10

MONEY AND PRICES IN THE LONG RUN

29

The Monetary System

THE MEANING OF MONEY

- *Money* is the set of assets in an economy that people regularly use to buy goods and services from other people.

The Functions of Money

- Money has three functions in the economy:
  - Medium of exchange
  - Unit of account
  - Store of value

The Functions of Money

- Medium of Exchange
  - A *medium of exchange* is an item that buyers give to sellers when they want to purchase goods and services.
  - A medium of exchange is anything that is readily acceptable as payment.

The Functions of Money

- Unit of Account
  - A *unit of account* is the yardstick people use to post prices and record debts.
- Store of Value
  - A *store of value* is an item that people can use to transfer purchasing power from the present to the future.

The Functions of Money

- Liquidity
  - *Liquidity* is the ease with which an asset can be converted into the economy's medium of exchange.

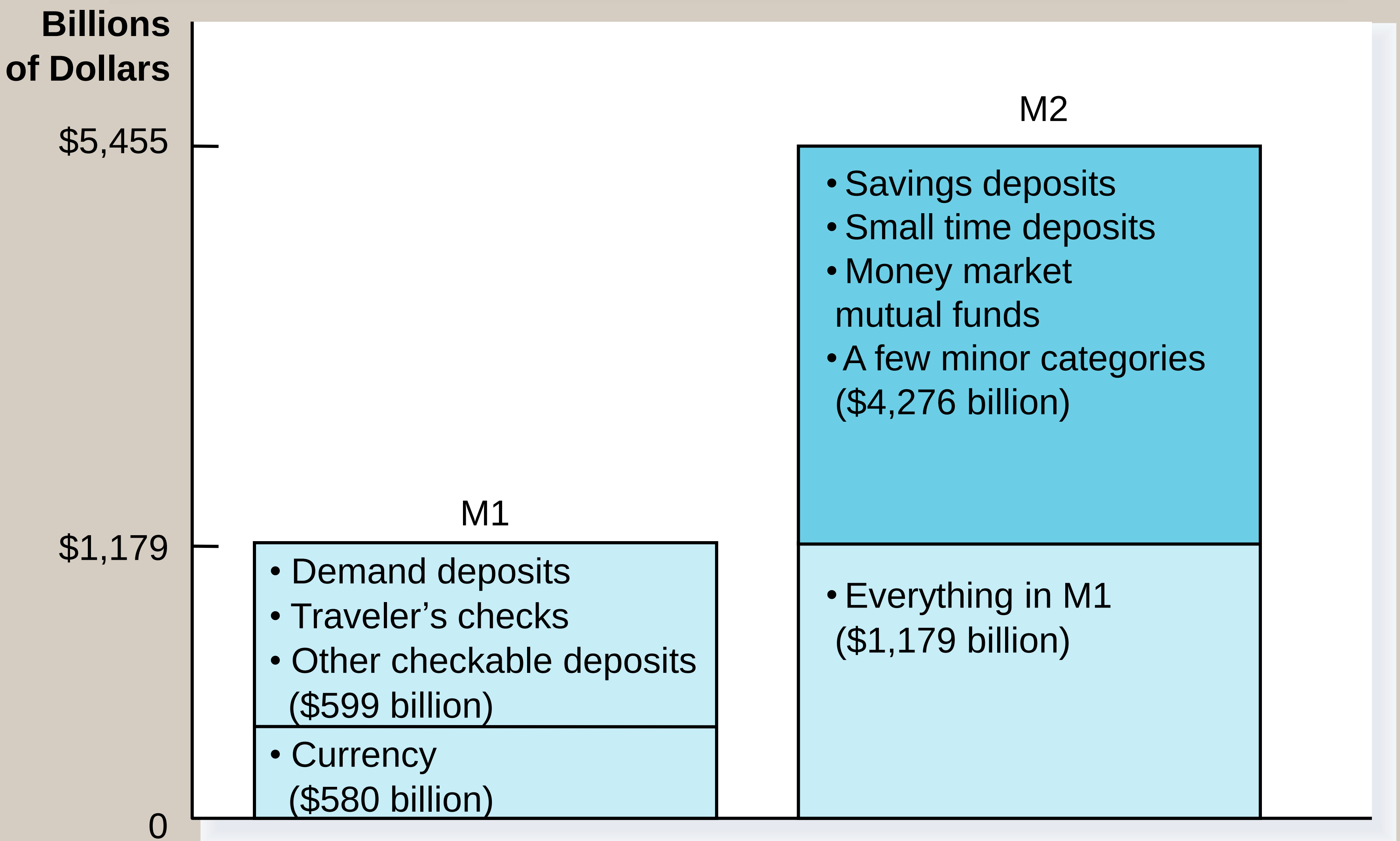
The Kinds of Money

- *Commodity money* takes the form of a commodity with intrinsic value.
  - Examples: Gold, silver, cigarettes.
- *Fiat money* is used as money because of government decree.
  - It does not have intrinsic value.
  - Examples: Coins, currency, check deposits.

