- Banks are required to keep a percentage of their deposits as reserves. Reserves can be currency in the bank vault or deposits at the Federal Reserve Banks. This reserve requirement limits the amount of money banks can create.
- The simple deposit expansion multiplier is equal to 1 divided by the required reserve ratio (rr).
$$\text{Deposit expansion multiplier} = \frac{1}{rr}$$
- The higher the reserve requirement, the less money can be created; the lower the reserve requirement, the more money can be created.
- The Federal Reserve regulates financial institutions and controls the nation's money supply. The three main tools that the Fed uses to control the money supply are buying and selling government bonds on the open market (open market operations), changing the discount rate and changing the reserve requirement.
- If the Fed wants to encourage bank lending and increase the money supply, it will buy bonds on the open market, decrease the discount rate or decrease the reserve requirement. This is referred to as expansionary monetary policy or an easy money policy and is used by the Fed to reduce unemployment.
- If the Fed wants to hold down or decrease the money supply, it will discourage bank lending by selling bonds on the open market, increasing the discount rate or increasing the reserve requirement. This is called a contractionary monetary policy or a tight money policy and is used by the Fed to discourage bank lending during periods of inflation.

- Open market operations are the most frequently used tool because they permit the Fed to make small changes in the money supply and can be implemented immediately.
- Changes in the reserve requirement can have substantial economic effects, and thus the Fed rarely changes the reserve requirement. The Fed uses changes in the discount rate primarily as a signal of a change in the direction of monetary policy.
- The Fed cannot target both the money supply and interest rates simultaneously, so it must choose which variable to target.
- The Fed currently targets the federal funds rate rather than the money supply to implement monetary policy. It targets the federal funds rate because the Fed believes that this rate is closely tied to economic activity.
- The federal funds rate is the interest rate a bank charges when it lends excess reserves to other banks.