Seventh Edition

Principles of
Economics
N. Gregory Mankiw

CHAPTER 9

Application: International Trade

Modified by Joseph Tao-yi Wang

In this chapter, look for the answers to these questions

- 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?

Introduction

- Recall from Chapter 3:
  A country has a **comparative advantage** in a good if it produces the good at lower opportunity cost than other countries.
  Countries can gain from trade if each exports the goods in which it has a comparative advantage.
- Now we apply the tools of welfare economics to see where these gains come from and who gets them.

The 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 $P_D < P_W$,
  - country has comparative advantage in the good
  - under free trade, country exports the good
- If $P_D > P_W$,
  - country does not have comparative advantage
  - under free trade, country imports the good

The Small Economy Assumption

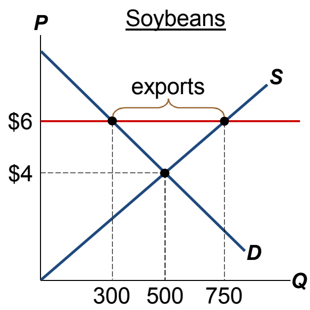
- A small economy (like Taiwan) is a **price taker** in world markets: Its actions have no effect on P_W.
- Not always true—especially for U.S. and China—but simplifies the analysis without changing its lessons.
- When a small economy engages in free trade, P_W is the only relevant price:
  - No seller would accept less than P_W, since she could sell the good for P_W in world markets.
  - No buyer would pay more than P_W, since he could buy the good for P_W in world markets.

A Country That Exports Soybeans

Without trade,
P_D = $4
Q = 500

P_W = $6

Under free trade,
- domestic consumers demand 300
- domestic producers supply 750
- exports = 450



Soybean Trade: Fact Sheet - 2008

- U.S. produced 3 billion bushels of soybeans
  - Equal to amount of international trade in soybeans
- Provided 70% US edible consumption of fats & oils
- Average price = $9.25/bushel
  - Total size of US soybean market = $27.3 billion
- U.S. exported 1.2 billion bushels (40% inter. Trade)
- The biggest purchasers of U.S. soybeans are:
- China ($7.2 billion),
- Mexico ($1.7 billion),
- Japan ($1.3 billion), and Europe ($1.6 billion).

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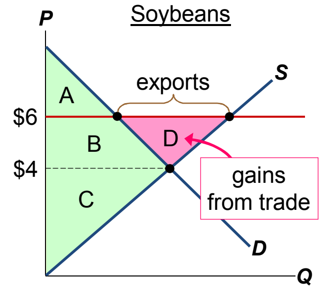
A Country That Exports Soybeans

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



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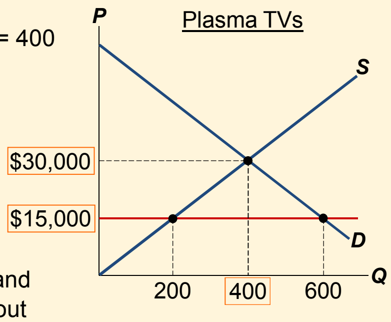
ACTIVE LEARNING 1
Analysis of trade

Without trade,
P_D = $30,000, Q = 400

In world markets,
P_W = $15,000

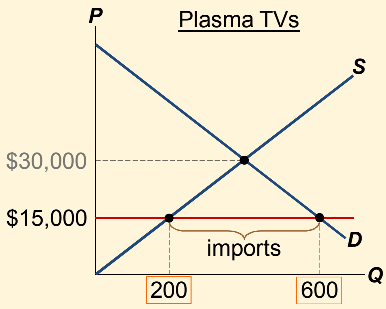
Under free trade, how many TVs will the country import or export?

Identify CS, PS, and total surplus without trade, and with trade.



ACTIVE LEARNING 1
Answers

Under free trade,
- domestic consumers demand 600
- domestic producers supply 200
- imports = 400



ACTIVE LEARNING 1
Answers

Without trade,
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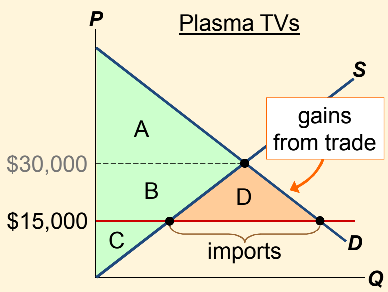

Summary: The Welfare Effects of Trade

	$P_D < P_W$	$P_D > P_W$
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.

