

# Non Tariff Trade Barriers

Nontariff trade barriers (NTBs)

Encompass a variety of  
measures such as:

Import quotas

Voluntary export restraints

Subsidies

Domestic content  
requirements

Generally, NTBs are intended  
to benefit domestic producers

# Major Types of NTBs

Type	What It Is	Channel of Effects
Import quota	Quantitative limit on imports	Quantity
Voluntary export restraint (VER)	Quantitative limit on exports (based on threat of import restriction)	Quantity
Tariff-quota	Allows imports to enter the country at a low or zero tariff up to a specified quantity; imposes a higher tariff on imports above this quantity	Quantity (if the tariff for potential imports above the specified quantity is so high that it is prohibitive, so that there are no imports above the specified quantity)
Government procurement	Laws and government rules that favor local products when the government is the buyer	Quantity (for instance, an outright prohibition) Cost of importing (for instance, special procedures for imports)
Local content and mixing requirements	Require specified use of local labor, materials, or other products	Quantity
Technical and product standards	Discriminate against imports by writing or enforcing standards in a way that adversely affects imports more than domestic products	Cost (to conform to standards or demonstrate compliance) Uncertainty (if approval procedures are unclear)
Advance deposit	Requires some of the value of intended imports to be deposited with the government, and allows the government to pay low- or zero-interest on these deposits	Cost (foregone interest)
Import licensing	Requires importers to apply for and receive approval for intended imports	Cost (of application procedure) Uncertainty (if basis for approval is unclear)
Other customs procedures (classification of product, valuation of product, procedures for clearing)	Affect the amount of tariff duties owed or the quota limit applied; procedures can be slow or costly	Cost Uncertainty

# Import Quota

- Physical restriction on the quantity of imports during a specific time period
  - Import licenses
  - Quotas on manufactured goods outlawed by W.T.O
  - Global quotas
    - Permit a specified number of goods to be imported each year
  - Selective quotas
    - Import quotas allocated to specific countries
  - May lead to domestic monopoly of production

**TABLE 5.1****EXAMPLES OF U.S. IMPORT QUOTAS**

<b>Imported Article</b>	<b>Quota Quantity (yearly)</b>
Condensed milk (Australia)	91,625 kg*
Condensed milk (Denmark)	605,092
Evaporated milk (Germany)	9,997
Evaporated milk (Netherlands)	548,393
Blue-mold cheese (Argentina)	2,000
Blue-mold cheese (Chile)	80,000
Cheddar cheese (New Zealand)	8,200,000
Italian cheese (Poland)	1,325,000
Italian cheese (Romania)	500,000
Swiss cheese (Switzerland)	1,850,000

\*kg = kilograms.

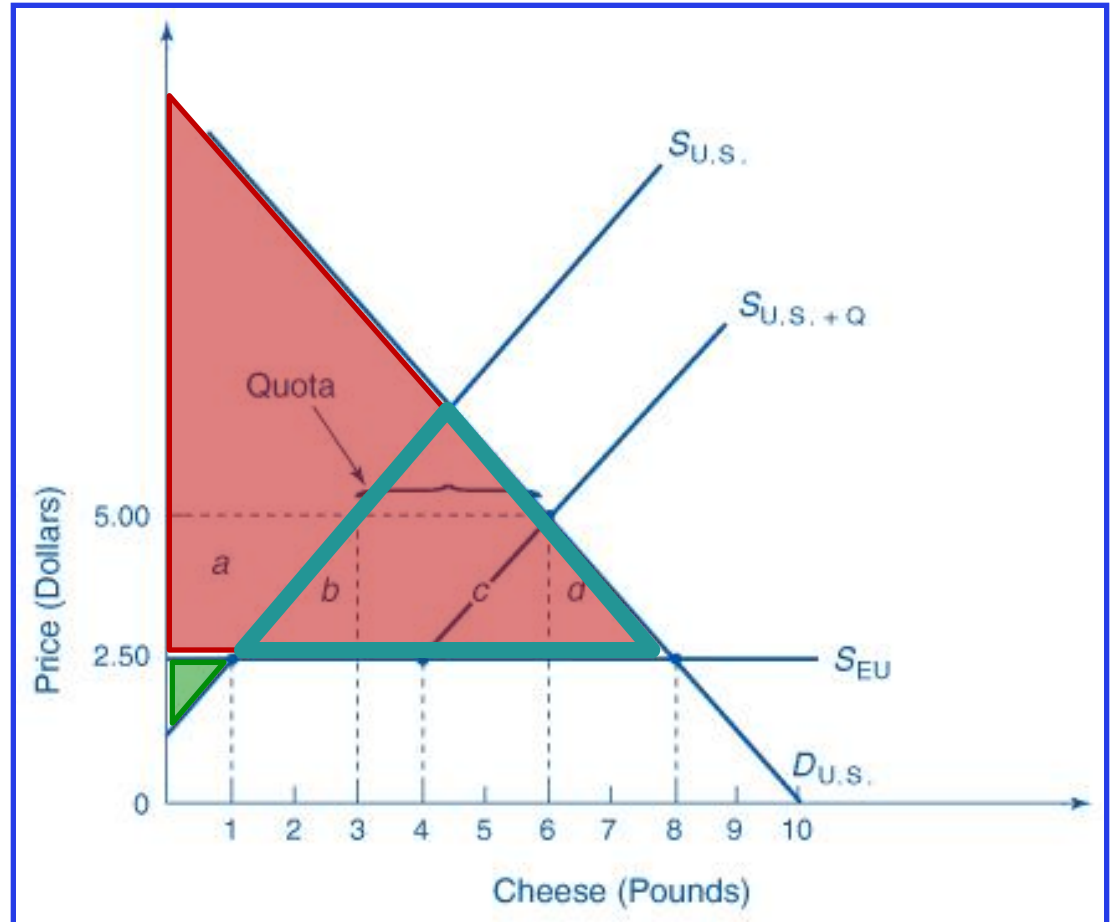
**Source:** From U.S. International Trade Commission, *Tariff Schedules of the United States* (Washington, DC: Government Printing Office, 2000).

# Import Quota Welfare Effects

With Free Trade:

U.S. consumer surplus increases substantially due to lower price.

U.S. producer surplus decreases to a lesser degree.



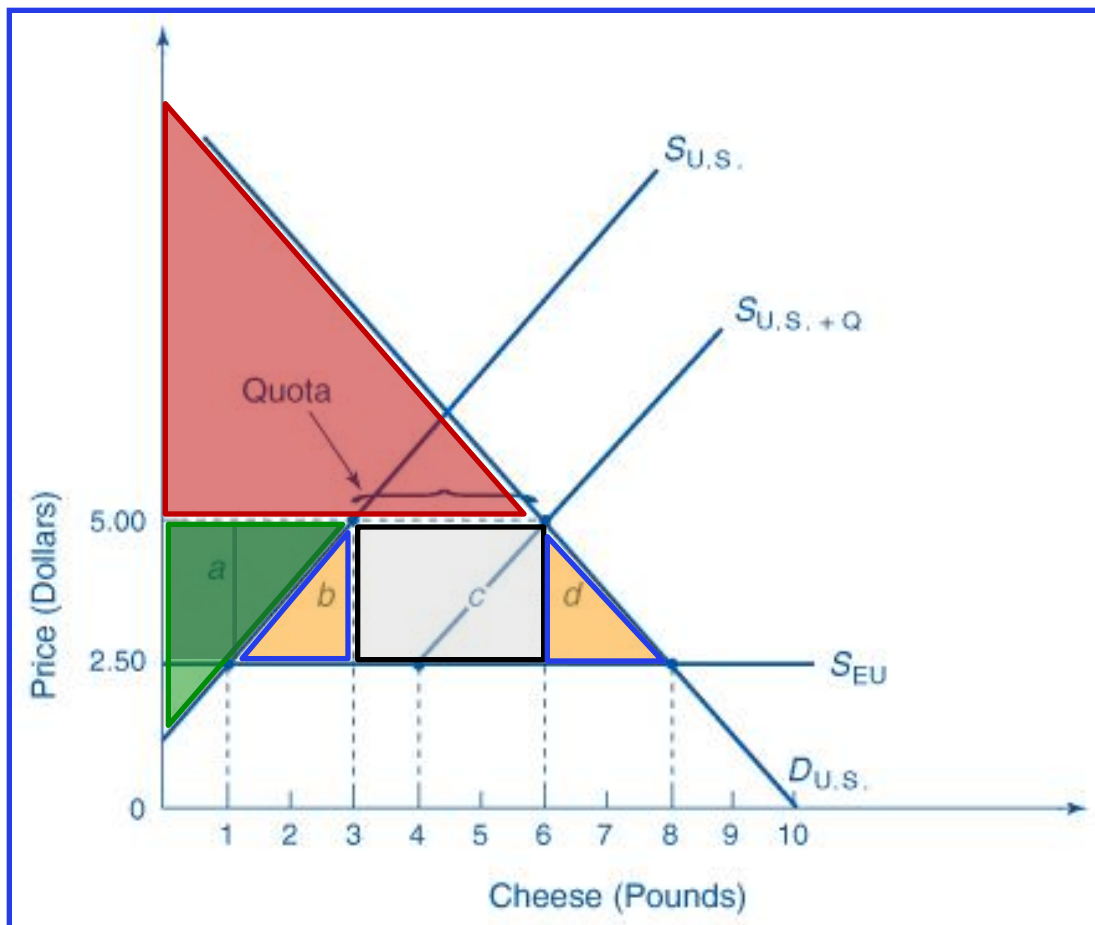
# Import Quota Welfare Effects

With Import Quota:

