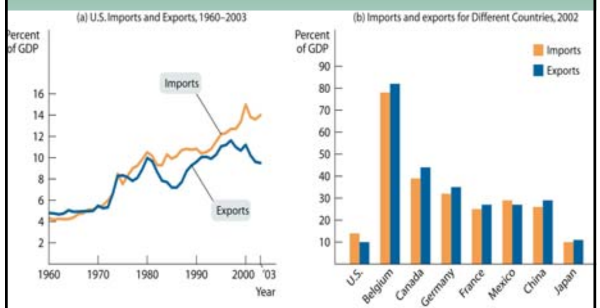
International Trade

October 31, 2006
Reading: Chapter 17

We will examine: (1) comparative advantage and the gains from trade; (2) sources of comparative advantage and why countries trade; (3) effects of trade using supply and demand; (4) how international trade affects factor markets and income distribution; and (5) trade policies and protection.

Growing Importance of International Trade



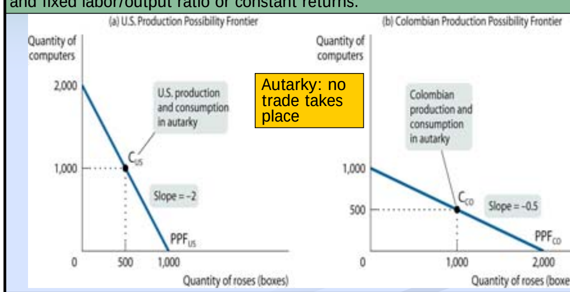
Imports: goods and services purchased from other countries
Exports: goods and services sold to other countries
Causes and **consequences** of trade? Note: micro issues only, not macro

International Trade

a. Comparative advantage and the gains from trade
b. Sources of comparative advantage
   i. Climate
   ii. Technology
   iii. Factor endowments
   iv. Increasing returns
c. Supply, demand and international trade
d. International trade and factor markets
e. Trade protection
   i. Effects of protection
   ii. Long-run effects of protection
   iii. Political economy of protection

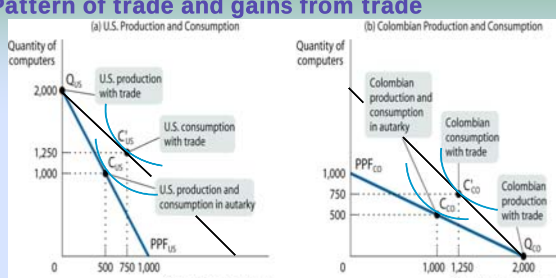
Comparative Advantage and Gains from trade
Production possibility frontiers

Review: **Ricardo's model** with two goods, countries, labor as the only factor, and fixed labor/output ratio or constant returns.



A country has **comparative advantage** in producing a good if opportunity cost of producing it is lower for that country than for other countries.

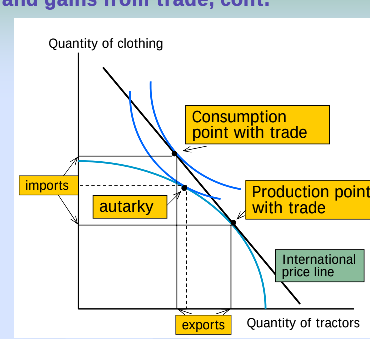
Comparative Advantage and Gains from trade
Pattern of trade and gains from trade



Country exports the good in which it has a comparative advantage. Terms of trade (price ratio) determined by market clearing for the two goods: for example, for computers, what US exports is exactly what Colombia imports. Both countries gain from trade – higher indifference curve with trade than in autarky.

Comparative Advantage and Gains from trade
Pattern of trade and gains from trade, cont.

- Production possibility frontier is not a straight line, but curved (with diminishing returns to labor, or with more than one factor of production).
- Trade does not lead to complete specialization.
- Gains from trade.



Sources of Comparative Advantage

1. **Climate and geography**: Differences in climate result in differences in what can be produced. Tropical products. Minerals.
2. **Technology**: Some places have better technology in the production of certain things. Stressed in **Ricardian theory**. What explains technological differences? Large part due to experience in some lines of production.
3. **Factor endowments**: Some countries are more **abundant** in some factors, measured by ratio of the availability of two factors. Example: Capital/Labor ratio. If one country has more capital/labor, capital relatively cheaper, comparative advantage in capital-**intensive** goods. A country with less capital/labor, labor relatively cheaper, comparative advantage in labor-**intensive** goods. So **factor abundance** of countries and **factor intensity** of goods are relevant. This explanation is emphasized by the **Heckscher-Ohlin theory** of international trade.
4. **Increasing returns**: If one country specializes in one good, it will have lower costs in that good if it produces a large amount. So two countries who specialize in two different products, even in the same industry – like cars of different types – can trade and gain from trade. Bulk of trade between rich countries is explained by this, not by factor endowment differences.

