Ch 24 Finance, Saving, and Investment

Principles of Macroeconomics

Econ 102

Outline

- Financial Markets and Financial Institutions
- Financial Decisions and Risks
- The Loanable Funds Market
- Government in the Loanable Funds Market

Finance and Money

- There is a difference between saving and investment. However, saving can flow through to finance the investment to make the economy grow
- Finance means lending and borrowing
  - Finance is a flow
- Money is what we use to pay for goods and services
  - Money is a stock

Capital

- The capital resources that a country have are physical capital (capital goods) and human capital (workers)
  - Financial capital is the funds that firms use to buy physical capital or invest in human capital
- Quantity of capital can increase and decrease
  - Investment increases the quantity of capital
  - Depreciation decreases the quantity of capital
- Total amount that is spent on new capital is called gross investment
- The change in the total value of capital is called net investment
  - Gross investment – depreciation = net investment

Wealth and saving

- Wealth is the value of things that people own
- Income is the value that people earn from supplying services
- Saving is the amount out of disposable income that is not spent on goods and services
  - Disposable income = total income – income tax
- Wealth can increase because of:
  - Savings
  - The market value of assets increases

Financial Capital Markets

- Saving is the source f the funds to finance investment
- 3 types of financial markets:
  1. Loan market → commercial banks provide loans to firms or even to households to buy a new house
  2. Bond market → bond is a “guarantee” for some sort payment on specified dates
  3. Stock market → stock is a proof of ownership and the claim for firm’s profit
- These 3 markets are ways for firms to raise financial capital

Financial Institution

- Financial institution can be both borrower or lender
- Different kinds of financial institution:
  - Commercial banks
  - Mutual funds
  - Pension funds
  - Insurance companies

Funds that finance investment (1)

- From circular flow of income and spending, funds can come from:
  1. Household savings
  2. Government savings (budget surplus)
  3. Borrowing from the rest of the world
- Remember the formula!

$$Y = C + I + G + X - M$$

  - There can be income tax

$$Y = C + S + T$$

  - Substituting,

$$I = S + (T - G) + (M - X)$$

Funds that finance investment (2)

- Examining closely:
  - S is savings
  - T – G is government budget surplus
  - M – X is borrowing from the rest of the world
- S + T – G is also called national saving or saving done by households and the government

Financial decision and risk

- When to say “yes” to an investment?
- The concept of time value of money is important
  - $100 today is better than $100 next year
  - $Future\ value(FV) = Present\ value\ (PV) * (1 + r)^t$
  - If we have the money today, we can put it in a commercial bank. Within 1 year, we will receive the same amount + interest
    - This interest is the time value of money
- For any investment decision, we want the return to be positive (> 0) in present value
  - Look at the Net Present Value (NPV)

Should I keep my cash or buy an asset?

- If you have $100, should you keep it as cash or buy an asset (stock, bonds, securities, etc)?
- Cash will always keep its face value no matter what happen
  - There can be a change in interest rate and inflation rate
  - The purchasing power of cash can change, but the nominal value remains the same
- An asset is exposed to market risk
  - If there is a change in interest rate, then the value of the asset changes as well
  - For example, bonds promises payments in the future. With interest being higher, the NPV changes

Interest rate

- There are two kinds of interest rate
  1. Nominal interest rate
  2. Real interest rate → adjusted to inflation
- Real interest rate is the opportunity cost of borrowing and lending
  - Can also be the opportunity cost of buying an asset

Loanable Funds market (1)

- It is the aggregate if all individual financial markets
  - Think of combining all commercial banks and all potential borrowers
- Since it is a market, it will have supply and demand
  - The demand for loanable funds are coming from firms that wants financial capital
    - Dependent on real interest rate → the higher the interest rate, the less quantity of loans demanded
    - Dependent on expectation of profit in the future → higher expectation of profit means higher willingness to take the loan

Loanable Funds market (2)

- As for the supply side,
  - The supply of loanable funds are coming from how much funds are available
    - Dependent on the real interest rate → higher interest rate would bring higher savings and thus, larger available funds
    - Dependent on disposable income → higher disposable income would lead to higher savings
    - Dependent on expected future income → higher expectation of future income would bring lower savings today. “Why do I want to save money now if I will get a lot of money later?”
    - Dependent on wealth → higher wealth means less savings. “I have a lot of valuable assets, why do I want to save money?”
    - Dependent on default risk → default risk is when the borrower is unable to pay back the loan. Higher risk will lead to less available funds

Loanable Funds market

- The supply and demand results in an equilibrium
  - Equilibrium real interest rate
  - Equilibrium quantity of loanable funds
- If the interest rate is higher than the equilibrium, then
  - There is a surplus of loanable funds
  - Interest rate will decrease back to equilibrium
- If the interest rate is lower than the equilibrium, then
  - There is a shortage of loanable funds
  - Interest rate will increase back to equilibrium
- Both the supply curve and the demand curve can shift or it can be a movement along the curve
  - It will results in a new equilibrium

Government in the Loanable Funds market (1)

- Government may enter the loanable funds market depending on its condition (budget surplus or budget deficit)
- If the government has a budget surplus, that means available funds are higher
  - Shifts the supply curve rightwards
  - Lowers the real interest rate
    - Increasing investment
    - Decreasing savings

Government in the Loanable Funds market (2)

- If the government has a budget deficit, they might want to borrow money
  - Shifts the demand curve rightwards
  - Increases the real interest rate
    - decreasing investment
    - increasing savings
- “Crowding-out effect”

Terminologies

- Crowding-out effect → when government budget deficit usually lead to higher interest rate, causing the investment to decrease
  - How can the government has a budget deficit? When they have large government expenditure (might be because of a lot of government programs)
  - As investment spending is lower, the GDP will be affected as well
- Ricardo-Barro effect
  - Basically, government budget has no effect on the loanable funds
  - When the government has a deficit, the people know that the government will raise the tax in the future. With less expected disposable income in the future, savings will increase today
  - The people will save money today, causing the supply curve to shift rightwards. The effect on real interest rate is uncertain