

International Trade

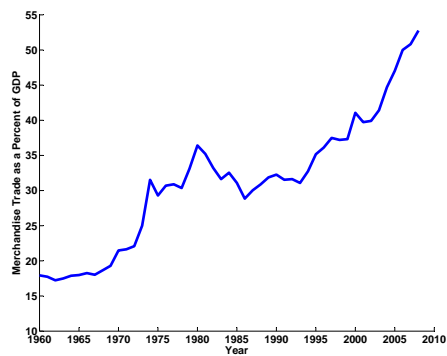
The Plan

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

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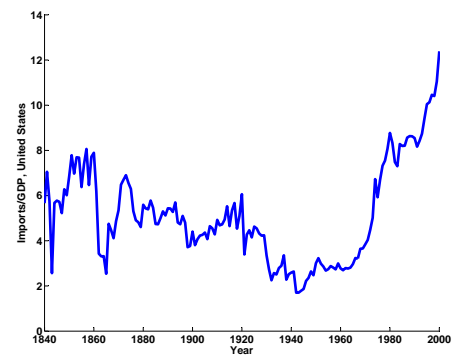
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World Trade Has Been Growing



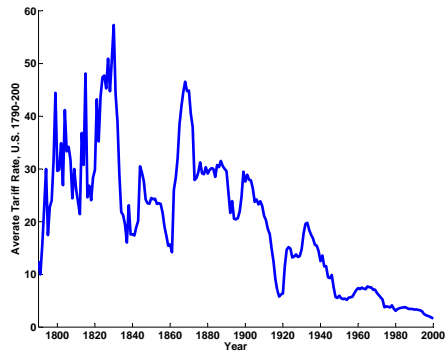
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U.S. Trade 1840-2000



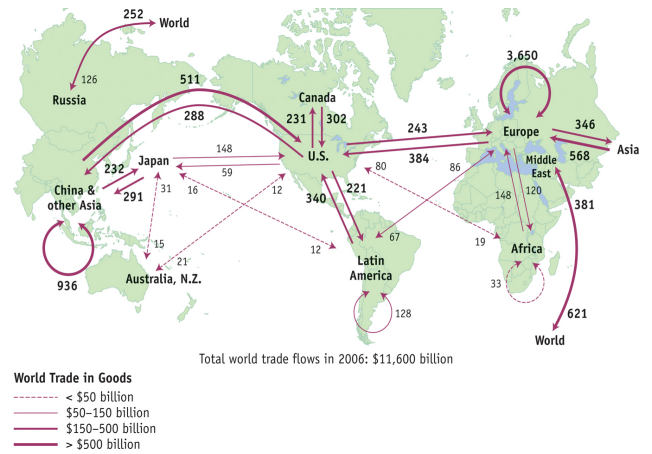
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U.S. Average Tariff Rate



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World Trade



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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?

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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!

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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?

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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.

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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.

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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

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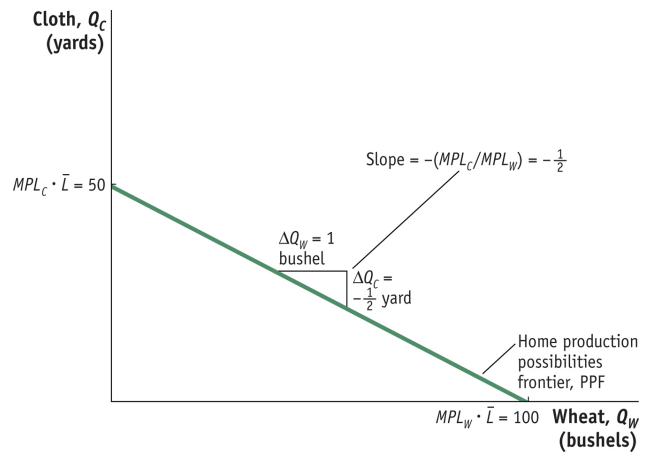
Opportunity Cost

- ▶ 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

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PPF and Opportunity Cost



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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.