Money in the U.S. Economy

- *Currency* is the paper bills and coins in the hands of the public.
- *Demand deposits* are balances in bank accounts that depositors can access on demand by writing a check.

Figure 1 Money in the U.S. Economy



CASE STUDY: Where Is All The Currency?

- In 2001 there was about $580 billion of U.S. currency outstanding.
  - That is $2,734 in currency per adult.
- Who is holding all this currency?
  - Currency held abroad
  - Currency held by illegal entities

THE FEDERAL RESERVE SYSTEM

- The *Federal Reserve (Fed)* serves as the nation's central bank.
  - It is designed to oversee the banking system.
  - It regulates the quantity of money in the economy.

THE FEDERAL RESERVE SYSTEM

- The Fed was created in 1914 after a series of bank failures convinced Congress that the United States needed a *central bank* to ensure the health of the nation's banking system.

THE FEDERAL RESERVE SYSTEM

- The Structure of the Federal Reserve System:
  - The primary elements in the Federal Reserve System are:
    - 1) The Board of Governors
    - 2) The Regional Federal Reserve Banks
    - 3) The Federal Open Market Committee

The Fed's Organization

- The Fed is run by a Board of Governors, which has seven members appointed by the president and confirmed by the Senate.
- Among the seven members, the most important is the chairman.
    - The chairman directs the Fed staff, presides over board meetings, and testifies about Fed policy in front of Congressional Committees.

The Fed’s Organization

- The Board of Governors
  - Seven members
  - Appointed by the president
  - Confirmed by the Senate
  - Serve staggered 14-year terms so that one comes vacant every two years.
  - President appoints a member as chairman to serve a four-year term.

