The Monetary System

The Meaning of Money

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

Three Functions of Money

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

Medium of Exchange

A medium of exchange is anything that is readily acceptable as payment.

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.

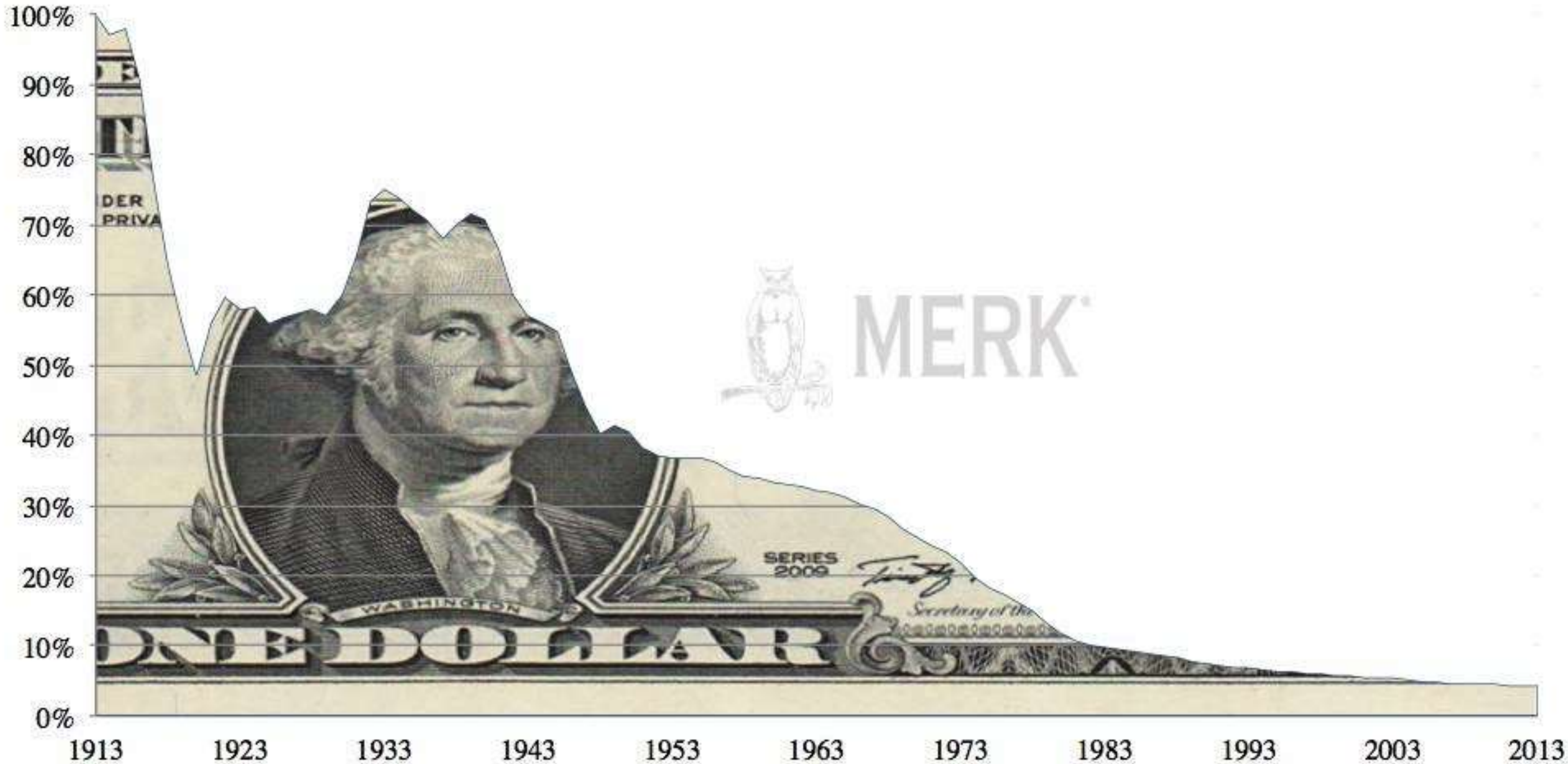
Liquidity

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.

Purchasing Power of the US Dollar 1913-2013



Source: Merk Investments, Bureau of Labor Statistics
Calculation based on consumer price index; August 1913 = 100%. Data as of August 2013.

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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.

Money in the U.S. Economy

Measure	**Amount in 1998**	What's Included
M1	$1,092 billion	Currency Traveler's checks Demand deposits Other checkable deposits
M2	$4,412 billion	Everything in M1 Saving deposits Small time deposits Money market mutual funds A few minor categories

NOTE: M3 = M2 + Large Time Deposits

The Federal Reserve

- 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

- **The Fed was created in 1914 after a series of bank failures convinced Congress that the U.S. 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