a = redistributive effect

b = protective effect  
d = consumption effect

c = revenue effect  
"windfall profit"  
"quota rent"  
portion to foreign exporters and portion to U.S. importers



# Import Licenses

With an import quota, the government must find method to allocate limited supply of imports to domestic importers.

- historical market share – bias against new importers
- pro rata – each importer receives fraction of its demand
- auction import licenses to highest bidder(s) – allows the domestic government to capture the windfall profits (*area c = revenue effect*)



# Tariffs Compared to Quotas

## Small Country Model

- Consumption and Production Effects are the same
- Tariff - Gov't gets tariff revenues
- Quota - depends on how import licenses are allocated
  - Auction - Gov't gets revenue similar to tariff revenue
  - Lottery - no gov't revenue, but no rent seeking costs
  - To rent seekers - inefficiencies

# Tariffs Versus Quotas

## Small Country Model

- Consider a decrease in the world price
  - Tariffs
    - Domestic P down
    - Imports Up,  $Q_s$  down,  $Q_d$  up
  - Quotas
    - No change in domestic P,  $Q_d$ ,  $Q_s$ , since imports cannot increase

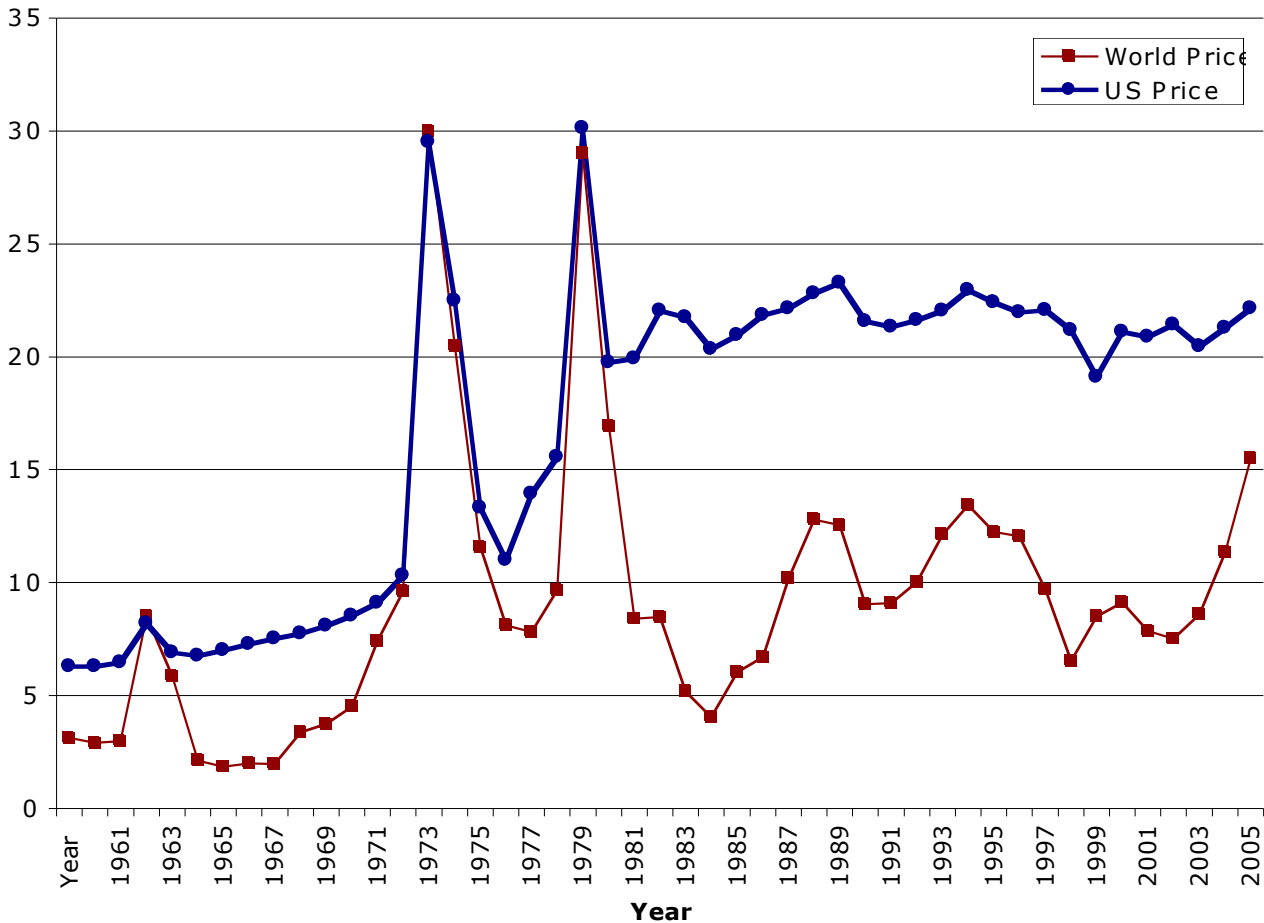
# Quotas Versus Tariffs

- During periods of growing demand, an import quota is a more restrictive trade barrier
  - Tariff increases the domestic price, but does not limit the number of goods that can be imported
  - Tariffs allow for some degree of competition
    - Degree of protection is determined by the market mechanism
  - Quota is more restrictive and suppresses competition
    - Quota forecloses the market mechanism
  - W.T.O and *tariffication*

# Import Quota on Sugar Began in 1983

Sugar module

**Sugar Price (per pound)**



# Subsidies to Domestic Producers

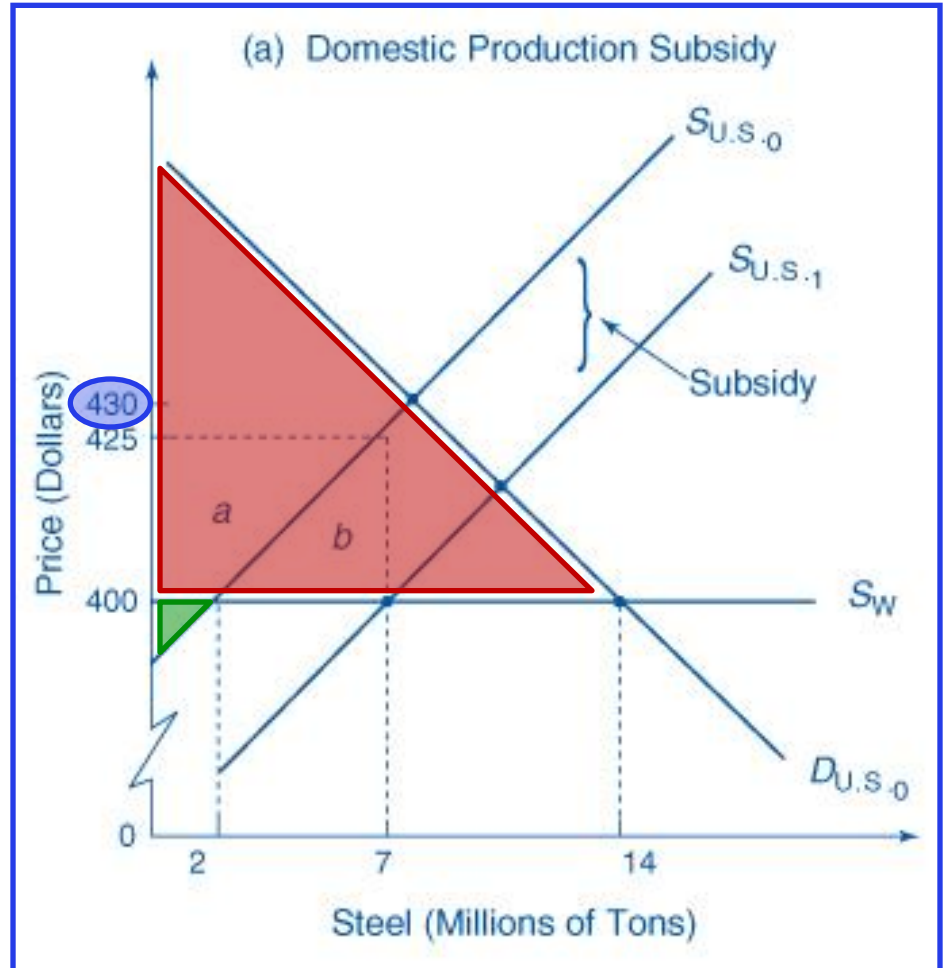
- tax concessions, low interest loans, gov't provision of health insurance
- **domestic production subsidy** – granted to producers of import competing goods
- **export subsidy** – granted to producers of goods that are to be sold in other countries