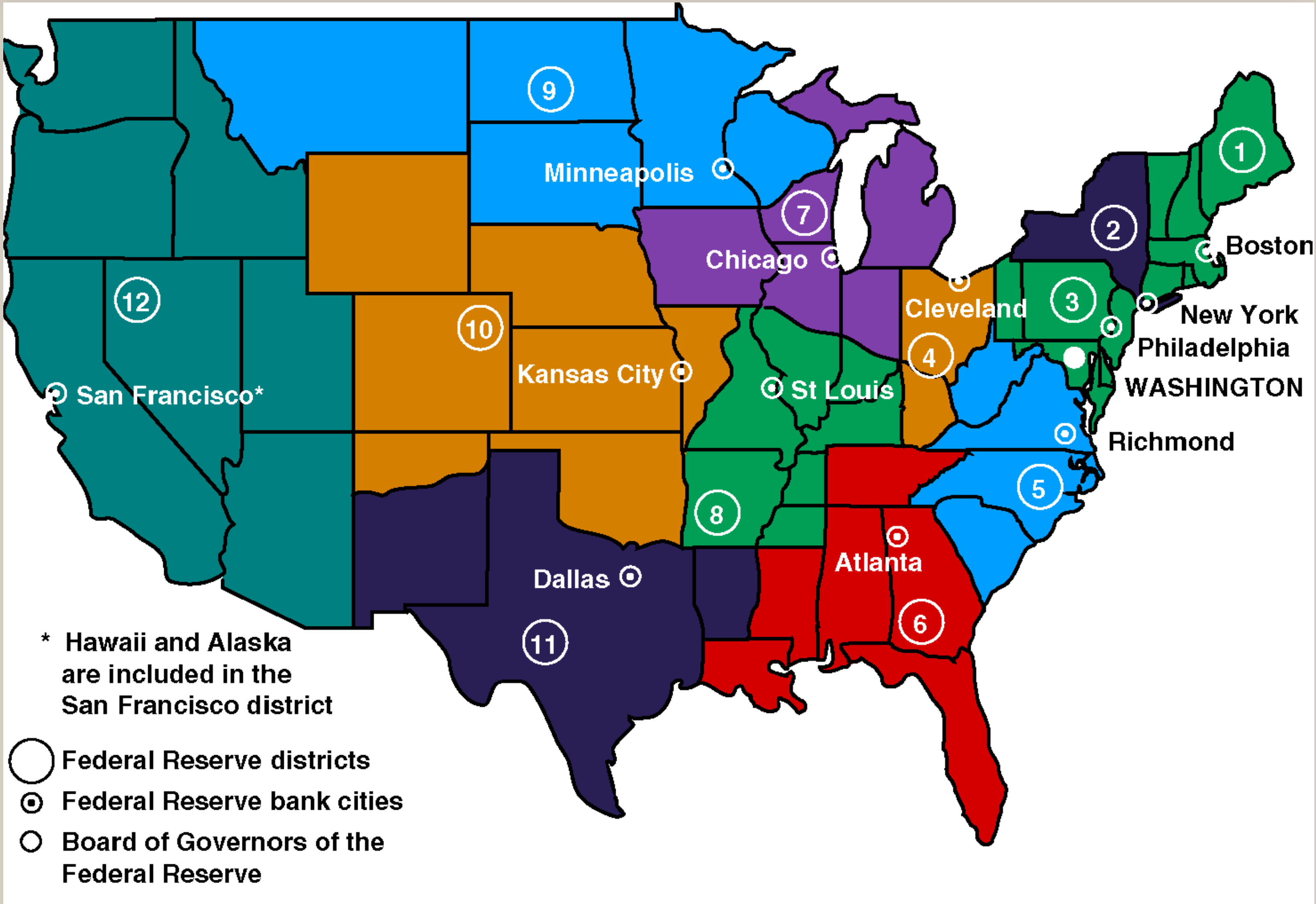
The Fed's Organization

- The Federal Reserve System is made up of the Federal Reserve Board in Washington, D.C., and twelve regional Federal Reserve Banks.

The Fed's Organization

- The Federal Reserve Banks
  - Twelve district banks
  - Nine directors
    - Three appointed by the Board of Governors.
    - Six are elected by the commercial banks in the district.
  - The directors appoint the district president, which is approved by the Board of Governors.

The Federal Reserve System



The Fed's Organization

- The Federal Reserve Banks
  - The New York Fed implements some of the Fed's most important policy decisions.

The Fed’s Organization

- The Federal Open Market Committee (FOMC)
  - Serves as the main policy-making organ of the Federal Reserve System.
  - Meets approximately every six weeks to review the economy.

The Fed's Organization

- The Federal Open Market Committee (FOMC) is made up of the following voting members:
  - The chairman and the other six members of the Board of Governors.
  - The president of the Federal Reserve Bank of New York.
  - The presidents of the other regional Federal Reserve banks (four vote on a yearly rotating basis).

The Fed’s Organization

- Monetary policy is conducted by the Federal Open Market Committee.
  - Monetary policy is the setting of the money supply by policymakers in the central bank
  - The money supply refers to the quantity of money available in the economy.

The Federal Open Market Committee

- Three Primary Functions of the Fed
  - Regulates banks to ensure they follow federal laws intended to promote safe and sound banking practices.
  - Acts as a banker's bank, making loans to banks and as a lender of last resort.
  - Conducts *monetary policy* by controlling the money supply.

The Federal Open Market Committee

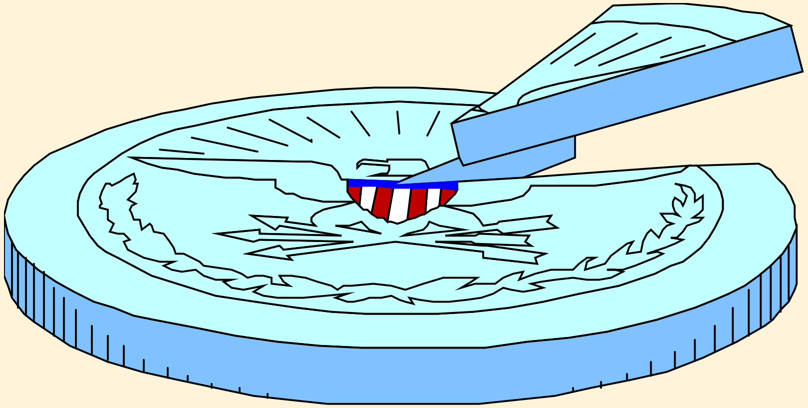
- Open-Market Operations
  - The *money supply* is the quantity of money available in the economy.
  - The primary way in which the Fed changes the money supply is through open-market operations.
    - The Fed purchases and sells U.S. government bonds.