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Other Benefits of International Trade

- Consumers enjoy increased variety of goods.
- Producers sell to a larger market, may achieve lower costs by producing on a larger scale.
- Competition from abroad may reduce market power of domestic firms, which would increase total welfare.
- Trade enhances the flow of ideas, facilitates the spread of technology around the world.

Then Why All the Opposition to Trade?

- Recall one of the Ten Principles from Chapter 1:
  Trade can make everyone better off.
- The winners from trade could compensate the losers and still be better off.
- Yet, such compensation rarely occurs.
- The losses are often highly concentrated among a small group of people, who feel them acutely.
  The gains are often spread thinly over many people, who may not see how trade benefits them.
- Hence, the losers have more incentive to organize and lobby for restrictions on trade.

Tariff: An Example of a Trade Restriction

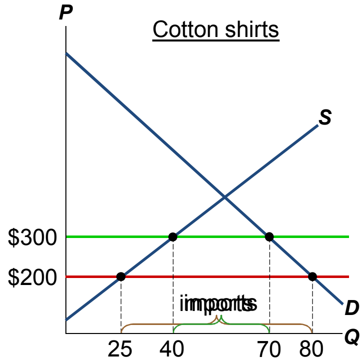
- **Tariff**: a tax on imports
- Example: Cotton shirts
  P_W = $200
  Tariff: T = $100/shirt
  Consumers must pay $300 for an imported shirt.
  So, domestic producers can charge $300 per shirt.
- In general, the price facing domestic buyers & sellers equals ($P_W + T$).

Analysis of a Tariff on Cotton Shirts

P_W = $200

Free trade:
- buyers demand 80
- sellers supply 25
- imports = 55

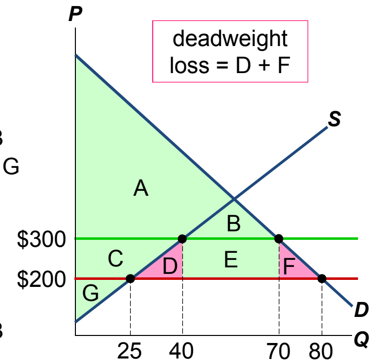
T = $100/shirt
- price rises to $300
- buyers demand 70
- sellers supply 40
- imports = 30



Analysis of a Tariff on Cotton Shirts

Free trade
- CS = A + B + C + D + E + F
- PS = G
- Total surplus = A + B + C + D + E + F + G

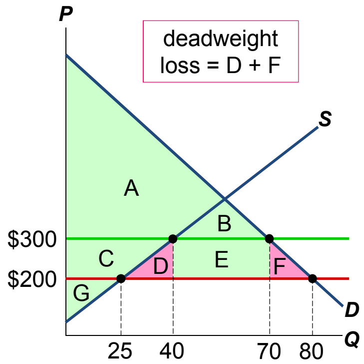
Tariff
- CS = A + B
- PS = C + G
- Revenue = E
- Total surplus = A + B + C + E + G



Analysis of a Tariff on Cotton Shirts

D = deadweight loss from the overproduction of shirts

F = deadweight loss from the under-consumption of shirts



Import Quotas: Another Way to Restrict Trade

- **Import quota:** a 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 creates revenue for the govt. A quota creates profits for the foreign producers of the imported goods, who can sell them at higher price.
- Or, govt could auction licenses to import to capture this profit as revenue. Usually it does not.

In the News: Textile Imports from China

On 12/31/2004, U.S. quotas on apparel & textile products expired.

During Jan 2005: The U.S. textile industry & labor unions fought for new trade restrictions.

The National Retail Federation opposed any restrictions.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November 2005: Bush administration agreed to limit growth in imports from China.