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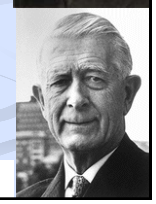
Sources of Comparative Advantage
Heckscher-Ohlin theory

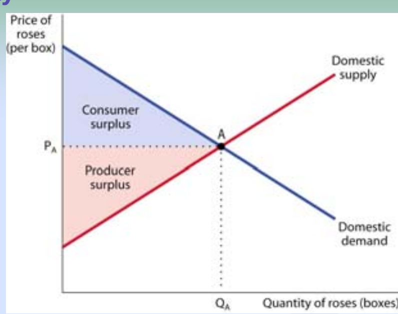
If there are two countries, two factors and two goods. Suppose one country (say the US) has a higher amount of capital to labor and the other country (say China) has a lower amount of capital to labor or a higher amount of labor to capital. Then, under autarky, the US will have a lower rental rate (on capital) and China will have a lower wage rate (on labor). Suppose that there are two goods, say autos (which are capital intensive) and toys (which are labor intensive). Suppose technology is the same between countries. Then, the capital abundant country (US) will have a comparative advantage in cars (the capital intensive good) and will export it, while the labor abundant country (China) will export the labor-intensive good.

Leontief found that the US exports less capital-intensive goods, despite being capital abundant. Why? One explanation is that one should take skilled and unskilled labor to be the two major factors, not capital and labor.



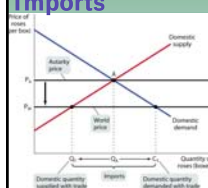
Eli Heckscher, top
Bertiln Ohlin, bottom

Supply, Demand and International Trade
Autarky



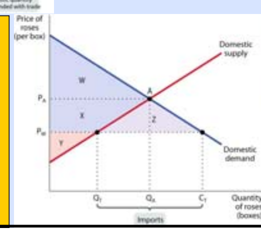
Domestic demand curve shows demand by domestic consumers. Domestic supply curve shows supply by domestic producers. This graph shows what happens when there is no international trade: autarky.

Supply, Demand and International Trade
Imports



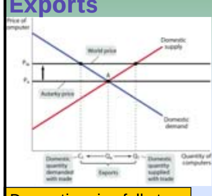
Suppose that the country can buy or sell any amounts of the good at a given world price (small country assumption). Suppose also that the world price is lower than the autarkic price. In this case importers will buy the product from abroad and sell it domestically. The domestic price will fall, becoming equal to the world price. Domestic suppliers will sell less and domestic consumers will consume more at the lower price. The gap between them will be imports.

Domestic price falls to P_W as a result of trade, consumers gain additional surplus (areas $X+Z$) and producers lose surplus (area X). Because gains to consumers outweigh losses to producers, total surplus in economy as a whole increases (area Z).



	Changes in surplus	
	Gain	Loss
Consumer surplus	X + Z	
Producer surplus		− X
Change in total surplus	+Z	

Supply, Demand and International Trade
Exports



Now suppose that the given world price is higher than the autarkic price. In this case the domestic price will rise, becoming equal to the world price. Domestic suppliers will sell more and domestic consumers will consume less at the lower price. The gap between them will be exports.

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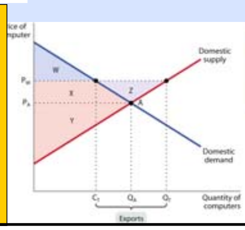

	Changes in surplus	
	Gain	Loss
Consumer surplus		− X
Producer surplus	X + Z	
Change in total surplus	+Z	

International Trade and Factor Markets

- **Exporting industries** produce goods and services which are exported from the country. **Import-competing industries** produce goods and services which are also imported into the country.
- When a country's **international trade increases**, the production of exporting industries increases and that of import-competing industries declines. The **demand for factors** used intensively in the exporting industries rises and of factors used intensively in import-competing industries falls. The **factor prices** rise (fall) for factors for which the demand rises (falls).
- Since, according to the Heckscher-Ohlin model the country's abundant factor is used intensively in the exporting industry and its scarce factor is used intensively in the import-competing industry, a **rise in international trade implies a rise in the price of the abundant factor and a decline in the price of its scarce factor**.
- In the **US**, the abundant factor is skilled labor and the scarce factor is unskilled labor (compared to poorer countries). So an increase in trade can be expected to lead to a **rise** in the **wage of skilled workers** and a **fall** in those of **unskilled workers**.
- **Wage inequality** in the US, in fact, has **increased**. But is it due mainly due to **international trade**? While there may be some impact, the trends appear to be mainly due to **technological change** which increased the demand for skilled workers.