# Subsidy to Domestic Producers

Free Trade - No Subsidy, Small Nation

consumer surplus substantial because of the lower price caused by free trade

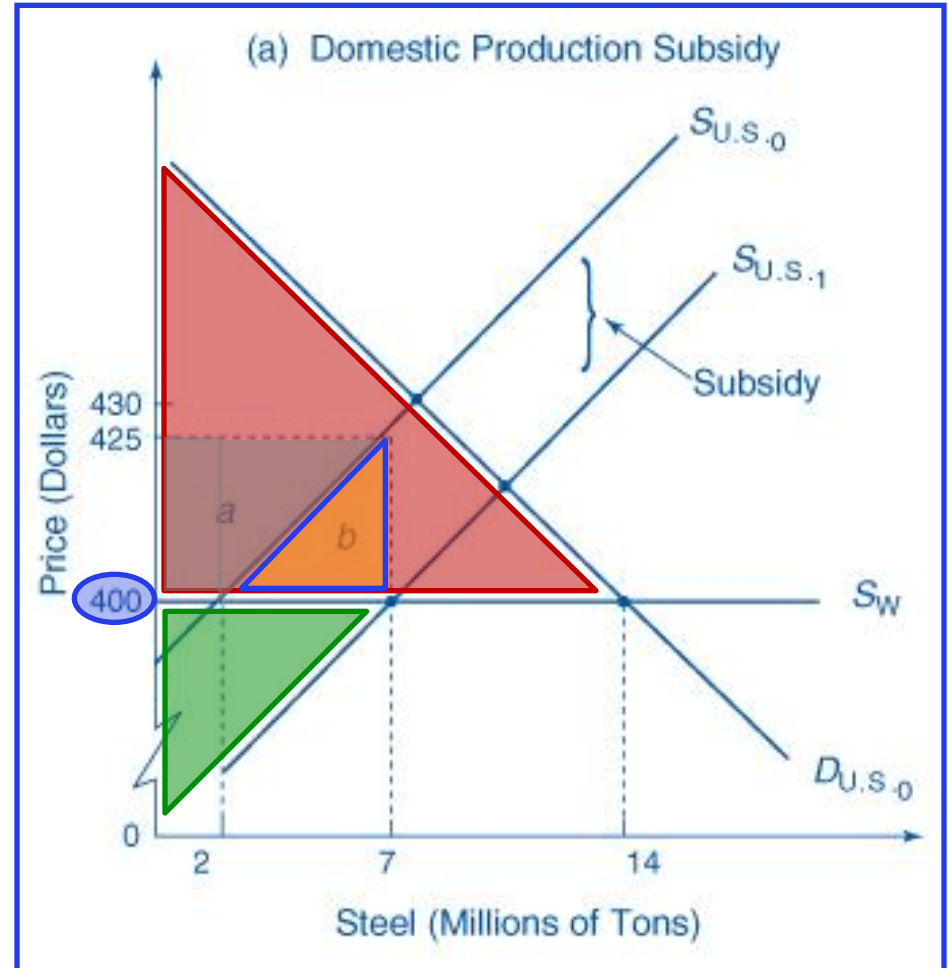
producer surplus is a small area for the same reason



# Domestic Production Subsidy-Welfare

## Domestic Production Subsidy, small country

- increases domestic supply but price does not change
- producer surplus up by  $a$
- consumer surplus - no change
- protective effect ( $b$ )
- Gov't Subsidy Cost= $a+b$
- Net Welfare Effect= $-b$



- In December 2005, representatives of the 149 countries belonging to the WTO met in Hong Kong to discuss reforms of the world trading system.
- The main focus of these meetings was the trade policy (tariffs and subsidies) on agricultural products.
  - Lower world prices hurt farmers in land-rich developing countries like Brazil, India, and China.
  - But lower world prices benefit land-poor developing countries that import agricultural products.



- Table 10.1 describes the agreements made at the Hong Kong meeting of the WTO.
- These have not been ratified by the legislatures in the countries involved so they are goals rather than outcomes.
- Agricultural Export Subsidies
  - An **export subsidy** is a payment to a firm for every unit exported.
    - A fixed amount or a fraction of the sales price.
  - Governments give subsidies to encourage domestic firms to increase production in particular industries.

## Table 10.1

Issue	Decision Made in Hong Kong	Unresolved in Hong Kong
Agricultural export subsidies	Abolition by end of 2013, with a “substantial part” scrapped before 2011, and parallel elimination of indirect subsidies.	Must agree [on] value of indirect subsidies and detailed phase-out programs.
Domestic farm supports	Agreement to classify WTO members in three bands based on their level of domestic farm support (top—European Union, middle—United States and Japan, bottom—everyone else).	Must agree [on] size of subsidy reduction and rules to stop countries from shifting trade-distorting subsidies into categories sheltered from deep cuts.
Agricultural tariffs	Agreement on four tiers (different for rich and poor countries) and on a mechanism allowing poor nations to raise duties to counter import surges.	Must decide size of tariff cuts and number and treatment of “sensitive” and “special” products.

**Table 10.1 cont.**

Issue	Decision Made in Hong Kong	Unresolved in Hong Kong
Cotton	Agreement to eliminate export subsidies in 2006 and grant unrestricted access for cotton exports from West African producers and other least developed countries (LDCs).	United States will have the “objective” of cutting its \$4 billion subsidies to cotton growers further and faster than the still-to-be-agreed-upon overall reduction for domestic farm supports.
Industrial goods	Agreement on formula and on a “comparably high level of ambition” for tariff cuts in agriculture and industrial goods so rich nations do not demand more cuts than they give.	Must agree [on] key elements of formula, how much to cut, flexibilities for developing countries, and role of sectoral negotiations.
Services	Some negotiating guidelines for trade in services agreed upon . . .	The European Union is pressing for services liberalization timing targets opposed by developing countries; poor nations want rich ones to accept more temporary service workers.
Development	Duty-free, quota-free access extended to 97% of product[s] . . . from least developed countries by 2008, allowing significant exclusions (e.g., U.S. textiles imports). More pledges of aid for trade.	Must agree [on] other measures to strengthen special treatment provisions for poor countries.

## ○ Agricultural Export Subsidies

- Member countries of the WTO agreed to abolish all export subsidies by 2013.
- Europe maintains a system of agricultural subsidies known as the Common Agricultural Policy (CAP).
  - As a result, the sugar beet subsidy makes Europe a leading supplier of sugar, even though other countries have a natural comparative advantage over Europe.
- Other countries maintain similarly generous subsidies.
  - U.S. pays cotton farmers to grow more cotton and subsidizes agribusiness and manufacturers to buy the American cotton.

## *Brazil Wins Rulings on Two Trade Issues*

- The WTO ruled that the European Union's sugar subsidies and the U.S.'s cotton subsidies are illegal and violate the organization's rules.
- This was a big victory for Brazil in their fight against farm aid in developing nations.
- These disputes are part of efforts by developing and food exporting nations to influence wealthy governments to cut spending on farmers.

