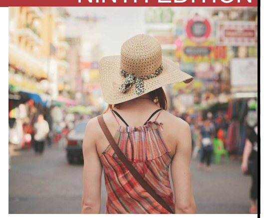
N. GREGORY MANKIW NINTH EDITION

PRINCIPLES OF

ECONOMICS



CHAPTER 9

Application: International Trade

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IN THIS CHAPTER

- What determines how much of a good a country will import or export?
- Who benefits from trade? Who does trade harm? Do the gains outweigh the losses?
- If policymakers restrict imports, who benefits? Who is harmed? Do the gains from restricting imports outweigh the losses?
- What are some common arguments for restricting trade? Do they have merit?

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Think About the Clothes You are Wearing Today

1. Where did you get them?
2. Who worked to produce them?
3. What country were they made in?
4. What would your life be like if you had to provide all your own clothing?

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The Determinants of Trade

- The equilibrium without trade
  - Only domestic buyers and sellers
  - Equilibrium price and quantity
    - Determined on the domestic market
  - Total benefits from trade = total surplus
    - Consumer surplus
    - Producer surplus

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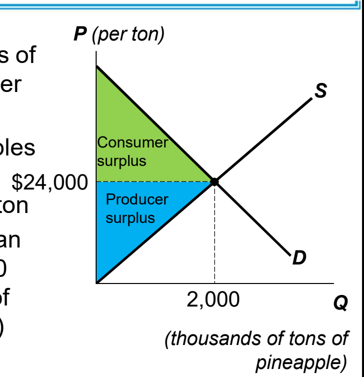
EXAMPLE 1: Daiwan, Pineapples, No Trade

- Daiwan produces ***Q*** = 2,000 thousands of tons of pineapples per year
- The price of pineapples in Daiwan is ***P*** = NT$24,000 per ton
- Without trade, Daiwan consumes ***Q*** = 2,000 (thousands of tons of pineapples per year)



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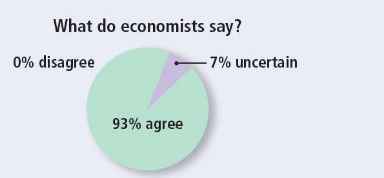
ASK THE EXPERTS

Tariffs and Trade Deals

"Past major trade deals have benefited most Americans."



Source: IGM Economic Experts Panel, March 12, 2018, November 11, 2014, and March 27, 2013.

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World Price and Comparative Advantage

- P_W = the world price of a good, the price that prevails in world markets
- P_D = domestic price without trade

- If $P_D < P_W$,
  - Domestic country has comparative advantage, country exports the good
- If $P_D > P_W$,
  - Domestic country does not have comparative advantage, country imports the good

The Small Economy Assumption

- A small economy (like Taiwan) is a price taker in world markets:
  - Not always true—especially U.S. & China
  - Its actions have no effect on P_W
  - When a small economy engages in free trade, P_W is the only relevant price:
    - No seller would accept less than P_W (can sell the good for P_W in world markets)
    - No buyer would pay more than P_W (can buy the good for P_W in world markets)

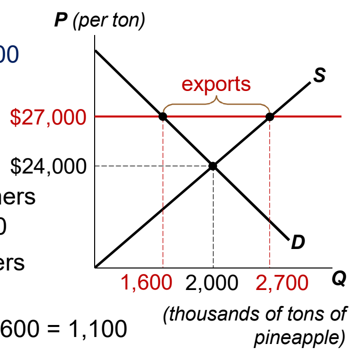
EXAMPLE 2: Daiwan Exports Pineapples

Without trade,
P_D = NT$24,000
Q = 2,000

P_W = NT$27,000

Under free trade,
- domestic consumers demand Q_D = 1,600
- domestic producers supply Q_S = 2,700

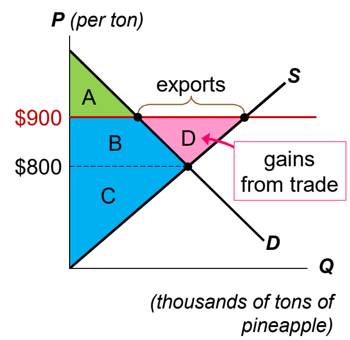
Exports = 2,700 – 1,600 = 1,100



EXAMPLE 2: Welfare Analysis, Daiwan

Without trade,
CS = A + B
PS = C
Total surplus = A + B + C

With trade,
CS = A
PS = B + C + D
Total surplus = A + B + C + D



Active Learning 1: International Trade

When Romania opened itself to international trade, the price of corn in Romania almost doubled.

