Discussion 6

1 Quick Recap

1. **Frictional** unemployment: Job seekers and employers **need time** to find one another. Often results from changes in the demand for labor among firms.
2. **Structural** unemployment: **Mismatch** between the jobs available in some labor markets and the skills of workers. Occurs when above-equilibrium wages result in a surplus of labor.
   $\Longrightarrow$ above-equilibrium wage issue.
3. **Cyclical** unemployment: Unemployment associated with **business cycles**.

2 Unemployment Insurance

- A *government program* that partially protects workers' incomes when they become unemployed.
- Increases frictional unemployment ($\because$ workers have **less incentive** to search or take jobs while eligible to receive benefits)
- Makes risk-averse workers better off.

3 The Occurrence of Above-Equilibrium Wages

1. Minimum wage laws
   - There are workers who want to work at the minimum wage, but who will not be able to find those jobs even after extensive search.
   - Reduces uncertainty over incomes.
   - Gives the unemployed more time to search, resulting in better job matches and thus higher productivity.
2. Unions
   - Union is a worker association that bargains with employers over wages, benefits, and working conditions.
   - Unions exert their market power to negotiate higher wages (collective bargaining) $\rightarrow$ raise wages above equilibrium, causes unemployment and depresses wages in non-union labor markets.
   - Unions counter the market power of large firms $\rightarrow$ firm is responsive to workers' concerns.
   - Unions are cartels.
   - Union can organize a strike, i.e. the organized withdrawal of labor from the firm.
   - The dynamics of unions raise the wage above equilibrium:
     (a) Workers who remain employed (Insiders): better off.
     (b) Workers who lose their jobs (outsiders): worse off.
3. Efficiency wages
   - Firms voluntarily pay above-equilibrium wages to boost worker productivity:
     (a) Worker **health**: Paying higher wages allows workers to eat better, makes them healthier, more productive.
     (b) Worker **turnover**: since training new workers is costly, high wages gives workers more incentive to stay, reduces turnover.
     (c) Worker **quality**: higher wages attracts better job applicants, increases quality of the firm's workforce.
     (d) Worker **effort**: stimulate workers to pay high effort (high wage $\rightarrow$ willing to work harder).

4 Money

Before money is introduced, people exchange goods and services through barter. The barter economy involves searching a double coincidence of wants, i.e. you to want what your trading partner has and your trading partner to want what you have.

Definition 1 (Money). *The set of assets that people use regularly to buy goods and services from other people.*

4.1 Functions of Money

1. Medium of exchange: an item buyers give to sellers when they want to purchase goods and services.
2. Unit of account: provides the units in which prices are measured.
3. Store of value: an item people can use to transfer purchasing power (carry wealth) from the present to the future.

4.2 Liquidity

Definition 2. *Liquidity measures the ease with which an asset can be converted into the economy's medium of exchange. Money is the most liquid asset.*

- Highly liquid assets: Stocks and bonds.
- Low liquid assets: Houses, valuable paintings, and antiques.

4.3 Kinds of Money

1. Commodity money: takes the form of a commodity with intrinsic value.
2. Fiat money: money **without intrinsic value**, used as money because of government decree.

4.4 Money Stock

Definition 3. *The money stock is the total quantity of money circulating in the economy.*

- Intuitive measurements:
  1. Currency: paper bills and coins in the hands of the public.
  2. Demand deposits: checks.
  3. Savings deposits: non-accessible with checks but can be withdrew anytime.
  4. Money market mutual funds.
  5. Time deposits: certificates of deposit (CD). Funds can't be withdrawn without penalty for a fixed amount of time.
- Official measurements:
  1. **M1**: currency(in circulation), demand deposits, traveler's checks, and other checkable deposits.
  2. **M2**: everything in M1 + money market deposit accounts, savings account deposits, small time deposits, money market mutual funds, certificates of deposit, and a few minor categories.