# WTO Goals on Agricultural Export Subsidies

- Issues Involving Trade in Industrial Goods and Services
  - Finally, there was an agreement to allow tariff-free access to WTO member markets for 97% of imported products from the world's 50 least-developed countries (LDCs).
    - The U.S. already has this for 83% of products.
  - Omitted from this, however, are textile imports into the U.S. from LDCs.
    - U.S. wants to protect its domestic textile producers.

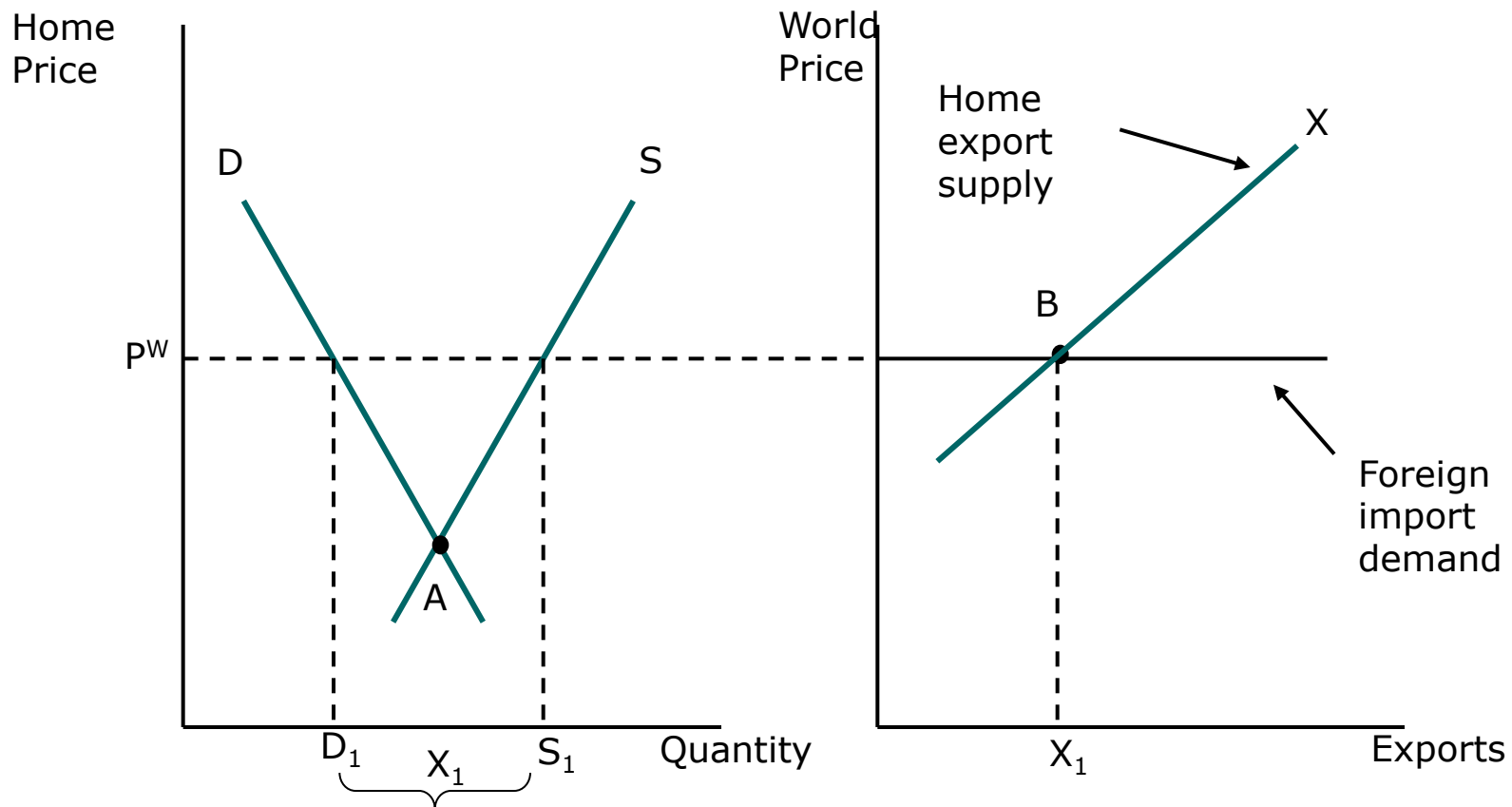
# Agricultural Export Subsidies in a Small Country

- We now want to look at the effects of export subsidies on a country.
- We start with a small Home country.
  - Faces a fixed world price for its export.
- Country will export sugar.
- No trade equilibrium is shown in figure 10.1 at point A.
  - World price of  $P^W$ , Home quantity supplied at  $S_1$ , quantity demanded at  $D_1$ , and exports  $X_1 = S_1 - D_1$ .
- Quantity of exports is point B in panel b at free trade price of  $P^W$  and export supply curve,  $X$ .

# Agricultural Export Subsidies in a Small Country

**Figure 10.1**  
(without  
subsidy)

The free trade equilibrium at world price  $P^W$ , gives exports of  $X_1$  and a horizontal Foreign import demand. Equilibrium is at B.





## ○ Impact of an Export Subsidy

- Suppose the government wants to boost domestic exports of sugar.
  - Each ton of sugar exported receives a subsidy,  $s$ .
- Exporters will receive  $P^W + s$  for each ton exported.
- They are allowed to export all they want at the subsidized price and Home firms will not accept a price less than  $P^W + s$ .
  - If domestic price was lower than  $P^W + s$ , the firms would just export their goods instead.
- Therefore, the domestic price must rise to  $P^W + s$ .

## ○ Impact of an Export Subsidy

- Home consumers could just import sugar at the world price,  $P^W$ .
- Therefore, Home will impose a tariff equal to or higher than the amount of the export subsidy.
  - This typically happens and, is therefore, realistic.
- The combined effect of the subsidy and the tariff is to raise the price at Home.
- Price is  $P^W + s$ , Home supply increases to  $S_2$ , Home demand falls to  $D_2$ , Home exports increase to  $X_2 = S_2 - D_2$ .