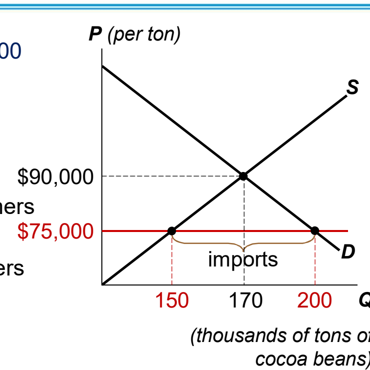
A. Does Romania has comparative advantage in the production of corn?
B. Is Romania an exporter or an importer of corn?
C. Romanian consumers of corn will be better off or worse off? How about the producers?
D. Are there any gains from international trade?

EXAMPLE 3: Daiwan imports cocoa beans

Without trade,
P_D = NT$90,000
Q = 170

P_W = NT$75,000

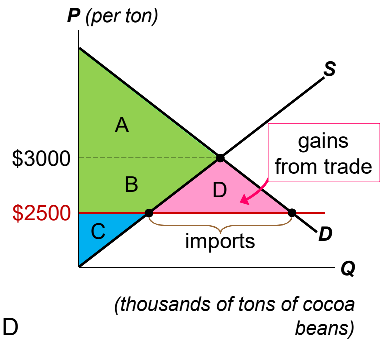
Under free trade,
- domestic consumers demand Q_D = 200
- domestic producers supply Q_S = 150
- Imports = 50



EXAMPLE 3: Welfare Analysis, Daiwan

Without trade,
CS = A
PS = B + C
Total surplus
= A + B + C

With trade,
CS = A + B + D
PS = C
Total surplus
= A + B + C + D



Summary: the Welfare Effects of Trade

	$P_D < P_W$	$P_D > P_W$
direction of trade	exports	imports
consumer surplus	falls	rises
producer surplus	rises	falls
total surplus	rises	rises

Whether a good is imported or exported, trade creates winners and losers.
But the gains exceed the losses.

Active Learning 2: International Trade, Again

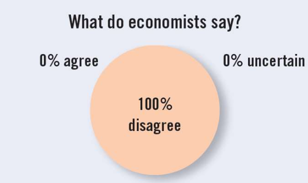
When Romania opened itself to international trade, the price of chocolate in Romania declined.

A. Does Romania has comparative advantage in the production of chocolate?
B. Is Romania an exporter or an importer of chocolate?
C. Romanian consumers will be better off or worse off? How about the producers?
D. Are there any gains from international trade?

ASK THE EXPERTS

Tariffs and Trade Deals

"Imposing new U.S. tariffs on steel and aluminum will improve Americans' welfare."



Source: IGM Economic Experts Panel, March 12, 2018, November 11, 2014, and March 27, 2013.

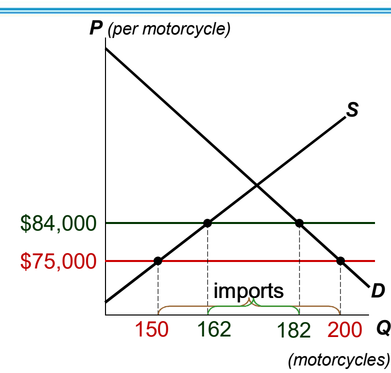
The Effects of a Tariff

- Tariff
  - Tax on goods produced abroad and sold domestically
  - Tax on imported goods
- Free trade
  - Domestic price = World price
- Tariff on imports
  - Raises domestic price above world price
    - By the amount of the tariff