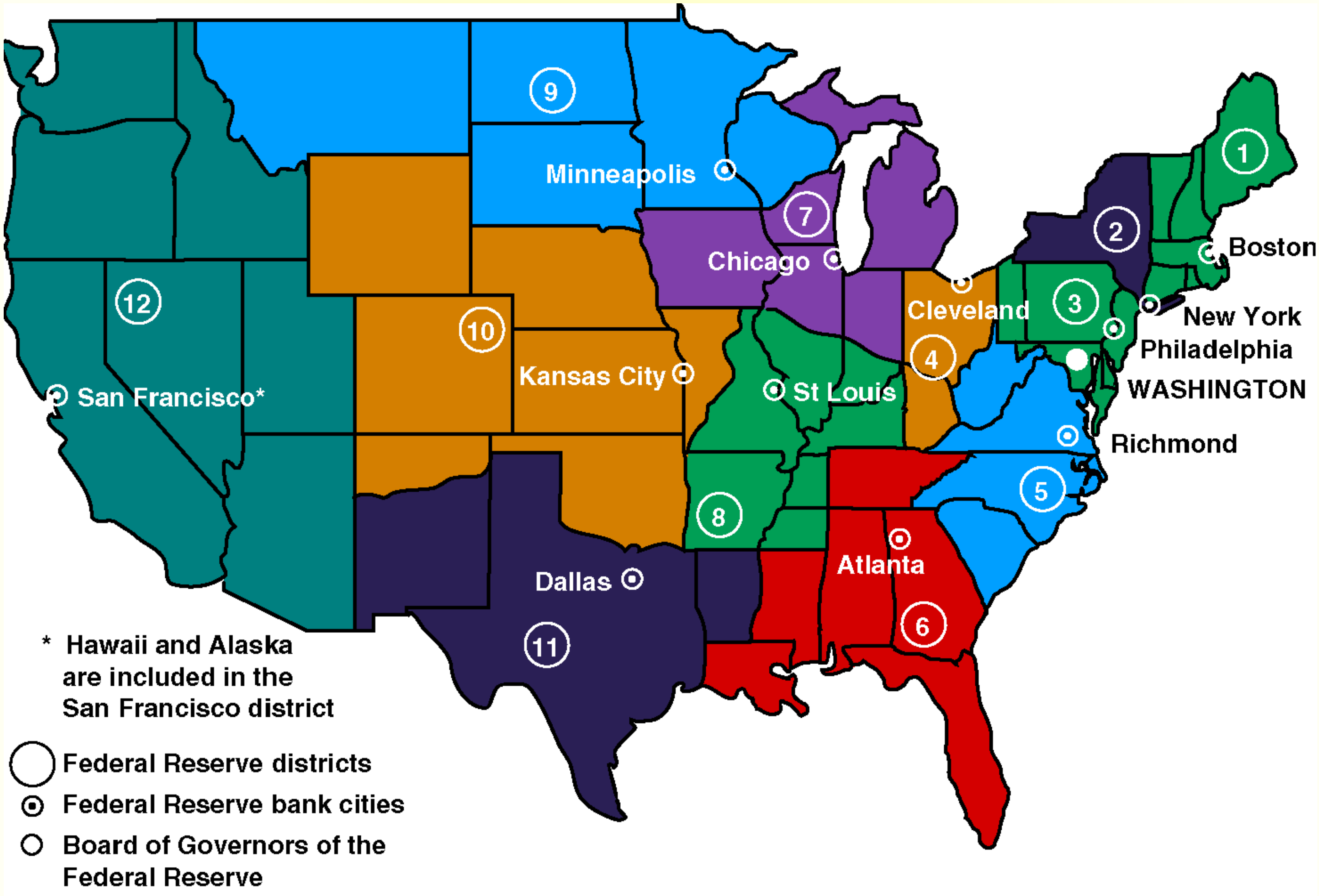
The Federal Reserve System is made up of the Federal Reserve Board in Washington, D.C., and twelve regional Federal Reserve Banks.

The Fed's Organization

The Federal Reserve Banks

- 12 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 Federal Reserve System

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.

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.

Open-Market Operations

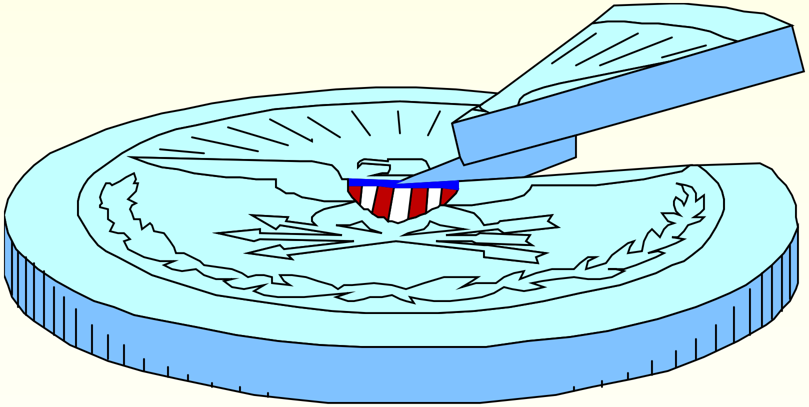
- The **money supply** is the quantity of money available in the economy.
- The primary way in which the Fed changes the money supply is through **open-market operations**.
  - The Fed purchases and sells U.S. government bonds.

Open-Market Operations

- **To increase the money supply, the Fed <u>buys</u> government bonds from the public.**
- **To decrease the money supply, the Fed <u>sells</u> 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.

National Bank of Romania

1. The Board of Directors
   - Sets the monetary snd exchange rate policies
2. The Monetary Policy Committee
   - Responsible for monetary policy decisions
3. The Supervisory Committee
   - Monitoring the credit institutions asset quality
4. The Foreign Reserve Management Committee
5. The Audit Committee

Money Creation

When a bank makes a loan from its reserves, the money supply increases.

Money Creation

- 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

- 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

- 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.

Money Creation

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

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

How much money is eventually created in this economy?

Original deposit	= $	100.00
First National lending	= $	90.00 [=0.9 x $100.00]
Second National lending	= $	81.00 [=0.9 x $90.00]
Third National lending	= $	72.90 [=0.9 x $81.00]
↓		↓
↓		↓
Total money supply	**=**	**$1,000**

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.**

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

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.

Changing the Discount Rate

- **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.**

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

- 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.