# Agricultural Export Subsidies in a Small Home Country

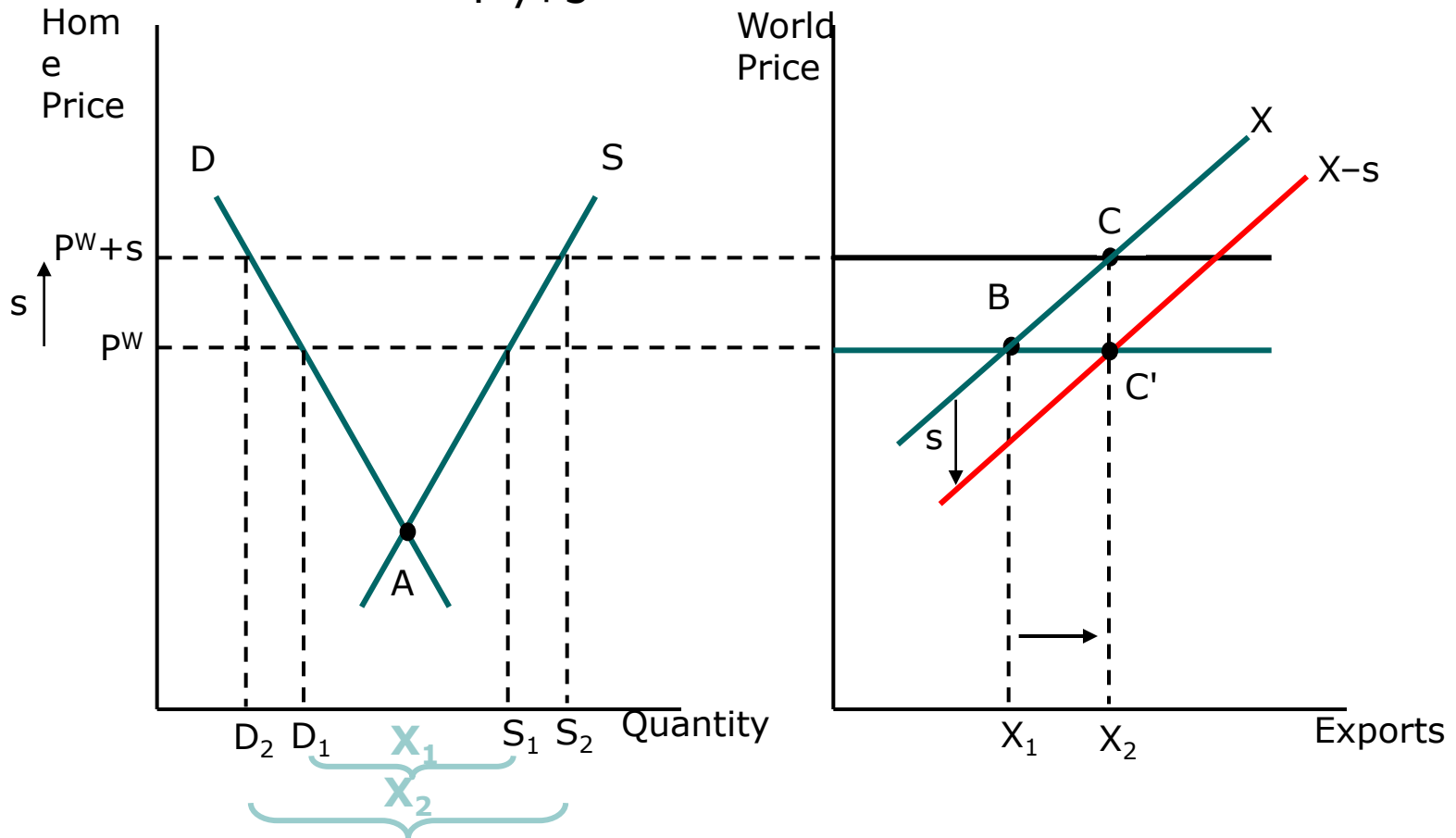
## ○ Impact of an Export Subsidy

- The change in the quantity of exports can be thought of in two ways reflected by points C and C' in panel b.
- If we measure Home price  $P^W$  on the vertical axis, C is on the original Home export supply curve, showing a movement along the curve.
  - As the Home price has increased, the quantity of Home exports has increased from B to C.

- If we use the vertical axis as world price, which is fixed in our small

# Agricultural Export Subsidies

**Figure 10.1** *in a Small Home Country:*  
 (with subsidy) The Home export supply curve shifts down by exactly the amount of the subsidy. MC of production falls by exactly  $PW + s$



# Agricultural Export Subsidies in a Small Home Country

## ○ Impact of an Export Subsidy

- Export subsidies increase both the price and quantity of exports.
  - A movement along the domestic export supply curve.
- For the world perspective, the export subsidy results in an increase in export supply.
- Given the fixed world price, this means the export supply curve shifts down by the amount of the subsidy,  $s$ .

● As with a tariff, the subsidy has driven

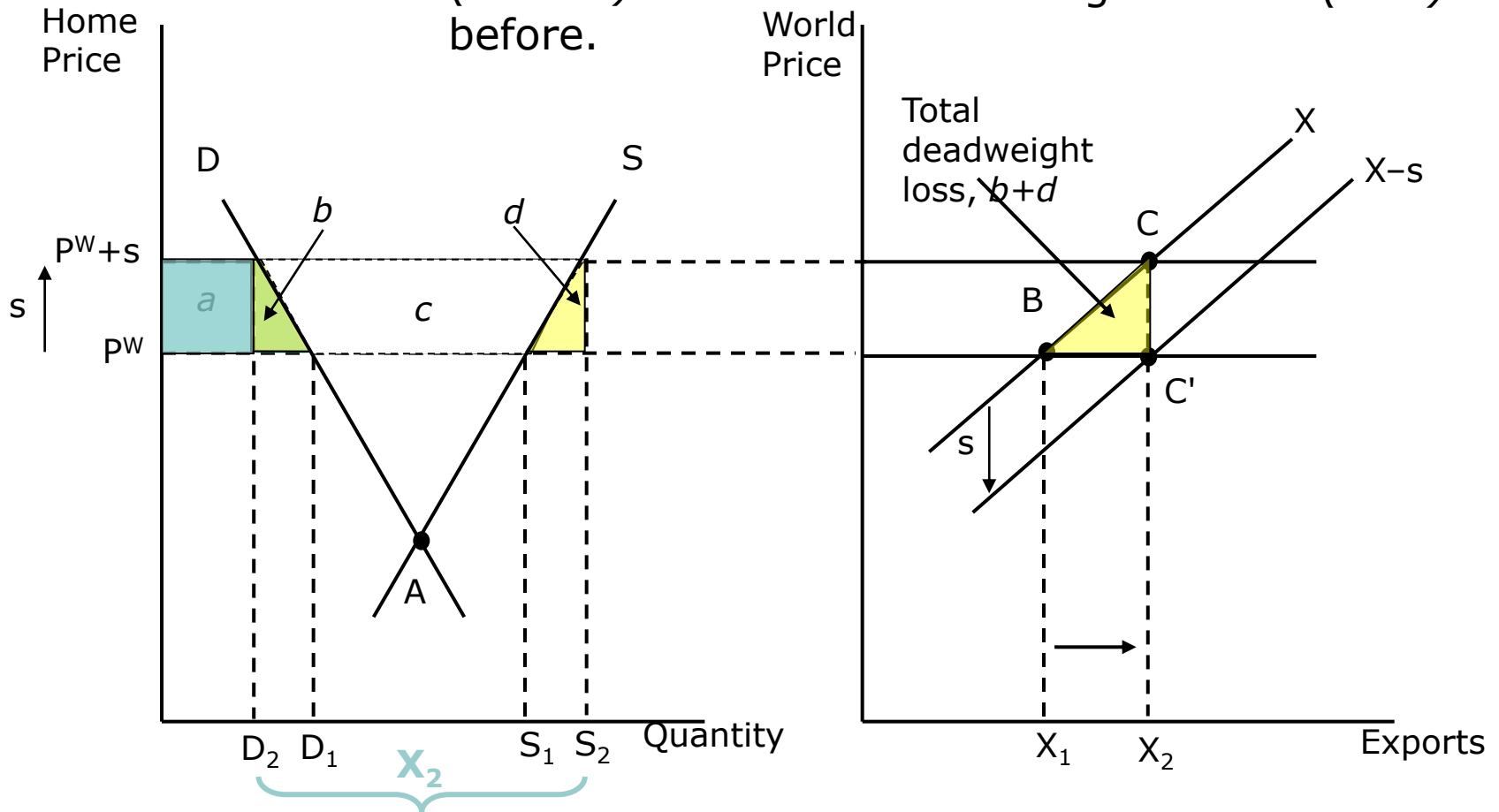
# Agricultural Export Subsidies in a Small Home Country

## ○ Impact of the Subsidy on Home Welfare

- The rise in price lowers consumer surplus by  $(a+b)$ .
- The rise in price raises producer surplus by  $(a+b+c)$ .
- The export subsidy costs the government the amount of the subsidy,  $s$ , times the amount of exports,  $X_2$  shown by  $(b+c+d)$ .
- Adding up this impact, we are left with a net effect on Home welfare of

# Agricultural Export Subsidies

**Figure 10.1** The increased price in a small home country (with welfare effects) (with producer surplus increases by  $(a+b)$ ) (The subsidy costs the government the amount  $- (b+d)$ ) (This already gives us a deadweight loss of  $(b+d)$  as before.



# Agricultural Export Subsidies in a Small Home Country

- Impact of the Subsidy on Home Welfare
  - The deadweight loss due to the subsidy in a small country is similar to the effects of a tariff.
  - Areas  $b$  and  $d$  have particular meanings.
  - Triangle  $d$  equals the increase in marginal costs for the extra unit produced due to the subsidy.
    - This is the **production loss** or *efficiency*