EXAMPLE 4: Daiwan Imposes a Tariff on Imports

Free trade,
P_W = NT$75,000
Q_D = 200
Q_S = 150
Imports = 50

Tariff = $9,000/motorcycle
P = NT$84,000
Q_D = 182
Q_S = 162
imports = 20



EXAMPLE 4: Welfare Analysis, Tariffs

Free trade, ***P*** = NT$75,000

CS =A+ B+ C+ D+ E+ F

PS = G

Total surplus = A + B + C + D + E + F + G

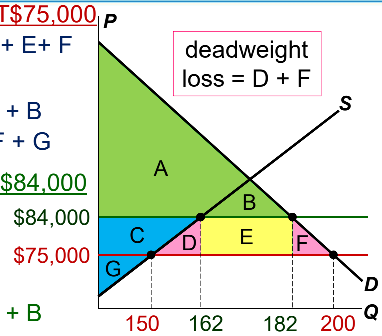
With tariff, ***P*** = NT$84,000

CS = A + B

PS = C + G

Tax revenue = E

Total surplus = A + B + C + E + G



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Import Quotas: Another Way to Restrict Trade

- Import quota
  - Quantitative limit on imports of a good
  - Mostly has the same effects as a tariff:
    - Raises price, reduces quantity of imports
    - Reduces buyers' welfare
    - Increases sellers' welfare
- A tariff raises revenue for the government
- An import quota generates surplus for those who obtain the permits to import

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International Trade

- Other benefits of international trade
  - Increases variety of goods for consumers
  - Allows firms to take advantage of economies of scale
  - Makes markets more competitive
  - Makes the economy more productive
  - Facilitates the spread of technology

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Arguments For Restricting Trade – 1

- The jobs argument
  - "Trade with other countries destroys domestic jobs"
  - Free trade creates jobs at the same time that it destroys them
  - Total unemployment does not rise as imports rise, because job losses from imports are offset by job gains in export industries….

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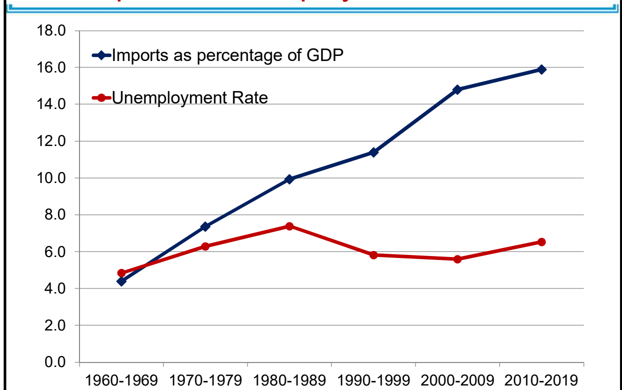
U.S. imports & unemployment, 1960 - 2018



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Arguments For Restricting Trade – 2

- The national-security argument
  - "The industry is vital for national security"
  - Protecting key industries may be appropriate when there are legitimate concerns over national security
  - Companies have an incentive to exaggerate their role in national defense to obtain protection from foreign competition

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Arguments For Restricting Trade – 3

- The infant-industry argument
  - "New industries need temporary trade restriction to help them get started.
  - Older industries need temporary protection to help them adjust to new conditions"
  - Difficult to implement in practice
  - The temporary policy is hard to remove
  - Protection is not necessary for an infant industry to grow

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Arguments For Restricting Trade – 4

- The unfair-competition argument
  - "Free trade is desirable only if all countries play by the same rules"
  - Importing from a country that subsidizes production:
    - Increase in total surplus for importing country
    - Imports of low-cost products subsidized by the other country's taxpayers
    - The gains to our consumers will exceed the losses to our producers

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Arguments For Restricting Trade – 5

- The protection-as-a-bargaining-chip argument
  - "Trade restrictions can be useful when we bargain with our trading partners.
  - The threat of a trade restriction can help remove a trade restriction already imposed by a foreign government"
  - This threat may not work
  - Unless you are Donald Trump(?!)

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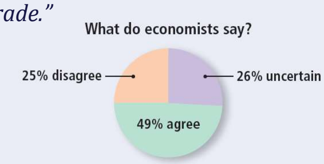
ASK THE EXPERTS

Tariffs and Trade Deals

"Refusing to liberalize trade unless partner countries adopt new labor or environmental rules is a bad policy, because even if the new standards would reduce distortions on some dimensions, such a policy involves threatening to maintain large distortions in the form of restricted trade."