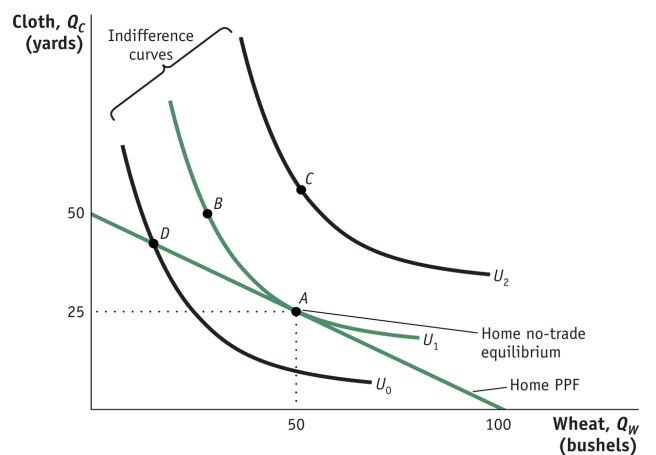
$$P_w \times MPL_w = W = P_c \times MPL_c$$

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

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

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Equilibrium: Marginal Cost = Marginal Benefit



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Opportunity Cost: Foreign Country

- ▶ Opportunity Cost: What you forgo when making a choice
 - This context, cloth you give up to make one more unit of wheat
- ▶ For the Foreign Country
 - 1 wheat takes 1 units of labor
 - 1 units of labor could make $1 \times 1 = 1$ cloth
 - Opportunity cost of 1 wheat is 1 cloth

	Cloth	Wheat	Labor
Home	2	4	25
Foreign	1	1	100

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Relative Prices: Foreign Country

- ▶ 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 the Wheat sector.

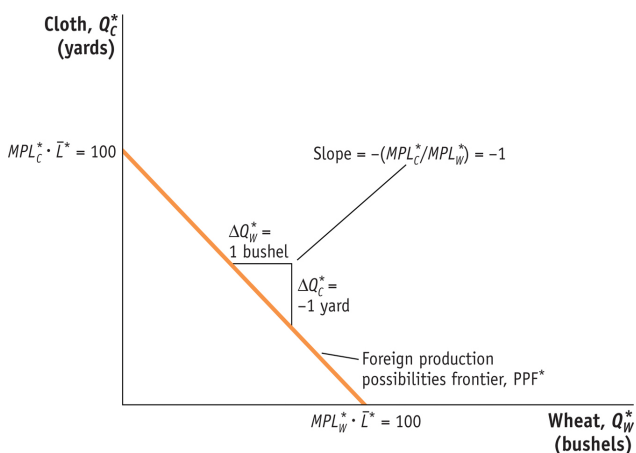
$$P_w \times MPL_w = W = P_c \times MPL_c$$

$$\frac{P_w}{P_c} = \frac{MPL_c}{MPL_w} = 1$$

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

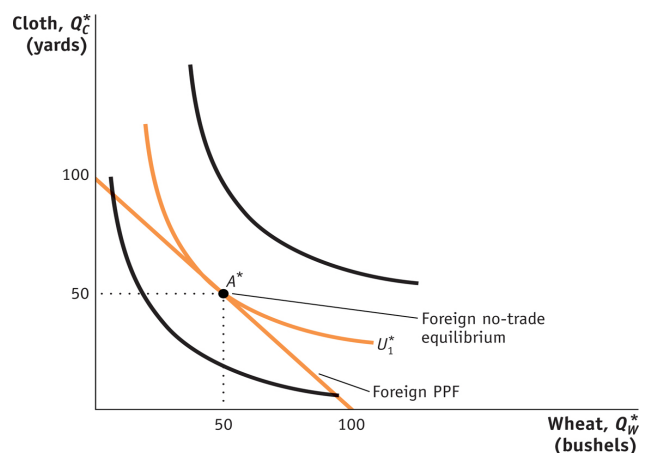
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PPF and Opportunity Cost, Foreign Country



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Equilibrium: Foreign Country



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Where we are going next. . .

- ▶ Pattern of trade.
- ▶ Prices at which countries are willing to trade internationally.
- ▶ Gains from trade.