**Monetary Policy Agenda**

- Introduction to Monetary Policy.
  - The Federal Reserve System.
  - How the Federal Reserve Really Controls the Money Supply.
    - The Fractional Reserve Banking System.
    - Monetary Policy Tools.
  - Monetary Policy Transmission Channels.

**The Federal Reserve System**

- Created by an Act of Congress.
  - on December 23, 1913.
  - The nation’s central bank.

- Responsibilities:
  - Functions as the government’s bank.
  - Regulates and supervises banks and thrifts.
  - Acts as lender of last resort.
  - Implements monetary policy.

**The Federal Reserve System**

- Consists of:
  - Board of Governors
    - In Washington, DC
  - 12 regional Federal Reserve Banks
    - Located throughout the country
  - Federal Open Market Committee (FOMC)

**The Federal Reserve System**

- The Board of Governors:
  - 7 members with overlapping 14-year terms.
    - Appointed by the President.
    - Confirmed by the Senate.
  - Chairman and Vice Chairman with 4-year terms.
    - Designated by the President.
    - Confirmed by the Senate.

**The Federal Reserve System**

- Regional Bank Presidents:
  - Appointed by regional Federal Reserve Bank’s Board of Directors.
    - Renewable 5-year terms.
  - Approved by the Board of Governors.

Alaska and Hawaii are part of the San Francisco District
The Federal Reserve System

- Independent within the Government.
  - Independent:
    - Appointment of Governors.
    - Appointment of Bank Presidents.
    - Financed from its own resources.
      - Surplus turned over to Treasury.
  - Within government:
    - Ultimately responsible to Congress.

Federal Open Market Committee

- Created by an Act of Congress.
  - On March 1, 1936.
  - Primary decision-making body for monetary policy.

Federal Open Market Committee

- Consists of 12 voting members:
  - 7 members of the Board of Governors.
  - President of the New York Federal Reserve Bank.
    - Which has operational responsibility for open market operations.
  - 4 other regional Federal Reserve Presidents.
    - Serve on an annually rotating basis.
  - And 7 non-voting members:
    - The other regional Federal Reserve Presidents.

Federal Open Market Committee

- Meetings:
  - 8 per year at 5 – 8 week intervals.
    - Minimum of 4 meetings per year.
    - Also have conference calls.
  - Provides direction for open market operations to the New York Federal Reserve Bank.

Federal Open Market Committee

- Meetings (continued):
  - Issues a policy statement following the conclusion of each meeting announcing.
    - Any policy action taken.
    - The policy directive.
      - Symmetrical.
        - Economic strength/weakness
        - Inflation
    - The vote.
Federal Open Market Committee

• Meetings (continued):
  ➢ Releases minutes 3 weeks following the meeting.
  ➢ Releases semi-annual Monetary Policy Report:
    • Typically, in February and July.
    • Presented by Chairman to Congress.
  ➢ Releases meeting transcripts after a 5-year lag.

How the Federal Reserve Really Controls the Money Supply

• Money Creation.
• The Money Multiplier.
• The Money Supply.
• Monetary Policy Tools.

Money Creation

• Required conditions for money creation:
  ➢ The equivalence of cash and deposits.
  ➢ The redeposit of loan proceeds.
  ➢ The holding of (fractional) cash reserves.
  ➢ The presence of willing borrowers.
  ➢ The presence of willing lenders.

The Monetary Base

• Definitions:
  ➢ MB = CU + RE, where
    • MB = Monetary Base,
    • CU = Currency held by the non-bank public, and
    • RE = Reserves held by banks.
    ➢ Required reserves.
    ➢ Excess reserves.

• Definitions (continued):
  ➢ CU = cD, where
    • D = deposits and
    • 0 < c < 1 and is determined by the public.
  ➢ Currency held is a fraction of deposits.

• Definitions (continued):
  ➢ RE = rD + eD, where
    • D = deposits and
    • 0 < r < 1 and is determined by the central bank.
    • Legal minimum, called reserve requirement ratio
    • 0 < e < 1 and is determined by commercial banks.
    ➢ Banks can hold more than the legal minimum, called excess reserves
  ➢ Reserves held are a fraction of deposits.
The Monetary Base

• Relationships:
  - MB = CU + RE
  - MB = cD + rD + eD
  - MB = (c + r + e)D
    * or
  - D = MB/(c + r + e)

The Money Supply

• Definitions (continued):
  - M = CU + D, where
    - M = Money supply
  - M1 = currency + checking deposits
  - M2 = M1 + savings deposits
  - M3 = M2 + institutional deposits

• Relationships (continued):
  - M = CU + D
  - M = cD + D
  - M = (1 + c)D
  - M = (1 + c)MB/(c + r + e)
  - M = \[(1 + c)/(c + r + e)\] MB

Money Creation

• Peculiarities:
  - Gold discoveries.
    * and MB.
  - Bank panics.
    * and c.
  - Credit crunches.
    * and e.