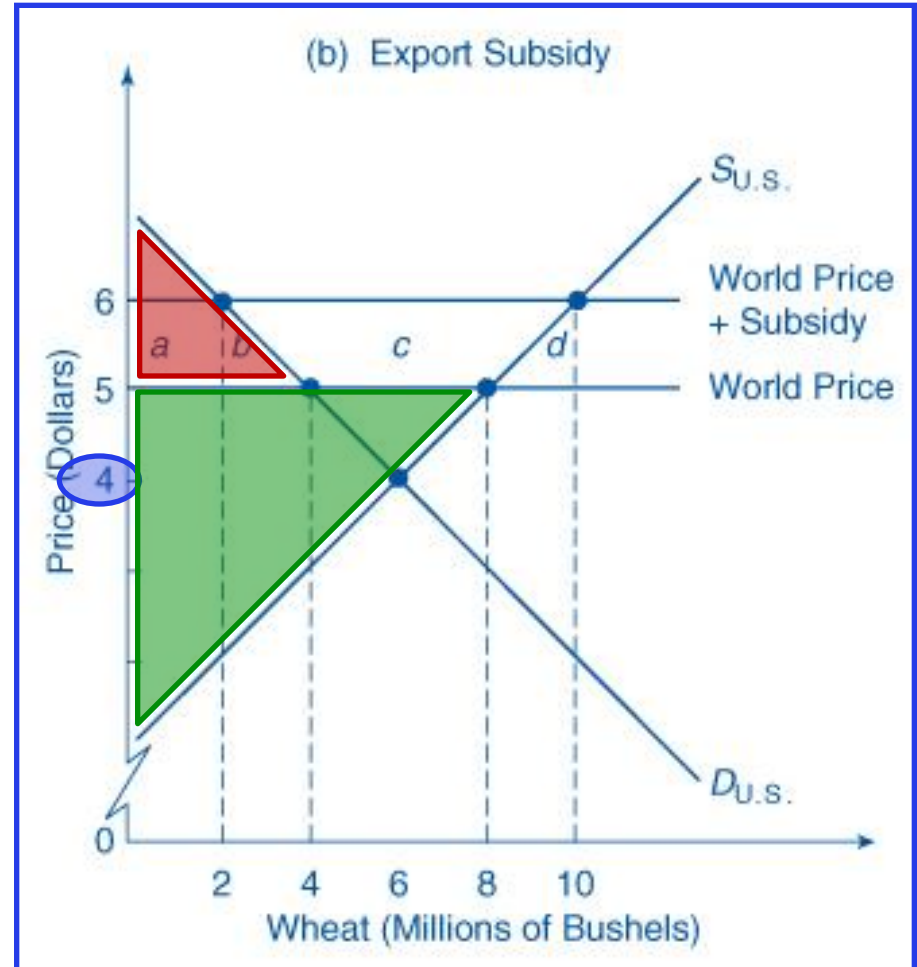


# Export Subsidy

Free Trade - No Subsidy, small country

consumer surplus is relatively limited because of higher price associated with free trade

producer surplus is a large area for the same reason



# Export Subsidy

## Export Subsidy, small country

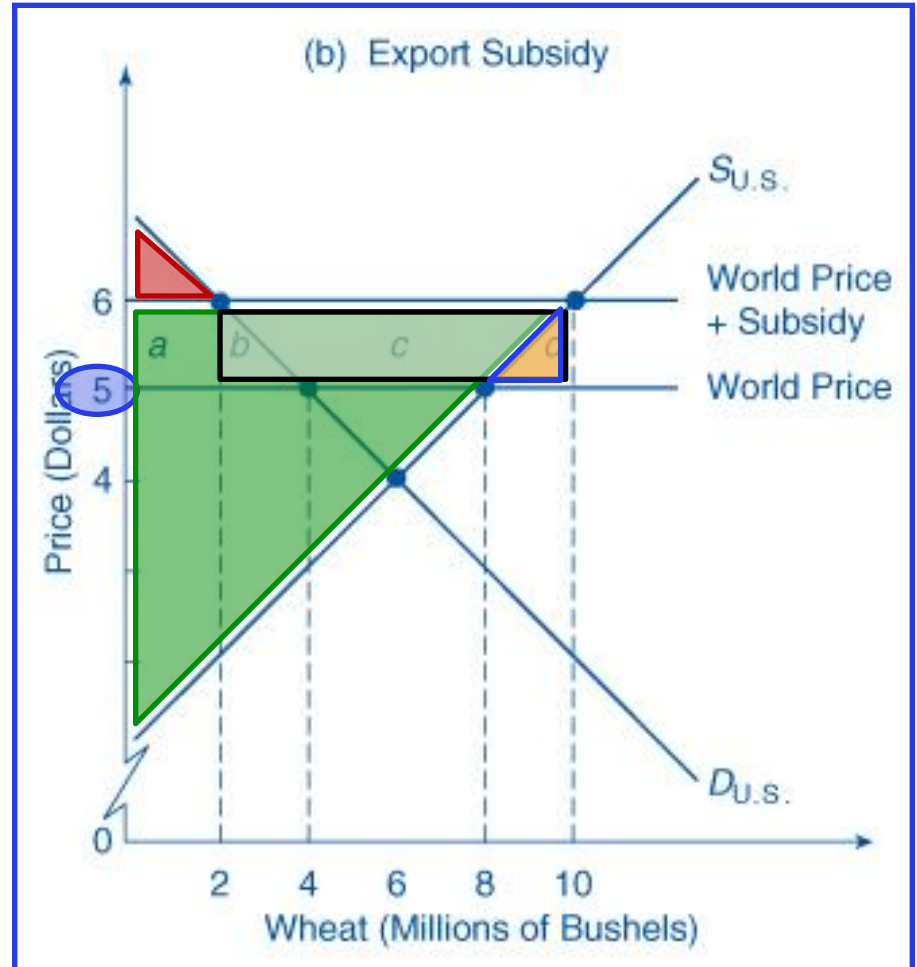
Price is up by the amount of the subsidy

consumer surplus is down by  $a+b$

producer surplus is up by  $a+b+c$

cost to taxpayers =  $a+b+c+d$

Net change =  $-d$

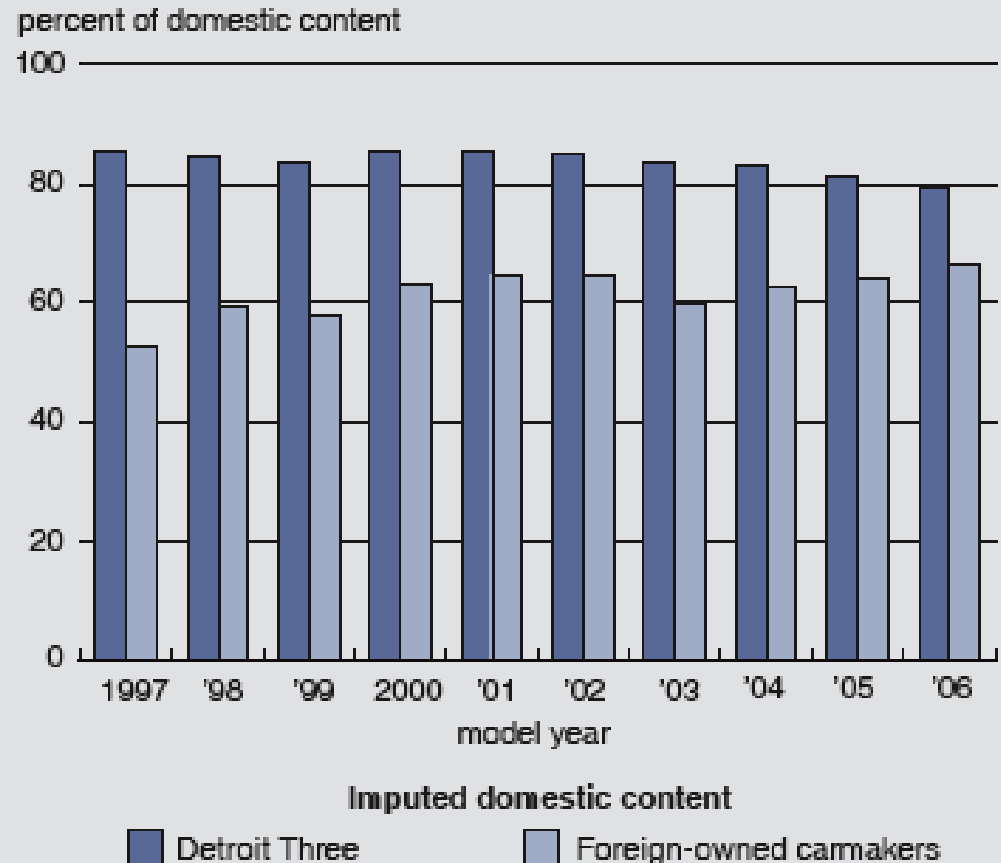


# Domestic Content Regulation

- Stipulate the minimum percentage of a product's total value to qualify for zero tariff rates
  - Purpose: Limit outsourcing
  - Pressurizes firms that sell products in the country to use domestic inputs in production
  - Often used by developing countries to foster domestic automobile production
  - The "Buy American" Proposal