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CASE STUDY

Trade agreements and the WTO

- World Trade Organization, WTO
- Unilateral approach to achieve free trade
  - Remove its trade restrictions on its own
  - Great Britain, 19th century
  - Chile and South Korea, recent years
- Multilateral approach to free trade
  - Reduce its trade restrictions while other countries do the same
  - NAFTA, GATT
  - NAFTA now replaced by USMCA!!

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CASE STUDY

Trade agreements and the WTO

- North American Free Trade Agreement (NAFTA)
  - 1993, lowered trade barriers among the United States, Mexico, and Canada
- General Agreement on Tariffs and Trade (GATT)
  - Continuing series of negotiations among many of the world's countries with the goal of promoting free trade

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CASE STUDY

Trade agreements and the WTO

- GATT
  - United States helped to found GATT
    - After World War II
    - In response to the high tariffs imposed during the Great Depression
  - Successfully reduced the average tariff among member countries from 40% to 5%
  - Enforced by the WTO
  - August 2018: 164 countries; more than 97% of world trade

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CASE STUDY

Trade agreements and the WTO

- Advantages of the multilateral approach
  - Potential to result in freer trade than unilateral approach
    - Reduce trade restrictions abroad and at home
  - Political advantage
    - Producers are fewer and better organized than consumers
    - Greater political influence

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THINK-PAIR-SHARE

You are watching the presidential debate. A presidential candidate says, "I'm for free trade, but it must be fair trade. If our foreign competitors will not raise their environmental regulations, reduce subsidies to their export industries, and lower tariffs on their imports of our goods, we should retaliate with tariffs and import quotas on their goods to show them that we won't be played for fools!"

A. If a foreign country has lax environmental regulations and direct subsidies and then exports the products to us, who gains and who loses in our country?

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THINK-PAIR-SHARE – cont.

B. If a foreign country subsidizes the production of a good exported to the United States, who bears the burden of their mistaken policy?

C. What happens to our overall economic well-being if we restrict trade with a country that subsidizes its export industries? Explain.

D. Is there any difference in the analysis of our importation of a good sold at the cost of production or sold at a subsidized price? Why?

E. Is it a good policy to threaten trade restrictions in the hope that foreign governments will reduce their trade restrictions? Explain.

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CHAPTER IN A NUTSHELL

- The effects of free trade can be determined by comparing the domestic price before trade with the world price.
  - A low domestic price indicates that the country has a comparative advantage in producing the good and that the country will become an exporter.
  - A high domestic price indicates that the rest of the world has a comparative advantage in producing the good and that the country will become an importer.

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CHAPTER IN A NUTSHELL

- When a country allows trade
  - If it becomes an exporter: producers of the good are better off, and consumers of the good are worse off.
  - If it becomes an importer: consumers are better off, and producers are worse off.
  - The gains from trade exceed the losses.
- A tariff reduces the gains from trade.
  - Domestic producers are better off and the government raises revenue, but the losses to consumers exceed these gains.

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CHAPTER IN A NUTSHELL

- There are various arguments for restricting trade: protecting jobs, defending national security, helping infant industries, preventing unfair competition, and responding to foreign trade restrictions.
  - Although some of these arguments have merit in some cases, most economists believe that free trade is usually the better policy.

Chapter 9: International Trade

- Imports benefit consumers
- Exports benefit producers
- Trade benefit the entire economy
  - Should Taiwan sign BTA with the US,
  - ECFA with China, or
  - FTA with other countries?
- Homework:
  - Mankiw, Ch.9, Problem 3, 4, 7-10

Chapter 9: Challenge Questions/ex-Midterm

- 2007 - Q5
- 2008 - (Multi-Choice Q9-Q11, Q15)
- 2009 - B
- 2010 - (True/False Q2, Q9)
- 2012 - A7-A9 (True/False Q9)
- 2013 - III (True/False Q3)
- 2014 - C-2
- 2015 - C
- 2018 - B1-B5
- 2019 - A3, C5-C8