International Trade

The Plan

- ▶ Logic of trade

- ▶ Develop Ricardian model of trade. Today...
  - Opportunity cost and production possibilities.
  - No trade equilibrium.

The Logic of Trade

- ▶ Voluntary exchange is "win-win"
  - Suppose two people or firms value a product or asset differently
  - Trade can benefit both

- ▶ Example in labor markets:
  - You value your time at 50 an hour
  - A firm values your time at 60 an hour
  - At what price does trade take place?
  - Who wins?

The Logic of Trade

- ▶ Voluntary exchange is "win-win"
  - Suppose two people or firms value a product or asset differently
  - Trade can benefit both

- ▶ Example in reality:
  - Green Bay Packers, Summer 08, 2 good quarterbacks
  - NY Jets, none
  - Solution: trade!

The Logic of Trade

- ▶ Voluntary exchange is "win-win"
  - • Suppose two people or firms value a product or asset differently
  - • Trade can benefit both

- ▶ The price often depends on who has the most bargaining power. Consider this game
  - • We have 100 dollars. Make me an offer on how to split 100 dollars.
  - • If I agree, we get to keep it. If not 100 dollars is destroyed.
  - • What offers would money not be destroyed?
  - • What is the "Nash equilibrium" outcome?

Reasons for International Trade

- ▶ Relative costs of production, i.e. **comparative advantage**, rationalize international trade patterns.

- ▶ What shapes a country's comparative advantage. . .
  - • Technology, productivity of workers (absolute advantage).
  - • proximity,
  - • resources.

Ricardo's Model of Trade

- ▶ David Ricardo, 1817
  - • Two goods, countries have fixed productivity at producing them
  - • In free trade: each country produces one good

- ▶ Key concept—comparative advantage
  - • Each country should produce the good at which it is comparatively the most productive.

Ricardo's Model

- ▶ Two countries (Home, Foreign), two goods (cloth, wheat), one input (labor)

- ▶ Labor is mobile across sectors.

- ▶ Constant marginal products of labor (MPL):

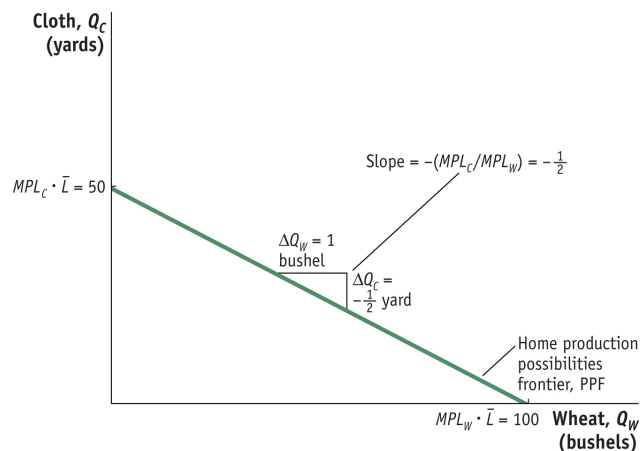|	Cloth	Wheat	Labor
Home	2	4	25
Foreign	1	1	100

Opportunity Cost

▶ Opportunity cost: What you forgo when making a choice

- This context, cloth you give up to make one more unit of wheat

▶ For the Home

- 1 wheat takes 1/4 units of labor
- 1/4 units of labor could make $1/4 \times 2 = 1/2$ cloth
- Opportunity cost of 1 wheat is 1/2 cloth

	Cloth	Wheat	Labor
Home	2	4	25
Foreign	1	1	100

PPF and Opportunity Cost

Cloth, Q_C (yards)

Slope $= -(MPL_C/MPL_W) = -\frac{1}{2}$

$MPL_C \cdot \bar{L} = 50$

$\Delta Q_W = 1$ bushel

$\Delta Q_C = -\frac{1}{2}$ yard

Home production possibilities frontier, PPF

$MPL_W \cdot \bar{L} = 100$ Wheat, Q_W (bushels)

Relative Prices

▶ Recall from Chapter 3 Mankiw, profit maximization implies

$$P \times MPL = W$$

▶ In the Ricardian model, workers are free to move and work in the sector paying the highest wages.

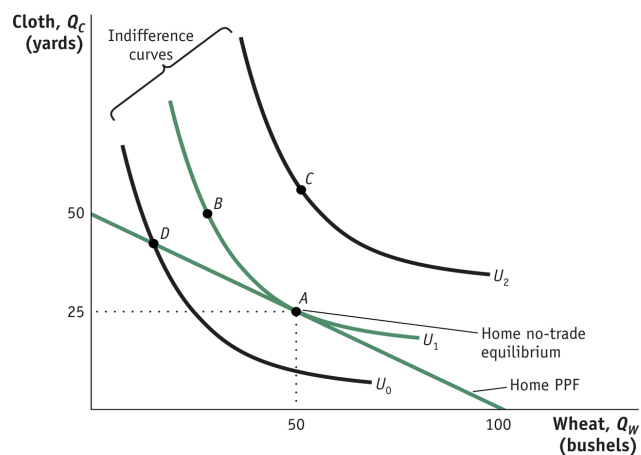▶ Thus wages in Cloth sector must equal wages in Wheat sector.

$$P_w \times MPL_w = W = P_c \times MPL_c$$

$$\frac{P_w}{P_c} = \frac{MPL_c}{MPL_w} = \frac{2}{4}$$

▶ The relative price of wheat = the opportunity cost of wheat!

Equilibrium: Marginal Cost = Marginal Benefit

Cloth, Q_C (yards)

Indifference curves

C

B

D

50

25

A

U_2

U_1

Home no-trade equilibrium

U_0

Home PPF

50   100   Wheat, Q_W (bushels)

Where we are going next. . .

- ▶ Pattern of trade.

- ▶ Prices at which countries are willing to trade internationally.

- ▶ Gains from trade.