Chapter 11

- The Banking System and the Money Supply

The Monetary System

- Federal Reserve System
  - Quasi-independent agency that operates alongside the government

- Unit of value
  - Common unit for measuring how much something is worth
  - The way we think and record transactions

- Means of payment
  - Anything acceptable as payment for goods and services
  - How payment is made

A Brief History of the Dollar

- Dollar
  - Centerpiece of monetary system

- 1790 – dollar became the standard unit of value

- 1913 - Federal Reserve System
  - National monetary authority
  - Creates and regulates the nation’s supply of money

A Brief History of the Dollar

- Commodity money
  - Precious metals and valuable commodities

- Paper currency
  - Initially backed by gold or silver

- Fiat money
  - Something that serves as a means of payment by government declaration

- Money
  - Asset
    - The right to borrow is not an asset
  - Widely accepted as a means of payment
    - Ex: Cash, travelers’ checks, personal checks
Measuring the Money Supply

- **Money supply**
  - Total amount of money held by the public
  - Different measures
- **Liquid asset**
  - Can be converted to cash quickly, at little cost
- **Illiquid asset**
  - Can be converted to cash after a delay, or at considerable cost
- Consider Figure 1

M1 and M2

- **M1** - standard measure of the money stock
  - Cash in the hands of the public
  - Demand deposits
  - Other checkable deposits
  - Travelers checks
- When government officials speak about “money supply” they usually mean M1

Monetary Assets and Their Liquidity

- **Figure 1** Monetary Assets and Their Liquidity (June 26, 2006)

M1 and M2

- **M2**
  - M1
  - Savings-type accounts
  - Retail money market mutual funds (MMMF)
  - Small-denomination time deposits (CDs)
- **Assumption**
  - Money supply = Cash in the hands of the public + Demand deposits
  - Liquid assets that the Federal Reserve System can control
The Banking System

- Financial intermediaries
  - Business firms that specialize in brokering between savers and borrowers
  - Increase efficiency of economy
  - Profit: Charge higher interest on the funds they lend than the rate they pay to depositors

- Commercial bank: largest group of depository institutions
  - Accept checkable deposits, savings deposits… etc. to supply business, mortgage, consumer loans.
  - Private corporation
  - Owned by its stockholders
  - Provides services to the public
    - Checking accounts

A Bank’s Balance Sheet

- Financial statement
  - Assets – what the bank owns
  - Liabilities - what the bank owes
  - Net worth

- Net worth = Total assets - Total liabilities

- Bond
  - Promise to pay back borrowed funds
  - Issued by a corporation/government agency

A Bank’s Balance Sheet

- A balance sheet always balances
- Assets = Liabilities + Net Worth
- Loan
  - Agreement to pay back borrowed funds
  - Signed by a household or noncorporate business
- Banks - required by law to hold reserves
- Reserves
  - Cash in the vault plus accounts with the Fed.

A Bank’s Balance Sheet

- Required reserves
  - Minimum amount of reserves a bank must hold
  - Depend on the amount of deposit liabilities

- Required reserve ratio (RRR)
  - The minimum fraction of checking account balances that banks must hold as required reserves.
The Federal Reserve System

- Central bank
  - A nation’s principal monetary authority
  - Responsible for controlling the money supply
- 12 Federal Reserve district banks
- Not a part of any branch of government
  - Created by Congress
- The president and Congress - appoint key officials in the system

The Functions of the Fed

- Supervising and Regulating Banks
  - Fed sets and enforces reserve requirements
- Acting as a “Bank for Banks”
  - Commercial banks
    - Hold reserves with the Fed
    - Borrow from the Fed—at discount rate
- Issuing Paper Currency
- Check Clearing
- Controlling the Money Supply

The Fed and the Money Supply

- Open market operations (OMO)
  - Purchases or sales of bonds by the Fed
  - from/to bond dealers, banks, other financial institutions
  - Changes the money supply
- Assumptions
  - Households and businesses – no changes in cash holdings
  - Banks - no excess reserves
- Excess reserves
  - Reserves in excess of required reserves
The Fed and the Money Supply

- Open market purchase
  - The Fed buys government bonds
  - Increase the money supply
  - Injection of reserves
- Demand deposit multiplier = 1/RRR
- Change in demand deposits
  \[ \Delta DD = \left( \frac{1}{\text{RRR}} \right) \times \Delta \text{Reserves} \]
  \[ \Delta DD = \Delta \text{Money supply} = \left( \frac{1}{\text{RRR}} \right) \times \Delta \text{Reserves} \]

The Fed’s Influence on the Banking System as a whole

- Injection of reserves
  - When all reserves injected are required reserves
  - Demand deposit multiplier stops working
  - Money supply stops increasing
- Look at the balance sheet of the entire banking system

The Fed and the Money Supply

- Open market purchase
- Open market sale
  - The Fed sells government bonds
  - needless to worry that Fed will run out of bonds to sell
  - Decrease the money supply
  - Withdrawal of reserves (negative change in reserves)
  \[ \Delta DD = \left( \frac{1}{\text{RRR}} \right) \times \Delta \text{Reserves} \]
The Fed and the Money Supply

Demand Deposit Multiplier: Important Provisos

- Problems with assumptions
  - Households and businesses – no changes in cash holdings
    - As M₃ increases, public want to hold part of the increase as demand deposits
    - Smaller increase in demand deposits
  - Banks - no excess reserves
    - Banks often want to hold excess reserves
    - Interest rates
    - Recessions

Other Tools: Controlling the Money Supply

- Changes in the required reserve ratio
  - Fed lowered RRR
    - Increase money supply
  - Fed raised RRR
    - Decrease money supply
    - Rarely used
    - Could create problems for the banking industry
- Changes in the discount rate
  - Rate the Fed charges banks when it lends them reserves
  - Fed lowered the discount rate
    - Increase money supply
  - Fed raised the discount rate
    - Decrease money supply
    - Seldom used