# Domestic Content by pounds?

## 1. Production-weighted domestic content, 1997–2006

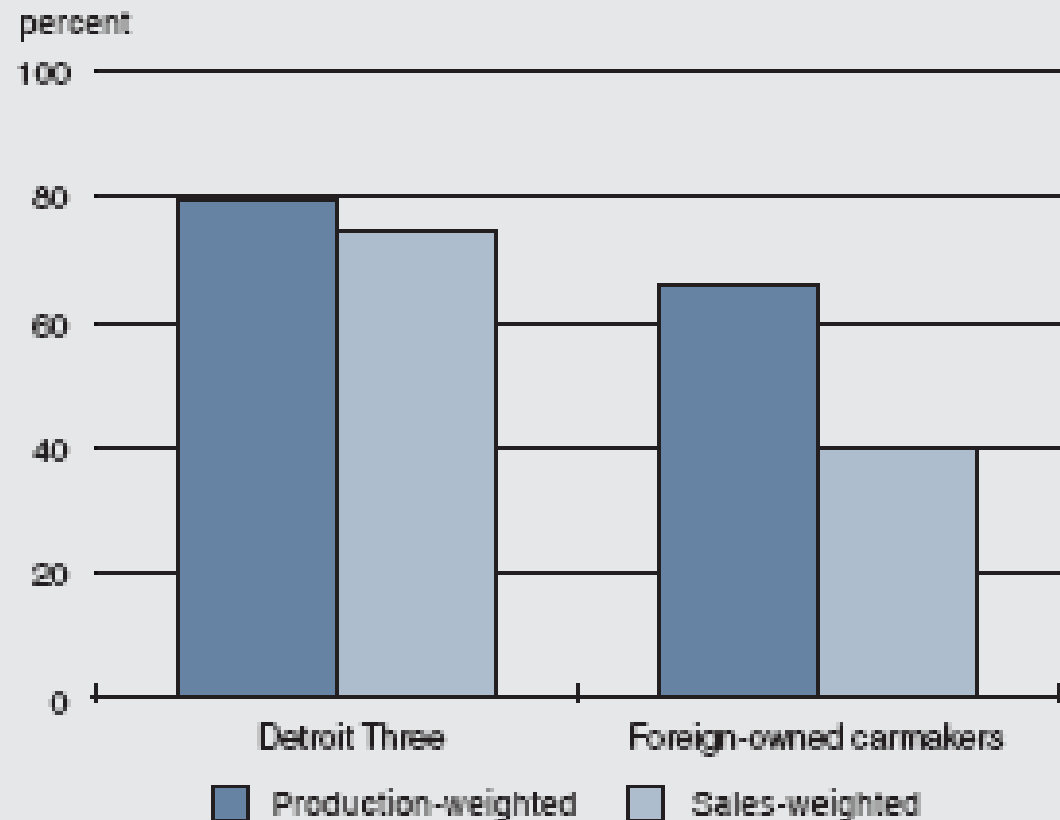


Notes: The Detroit Three are the Chrysler Group, Ford Motor Co., and General Motors Corp. Here, foreign-owned carmakers are those with assembly plants located in the U.S. and Canada, producing vehicles for sale in the U.S. Domestic content is weighted by units of light vehicles produced in the U.S. and Canada for sale in the U.S.

Sources: Ward's AutoInfoBank; and American Automobile Labeling Act of 1992 data from the National Highway Traffic Safety Administration.

# Domestic Content: by pounds? by \$value?

## 3. Production- vs. sales-weighted domestic content, 2006



Notes: The Detroit Three are the Chrysler Group, Ford Motor Co., and General Motors Corp. The values shown in this figure are for model year 2006.

Sources: Ward's AutoInfoBank; and American Automobile Labeling Act of 1992 data from the National Highway Traffic Safety Administration.

**TABLE 5.3****DOMESTIC CONTENT REQUIREMENTS  
APPLIED TO AUTOMOBILES IN SELECTED  
COUNTRIES**

<b>Country</b>	<b>Minimum Domestic Content Required to Qualify for Zero Duty Rates</b>
Argentina	76%
Mexico	62
Brazil	60
Uruguay	60
Vietnam	60
Chinese Taipei	40
Venezuela	30
Colombia	30

**Source:** From U.S. Department of Commerce, International Trade Administration, Office of Automotive Affairs, *Vehicle Import Requirements*, December 2003, available at <http://www.ita.doc.gov/>.

Buy American?

Domestic  
Content of a  
Boeing 787?

What is the  
European  
content of an  
Airbus?

## Joint Effort

Parts for the Boeing 787 are  
manufactured around the globe:

Fixed and movable  
leading edge  
Spirit, U.S.

Wing  
Mitsubishi, Japan

Wing tips  
KAL-ASD, Korea

Movable trailing edge  
Boeing, Australia

Forward fuselage  
Spirit, U.S.

Forward fuselage II  
Kawasaki, Japan

Center fuselage  
Alenia, Italy

Aft fuselage  
Vought, U.S.

Horizontal stabilizer  
Alenia, Italy

Passenger-entry doors  
Latecoere, France

Cargo-access doors  
Saab, Sweden

Landing gear  
Messier-Dowty,  
U.K.

Wing-body fairing,  
landing-gear doors  
Boeing, Canada

Center  
wing box  
Fuji, Japan

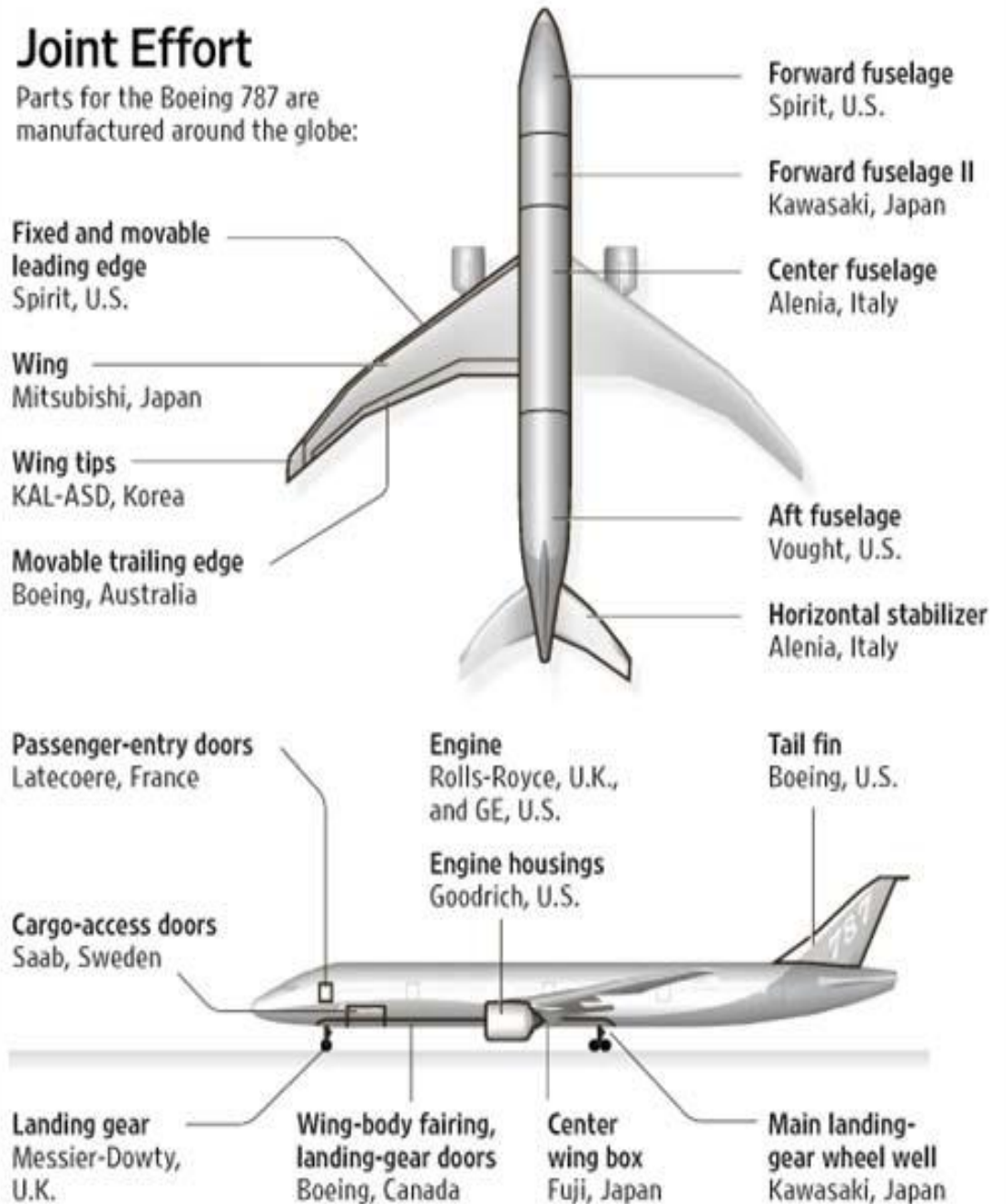
Main landing-  
gear wheel well  
Kawasaki, Japan

Engine  
Rolls-Royce, U.K.,  
and GE, U.S.