The Money Supply

• Relationships (continued):
  - (1 + c)/(c + r + e) is the money multiplier.
  * There is a different money multiplier for each definition of money, M1, M2 and M3.

• Why the Fed Can’t Control Ms Exactly.
  - The Fed doesn’t control Ms directly but indirectly through its influence on:
    - Bank reserves, RE, and the
    - Reserve requirement ratio, minimum r.
### The Money Supply

- **Why the Fed Can’t Control Ms Exactly.**
  - The public determines \( c \).
    - Fed must forecast \( c \), then adjust MB (and/or \( r \)) to accommodate.
    - Sometimes it is difficult to predict \( c \).
      - Seasonal patterns.
      - The influence of foreigners.

### Monetary Policy Tools

- **The Discount Rate:**
  - The interest rate banks pay on borrowings from the Federal Reserve.
    - Set by the Board of Governors based on requests from the Boards of Directors from the regional Federal Reserve Banks.
    - Set above the federal funds rate.
  - Relatively unimportant.
    - Passive role, bank initiated.

### The Money Supply

- **Why the Fed Can’t Control Ms Exactly.**
  - Commercial banks and borrowers determine \( e \).
    - Fed must forecast \( e \), then adjust MB (and/or \( r \)) to accommodate.
    - Sometimes it is difficult to predict \( e \).
      - The influence of deposit shifts between reserve categories.

### Monetary Policy Tools

- **Reserve Requirement Ratio:**
  - The minimum fraction of deposits that must be held by banks as cash reserves.
    - Set by the Board of Governors.
    - This is for required reserves.
  - Relatively unimportant.
    - Rarely changed.
Monetary Policy Tools

- Open Market Operations:
  - The buying and selling of government securities in the open market.
  - Operations centralized at the New York Federal Reserve Bank.
  - By changing bank RE, changes MB through the money multiplier, and then changes Ms and the federal funds rate.
- Extremely important.
  - Primary tool of monetary policy.

Monetary Policy Tools

- The Federal Funds Rate.
  - The interest rates that banks pay to each other to borrow excess reserves.
  - Closely influenced by the Federal Reserve.
  - While the fed funds rate is not a particularly important influence on the economy by itself, movements in the funds rate (and expectations about future funds rates encouraged by any change) influence the broad spectrum of interest rates and financial asset prices in the economy.

Transmission Channels

- How Do Changes in Monetary Policy Actually Affect the Economy?
  - Borrowing Costs,
  - The Availability of Credit,
  - The Yield Curve,
  - Wealth Effects,
  - Exchange Rate Effects, and
  - Consumer and Business Confidence Effects.

Transmission Channels

- The Availability of Credit:
  - Changes in banks’ willingness to lend can either magnify or reduce the direct effect of interest rates.
  - Generates either a bigger or smaller shift in the LM curve.

Transmission Channels

- The Yield Curve:
  - Changing short-term interest rates generally causes changes in long-term interest rates as well but not by as much.
  - Most business decisions are affected by long-term interest rates not short-term ones.
  - Bank lending may be influenced by the shape of the yield curve.
Transmission Channels

- Wealth Effects:
  - Lower interest rates should, other things constant, boost equity and home valuations.
    - Present value; discounted value.
    - Other things are rarely constant.
    - This would cause a shift in the IS curve.

- Exchange rate effects:
  - Lower interest rates should, other things constant, lower the foreign exchange value of the dollar.
    - Lower exchange rates would boost exports and restrain imports.
    - Other things are rarely constant.
    - This would cause a shift in the IS curve.

- Consumer and Business Confidence Effects:
  - Lower interest rates should boost confidence that economic activity will improve.
    - This partly reflects confidence in the Federal Reserve’s ability to mitigate economic fluctuations.
    - This also reflects borrowers’ willingness to borrow.
    - This would cause a shift in the IS curve.