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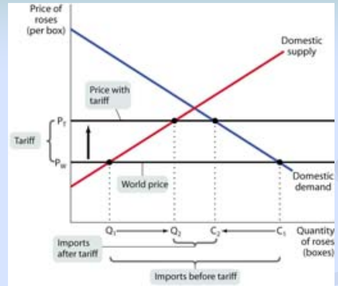
Trade Protection
Definitions

An economy has **free trade** when the government does not attempt either to change the levels of exports and imports that occur in free markets as a result of supply and demand through trade policies.

Policies that limit imports are known as **trade protection** or simply as **protection.**

The two most common protectionist policies are **tariffs** (a tax on imports) and import **quotas** (a quantitative restriction on the amount of imports, through licenses). Sometimes governments give **export subsidies** to exporting industries.

Trade Protection
Effect of a Tariff



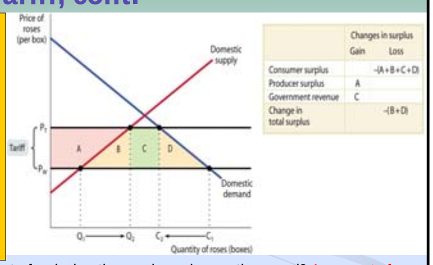
An import tariff is a tax on imports. If the world price (WP) is given as before, the domestic price is given by

$P_d = P_w$ (1+import tax rate)

The quantity supplied by domestic suppliers rises and the quantity demanded domestically falls. The level of imports falls.

Trade Protection
Effect of a Tariff, cont.

The import tariff results in a fall in domestic consumer surplus (change in area under the domestic demand curve above the price) a rise in domestic producer surplus (change in area above the supply curve and below the price), and yields a government revenue equal to the amount of imports times the tariff. The total surplus for the country falls.



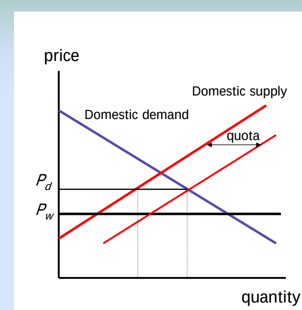
If tariffs have a bad effect of reducing the surplus, why are they used? Arguments for protection:

1. Security reasons: food, oil, armaments
2. Job creation: to maintain jobs for people who may lose them because of import competition. But they could be moved to other sectors. Training, time.
3. Infant industry protection. Allow industries to survive against foreign competition till they become established and can compete with foreign producers.

Trade Protection
Effect of an Import Quota

An **import quota** is a legal quantity limit on imports.

Its effect is like that of a tariff, except that revenues—the quota rents—accrue to the license-holder, not to the government. If the licenses are given to foreign countries or producers, the government does not receive the revenue. If the licenses are sold to foreign producers, then the government can collect the rents, and the effect is identical to that of the tariff.



Trade Protection
Long-run effects of protection

- Most countries have used **tariff protection** in the early stages of their **economic development**. England, Germany, USA. USA North and South versus Latin America.
- To allow **infant industries** to develop. But also many kinds of industries. Protection allows industries to produce for domestic market, gain experience, and then export.
- Some sectors are more capable of experiencing technological change and learning by doing than others. Technological change spills over to other industries as well. England – Portugal example: textiles and wine. Role of autos and electronics. Can lead to **long-run technological improvements**.
- But tariff protection can also lead to **production inefficiency** in addition to the deadweight losses. With guaranteed markets firms don't produce efficiently. Depends on how governments can influence firms to become efficient and improve technology.

Trade Protection
Political Economy of Protection

- At the **domestic** level:
  - protection can be given because **producers** want it. Producers lobby the government.
  - **Consumers**, who may be hurt, or who may benefit later with technological change, oppose them, but since they are so many, they are not an organized lobby.
  - Some groups may be helped and some hurt. Scarce factor prices pushed down by international trade. Protection helps scarce **factors**.
- **Internationally**:
  - Trend towards reduced protection and **trade liberalization**. Bilateral and group liberalization of trade. NAFTA. World Trade Organization (WTO) encourages multilateral trade liberalization. Members have to follow reciprocal trade liberalization schedules. WTO also provides forum for resolving international trade disputes.
  - Is this **good or bad**? For those who believe protection is bad, reduced protection, especially multilateral liberalization is **good** – more efficiency, more gains from trade. Binds governments against producer lobbies. But for those who believe that protection can be good for technological change in poor countries, can be **bad**. Doesn't allow them to adopt policies used in past by many rich countries of today. In earlier times colonies were forced to pursue free trade while colonizers used protection. Is WTO playing a similar role? Is it kicking away the ladder?