Engine housings  
Goodrich, U.S.

Tail fin  
Boeing, U.S.

Source: the company



# Domestic Content – Do GM's have more Domestic Content than Toyotas?

Go to Cars.com for their ranking of Cars with highest domestic (US) content

<http://www.cars.com/>



Of the most popular cars eligible for last January's American-Made Index, we saw an average drop of 3.3 percentage points in domestic content between 2007 and 2008. Looking at a few early '09 arrivals, like the redesigned Honda Pilot and the Toyota Corolla, it's more of the same. Here's how a handful of top U.S.-built models fared in the transition to '08 or '09.

**Ford F-150:** 80% domestic content, down from 90% for '07

**Chevrolet Silverado 1500:** 85% for '08, down from 90% for '07

**Toyota Camry/Solara:** 68% for '08, down from 78% for '07

**Honda Accord:** 60% for '08, down from 65% for '07

**Toyota Corolla:** 50% for '09, down from 65% for '08

**Toyota Matrix:** 65% for '09, down from 75% for '08

**Dodge Ram:** 68% for '08, down from 72% for '07

**Honda Pilot:** 70% for '09, same as '08

**Honda Civic:** 70% for '08, up from 55% for '07

Source: [Cars.com](http://Cars.com)

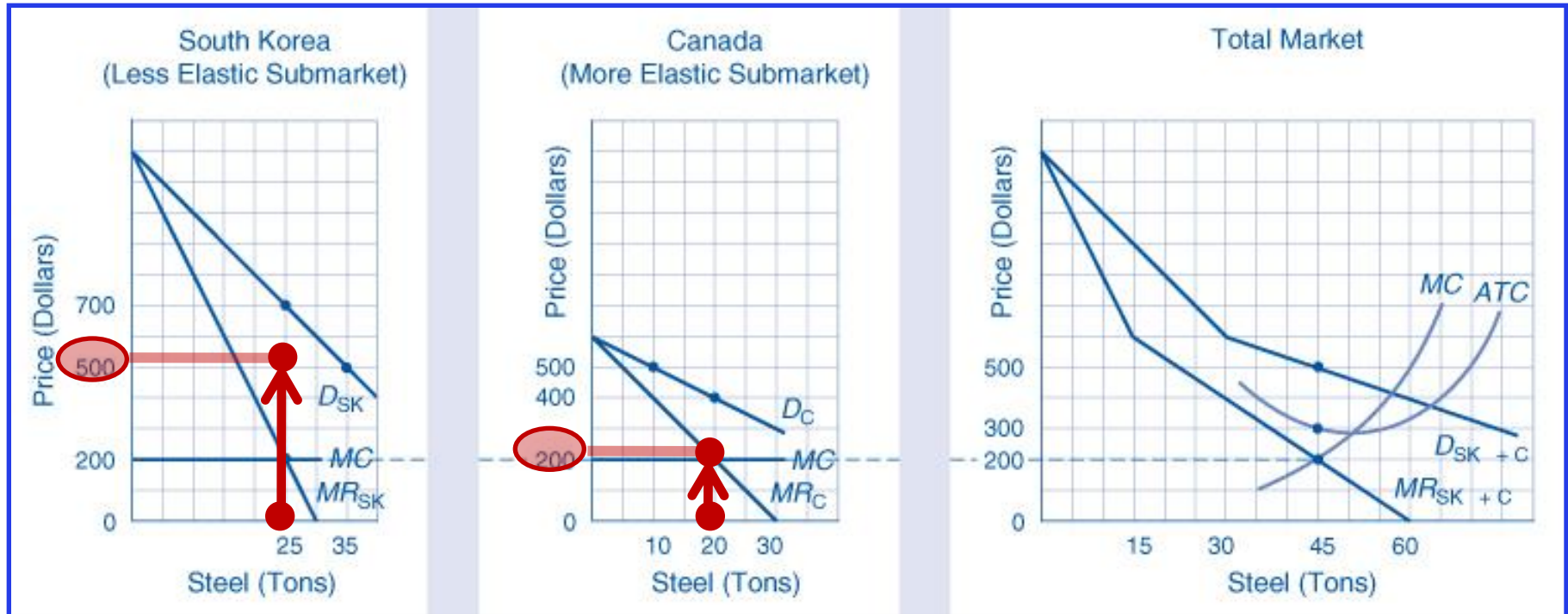
# Product Dumping

Charging foreign buyers a lower price than domestic buyers for an identical product.

A case of international price discrimination

- **sporadic dumping** – firm disposes of excess inventory on foreign markets – “inventory sales”
- **predatory dumping** – temporary reduction in price designed to force foreign competitors out of business to gain monopoly power
- **persistent dumping** – indefinite reduction in foreign price in order to maximize profits

# International Price Discrimination



Production where  $MC = MR$  in each market  
Price is higher where demand is inelastic and  
a lower where demand is elastic

# Antidumping Regulations

Antidumping duties are levied when

- 1) Department of Commerce determines foreign good is sold for less than fair value and
- 2) International Trade Commission determines imports are causing or threaten material injury

margin of dumping – amount by which foreign value exceeds U.S. price

- 1) price-based definition – import sold in the U.S. for price below foreign price
- 2) cost-based definition – absence of price-based  
Commerce Department uses (1) manufacturing cost; (2) general expenses; (3) home profits; (4) cost of packaging for shipment

# Antidumping Laws

- Average Variable Cost: Current definition of dumping implies any price below average total cost indicates dumping; however a price that still exceeds average variable cost would not necessarily imply dumping
- Exchange Rates: An increase in the exchange rate value of the dollar would lower prices on imports even if there without product dumping.
- Overuse: Antidumping actions may be used as protectionism or as retaliation to genuine allegations from other countries.

# Losses and Gains from U.S. Protection, Selected Products, 1990

	Protected U.S. Producers Gain (Area a) <sup>a</sup>	U.S. Consumers Loss (Area a + b + c + d)	U.S. Terms-of-Trade Gain (Area e) <sup>b</sup>	U.S. Deadweight Loss (Area b + d)	U.S. Net National Gain (Area e - b + d) <sup>b</sup>	Foreign Deadweight Loss (Area f)	Net World Loss (Area b + d + f)
<b>In Millions of Dollars</b>							
Tariffs in 14 sectors <sup>c</sup>	679	1,956	465	70	395	32	102
Import quotas in 2 sectors <sup>d</sup>	1,791	2,564	72	600	-528	18	618
VERs and similar export quantity limits in 5 sectors <sup>e</sup>	12,312	25,857	-6,870	2,603	-9,473	711	3,314
All 21 sectors	14,782	30,375	-6,333	3,273	-9,739	761	4,034
<b>In Dollars per Dollar of Protected U.S. Producers' Gain</b>							
Tariffs in 14 sectors <sup>c</sup>		2.88	0.68	0.10	0.58	0.05	0.15
Import quotas in 2 sectors <sup>d</sup>		1.43	0.04	0.34	-0.29	0.01	0.35
VERs and similar export quantity limits in 5 sectors <sup>e</sup>		2.10	-0.56	0.21	-0.77	0.06	0.27
All 21 sectors		2.05	-0.43	0.22	-0.66	0.05	0.27

<sup>a</sup> Areas refers to areas indicated in Figures 8.5 and 9.3.

<sup>b</sup> For VERs and similar export quotas, area *c*, the markup lost, relative to free trade, is used in place of area *e*.

<sup>c</sup> The 14 tariff-protected sectors are ball bearings, benzenoid chemicals, canned tuna, ceramic articles, ceramic tiles, costume jewelry, frozen concentrated orange juice, glassware, luggage, polyethylene resins, rubber footwear, softwood lumber, women's nonathletic footwear, and women's handbags.

<sup>d</sup> The 2 sectors protected by import quotas are dairy products and coastal shipping.

<sup>e</sup> Of the 5 sectors protected by VERs and similar export quantity limits, apparel, textiles, and machine tools were protected by VERs, and peanuts and sugar were protected by export quotas assigned to foreign countries by the U.S. government.

Source: Hufbauer and Elliott (1994).