Lecture 9

- The IS curve (good market)
- The LM curve (market market)
- The overall equilibrium of the good and money markets
- Factors that shift the IS or the LM curve
The Good Market Equilibrium

- The Keynesian income model gives the equilibrium national income, \( Y_e \), for each given interest rate, \( r \).
- The IS curve gives all the combinations of the equilibrium \((Y, r)\) in the good market, hence, IS curve traces out all good market equilibria (Diagram).
- Derivation: \( I = 180 - 0.5r \)
  - Assumptions: \( C = 100 + 0.8Y_d, Y_d = Y - T, T = 0.25Y, M = 20 + 0.1Y, G = 600, X = 140 \)
  - Example: \( r=0 \Rightarrow I=180, Y_e=2000; r=10 \Rightarrow I=175, Y_e=? \)
  - \( \Delta Y_e=k_0 \Delta I = 1/ (1 - 0.8(1-0.25) + 0.1)(-5) = -2*5 = -10 \)
  - Maths: \( I = 180 - 0.5r \)
    - \( 0.5Y=100+180-0.5r+600+140-20=1000-0.5r \)
    - \( Y = 2000 - r \) (IS curve)
The Money Market Equilibrium

- LM curve: traces out all money market equilibria
  - Money supply: $M^s = 1000$
  - Money demand: $M^d = 4 - 0.3r + 0.5Y$
  - Money market equilibrium: $M^d = M^s$ (diagram)
    - $1000 = 4 - 0.3r + 0.5Y$
      $\Rightarrow Y = 1992 + 0.6r$
- Good and Money market equilibrium: (diagram)
  - $Y = 2000 - r$ (IS curve)
  - $Y = 1992 + 0.6r$ (LM curve)
  $\Rightarrow r^* = 5, \; Y^* = 1995$
Comparative Statics Analysis

- Idea:
  analyze the movement from one equilibrium to another after an external shock without considering the intermediate dynamic process.

- Movement along a curve:
  - IS: $\Delta r \rightarrow \Delta I \rightarrow \Delta AE \rightarrow \Delta Y$
  - LM: $\Delta Y \rightarrow \Delta M^d \rightarrow \Delta r$

- Movement of a curve:
  - IS: $\Delta Y$ for any given $r$
    - $\Delta AE_{\text{autonomous}}$: $\Delta$ of $X$, $G$, $M$, or $\Delta I$ not due to $\Delta r$
  - LM: $\Delta r$ for any given $Y$
    - $\Delta$ real $M^s$ ($\Delta$ nominal $M^s/P$) or $\Delta M^d$ not due to $\Delta Y$