Arguments for Restricting Trade

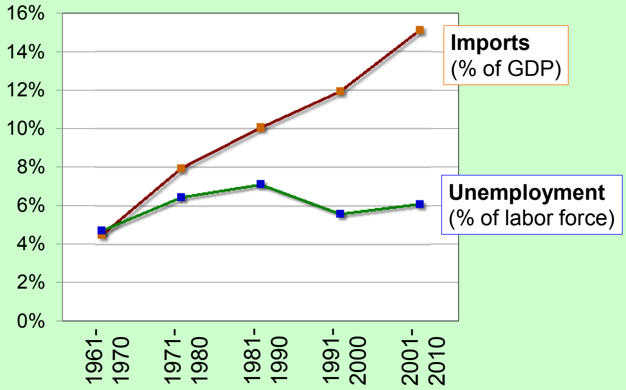
1. The jobs argument

Trade destroys jobs in industries that compete with imports.

Economists' response:

Total unemployment does not rise as imports rise, because job losses from imports are offset by job gains in export industries….

U.S. Imports & Unemployment,
Decade averages, 1961–2010



Arguments for Restricting Trade

2. The national security argument

An industry vital to national security should be protected from foreign competition, to prevent dependence on imports that could be disrupted during wartime.

Economists' response:

Fine, if trade restrictions based on true security needs.

But producers may exaggerate their own importance to national security to obtain protection from foreign competition.

Arguments for Restricting Trade

3. The infant-industry argument

A new industry argues for temporary protection until it is mature and can compete with foreign firms.

Economists' response:

Difficult for govt to determine which industries will eventually be able to compete and whether benefits of establishing these industries exceed cost to consumers of restricting imports.

Besides, if a firm will be profitable in the long run, it should be willing to incur temporary losses.

Arguments for Restricting Trade

4. The unfair-competition argument

Producers argue their competitors in another country have an unfair advantage, e.g. due to govt subsidies.

Economists' response:

We should welcome imports of low-cost products subsidized by the other country's taxpayers.

The gains to our consumers will exceed the losses to our producers.

Arguments for Restricting Trade

5. The protection-as-bargaining-chip argument

Example: The U.S. can threaten to limit imports of TSMC's A9 unless Taiwan lifts their quotas or restrictions on American beef.

Economists' response:

Suppose Taiwan refuses. Then the U.S. must choose between two bad options:

A) Restrict imports from Taiwan, which reduces welfare in the U.S.

B) Don't restrict imports, which reduces U.S. credibility.

Trade Agreements

- A country can liberalize trade with
  - unilateral reductions in trade restrictions
  - multilateral agreements with other nations
- Examples of trade agreements:
  - North American Free Trade Agreement (NAFTA)
  - General Agreement on Tariffs and Trade (GATT)
- World Trade Organization (WTO), est. 1995, enforces trade agreements, resolves disputes
- ECFA: "Special" FTA between Taiwan and China
- TPP: The Trans-Pacific Partnership

Summary

- A country will export a good if the world price of the good is higher than the domestic price without trade. Trade raises producer surplus, reduces consumer surplus, and raises total surplus.
- A country will import a good if the world price is lower than the domestic price without trade. Trade lowers producer surplus but raises consumer and total surplus.
- A tariff benefits producers and generates revenue for the govt, but the losses to consumers exceed these gains.

Summary

- Common arguments for restricting trade include: protecting jobs, defending national security, helping infant industries, preventing unfair competition, and responding to foreign trade restrictions.
- Some of these arguments have merit in some cases, but economists believe free trade is usually the better policy.

Application: International Trade

- Imports benefit consumers
- Exports benefit producers
- Trade benefit the entire economy
- Should Taiwan sign FTA or ECFA with other countries?
- Homework: Mankiw, Ch. 9,
  Problem 3, 7, 8, 9, 10, 11

A Country That Imports Plasma TVs

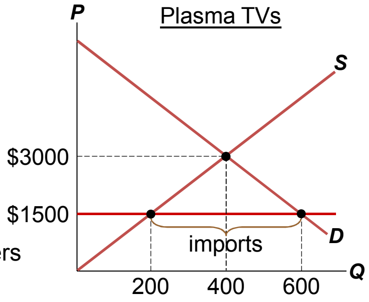
Without trade,

- P_D = \$3000
- Q = 400

P_W = \$1500

Under free trade,

- domestic consumers demand 600
- domestic producers supply 200
- imports = 400



A Country That Imports Plasma TVs

Without trade,

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