4.5 Monetary Systems

1. Central bank: an institution that oversees the banking system and regulates the money supply.
2. Monetary policy: the setting of the money supply by policymakers in the central bank.
3. Federal Reserve (Fed): the central bank of the U.S. The institution responsible for overseeing the banking system and regulating the quantity of money in the economy.
   - The Structure of the Fed:
     - Board of Governors: 7 members (with 14-year terms), located in Washington, DC.
     - 12 regional Fed banks: located around the U.S.
     - Chairperson: Jerome Powell.
     - Main Jobs:
       (a) Regulates banks, assists in check processing (clearing), and acts as a *bank for banks* (lender of last resort).
       (b) Regulates the money supply and conducts monetary policy: Federal Open Market Committee (FOMC)
         * FOMC meets every six weeks and consists of the seven Governors plus the 12 Reserve Bank Presidents.
         * Conducting open market operations: buying and selling US Government bonds.

4.6 Money Supply

- Open Market Operations (OMO): Fed buys or sells US Government bonds from or to private investors.
  - **Increases the money supply** by using newly-created money to buy US Government bonds held by private investors.
  - **Decreases the money supply** by selling US Government Bonds to private investors.

4.7 Bank Reserves

- In a fractional reserve banking system, banks keep a fraction of deposits as **reserves** and use the rest to make **loans**.
- Deposits that the bank receives but does not loan out are called reserves.
  - Banking without loans is called *100-percent-reserve banking*.
- Banks can hold reserves in the form of *vault cash* or as *deposits at the Fed*.
- The Fed establishes **reserve requirements**, regulations on the minimum amount of reserves that banks must hold against deposits (Banks may hold more than this minimum amount).
- Fractional-reserve banking system: banks hold only a fraction of the funds they receive from depositors as reserves.

4.8 Reserves

- Reserve ratio (R)
  = fraction of deposits that banks hold as reserves
  = total reserves as a percentage of total deposits
- **Required reserves** (required reserve ratio): the minimum reserve ratio that each bank must maintain.
- **Excess reserves**: the reserves above what is legally required to cope with depositors' requests for withdrawals.

4.9 Bank Accounting

- T-account: a simplified accounting statement that shows a bank's assets and liabilities.

4.10 Money Creation and Money Multiplier

- Money creation is the process by which the **money supply** of a country is **increased**.
- Most of the money in our economy is created by banks.
- Banks create new money whenever they make loans.
- **Money multiplier**: the amount of money that the banking system generates per dollar of reserves
  - Reserve Ratio (R) = $\frac{\text{Reserves}}{\text{Deposits}}$
  - Money Multiplier = $\frac{1}{R}$
  - Deposits = $\frac{1}{R} \times \text{Reserves} \overset{\text{everyone deposits all of their money}}{=\!=\!=\!=\!=} \text{Money Supply}$
  - Money Multiplier = $\frac{\text{Money Supply}}{\text{Reserves}} = \frac{1}{R}$

4.11 The Fed's Tools of Monetary Control

1. Open Market Operations
2. Reserve Requirements
3. Discount Rate

However, Fed cannot perfectly control the money supply:

1. It cannot control how much money people hold as currency as opposed to depositing in banks.
2. It cannot control how much banks hold in reserves as opposed to making loans.

4.12 The Federal Funds Rate

- federal funds rate is the **interest rate** that banks charge each other on short-term loans of reserves, or federal funds.

4.13 Financial Crises

- If all depositors attempt to **withdraw** their money **at once**, there will not be enough reserves to satisfy them all.
- In a bank run or panic, depositors rush to withdraw their funds, not wanting to be the ones who lose out.
- During the Great Depression of the 1930s, many banks had to close until enough loans were repaid to allow them to satisfy all of the withdrawal requests.
- People **lost their trust** in banks, and **hold more money** as currency → decline in the money multiplier → decline in the money supply
- Federal Deposit Insurance Corporation guarantees the safety of most bank deposits.

4.14 The inter-bank loan market (supply-demand graph)

1. Fed sets a target reserves.
2. Fed sets a target fund rate.
3. Federal Reserve conducts monetary policy by **setting a target for the federal funds rate** as opposed to a target for reserves.
   - demand curve for reserves is unstable (exhibiting continual shifts)
   - instability in the federal funds rate would spill over into other financial markets