The Federal Open Market Committee

- Open-Market Operations
  - To increase the money supply, the Fed *buys* government bonds from the public.
  - To decrease the money supply, the Fed *sells* government bonds to the public.

BANKS AND THE MONEY SUPPLY

- Banks can influence the quantity of demand deposits in the economy and the money supply.



BANKS AND THE MONEY SUPPLY

- *Reserves* are deposits that banks have received but have not loaned out.
- In a *fractional-reserve banking* system, banks hold a fraction of the money deposited as reserves and lend out the rest.

BANKS AND THE MONEY SUPPLY

- Reserve Ratio
  - The *reserve ratio* is the fraction of deposits that banks hold as reserves.

Money Creation with Fractional-Reserve Banking

- When a bank makes a loan from its reserves, the money supply increases.
- The money supply is affected by the amount deposited in banks and the amount that banks loan.
    - Deposits into a bank are recorded as both assets and liabilities.
    - The fraction of total deposits that a bank has to keep as reserves is called the reserve ratio.
    - Loans become an asset to the bank.

Money Creation with Fractional-Reserve Banking

- This T-Account shows a bank that…
  - accepts deposits,
  - keeps a portion as reserves,
  - and lends out the rest.
  - It assumes a reserve ratio of 10%.

First National Bank

Assets		Liabilities	
Reserves	$10.00	Deposits	$100.00
Loans	$90.00		
Total Assets	$100.00	Total Liabilities	$100.00

Money Creation with Fractional-Reserve Banking

- When one bank loans money, that money is generally deposited into another bank.
- This creates more deposits and more reserves to be lent out.
- When a bank makes a loan from its reserves, the money supply increases.

The Money Multiplier

- How much money is eventually created in this economy?

The Money Multiplier

- The *money multiplier* is the amount of money the banking system generates with each dollar of reserves.

The Money Multiplier

First National Bank

Assets	Liabilities
Reserves $10.00	Deposits $100.00
Loans $90.00	
Total Assets $100.00	Total Liabilities $100.00

Second National Bank

Assets	Liabilities
Reserves $9.00	Deposits $90.00
Loans $81.00	
Total Assets $90.00	Total Liabilities $90.00

Money Supply = $190.00!

The Money Multiplier

- The money multiplier is the reciprocal of the reserve ratio:

$$M = 1/R$$

- With a reserve requirement, $R = 20\%$ or $1/5$,
- The multiplier is 5.

The Fed's Tools of Monetary Control

- The Fed has three tools in its monetary toolbox:
  - Open-market operations
  - Changing the reserve requirement
  - Changing the discount rate

The Fed's Tools of Monetary Control

- Open-Market Operations
  - The Fed conducts *open-market operations* when it buys government bonds from or sells government bonds to the public:
    - When the Fed buys government bonds, the money supply increases.
    - The money supply decreases when the Fed sells government bonds.

The Fed's Tools of Monetary Control

- Reserve Requirements
  - The Fed also influences the money supply with *reserve requirements*.
  - Reserve requirements are regulations on the minimum amount of reserves that banks must hold against deposits.

The Fed's Tools of Monetary Control

- Changing the Reserve Requirement
  - The *reserve requirement* is the amount (%) of a bank's total reserves that may not be loaned out.
    - Increasing the reserve requirement decreases the money supply.
    - Decreasing the reserve requirement increases the money supply.

The Fed's Tools of Monetary Control

- Changing the Discount Rate
  - The *discount rate* is the interest rate the Fed charges banks for loans.
    - Increasing the discount rate decreases the money supply.
    - Decreasing the discount rate increases the money supply.

Problems in Controlling the Money Supply

- The Fed’s control of the money supply is not precise.
- The Fed must wrestle with two problems that arise due to fractional-reserve banking.
  - The Fed does not control the amount of money that households choose to hold as deposits in banks.
  - The Fed does not control the amount of money that bankers choose to lend.

Summary

- The term money refers to assets that people regularly use to buy goods and services.
- Money serves three functions in an economy: as a medium of exchange, a unit of account, and a store of value.
- Commodity money is money that has intrinsic value.
- Fiat money is money without intrinsic value.

Summary

- The Federal Reserve, the central bank of the United States, regulates the U.S. monetary system.
- It controls the money supply through open-market operations or by changing reserve requirements or the discount rate.

Summary

- When banks loan out their deposits, they increase the quantity of money in the economy.
- Because the Fed cannot control the amount bankers choose to lend or the amount households choose to deposit in banks, the Fed's control of the money supply is imperfect.