



ECONOMICS

PRIVATE AND PUBLIC CHOICE

16TH EDITION

GWARTNEY – STROUP – SOBEL – MACPHERSON

Gaining From International Trade

Full Length Text — Part: 4 Chapter: 18

Micro Only Text — Part: 4 Chapter: 16

Macro Only Text — Part: 4 Chapter: 18

To Accompany: “***Economics: Private and Public Choice, 16th ed.***”

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Slides prepared by Joseph Connors with the assistance of Charles Skipton & James Gwartney

The Trade Sector of the United States



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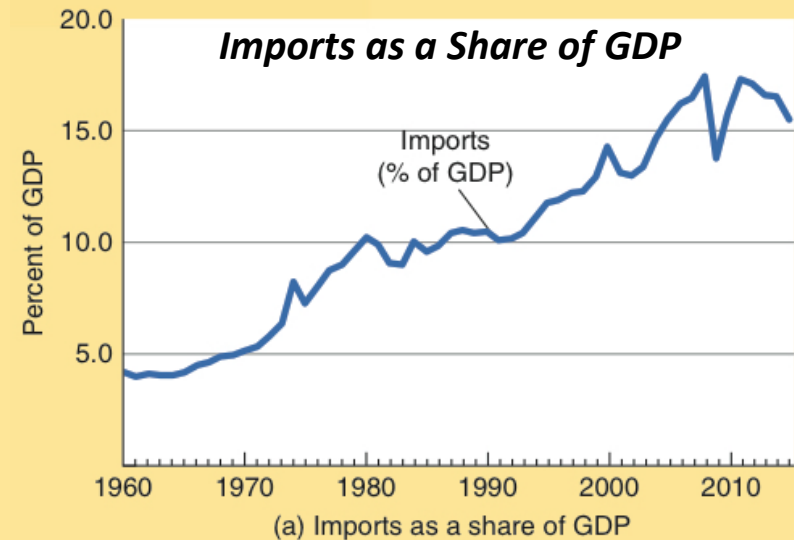
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The Growth of the U.S. Trade Sector

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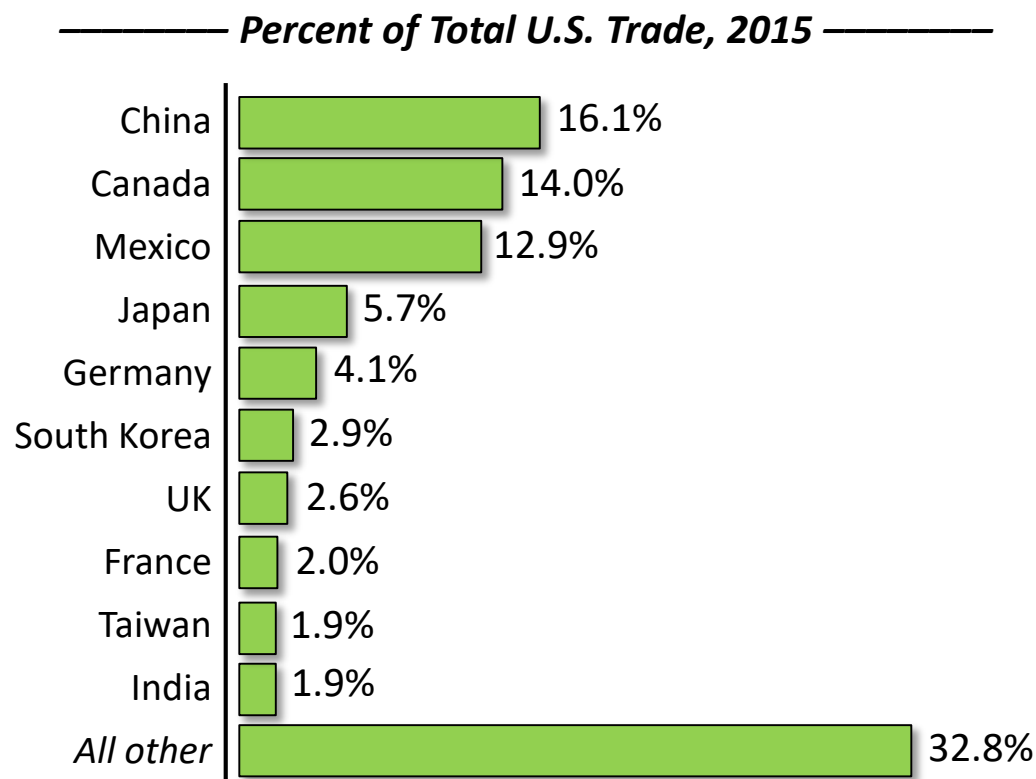
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- As is shown here, both exports & imports have grown substantially as a share of the U.S. economy since 1960. The size of the trade sector as a share of GDP more than doubled during 1960-2000.
- Since 2000, the growth of the trade sector as a share of the economy has slowed.
- Reductions in both transportation and communication costs, as well as lower trade barriers have contributed to this growth.



Leading Trading Partners of the U.S.

- Today, China, Canada, Mexico, and Japan are the leading trading partners with the United States.
- The impact of international trade varies across industries. In some industries, U.S. firms are able to compete quite effectively, while in others they find it difficult to do so.



Gains from Specialization and Trade



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Gains from Trade: An Overview

- Most international trade is not between the governments of different nations but rather between the people and firms located in different countries.
- Like other voluntary exchanges, international trade occurs because both the buyer and seller expect to gain, and generally do.
 - If both parties did not expect to gain, they would not agree to the exchange.
- With trade, a country's residents can gain by specializing in the production of goods they can produce economically.
 - They can sell those goods in the world market and use the proceeds to import goods that would be expensive to produce domestically.

Law of Comparative Advantage

- ***Law of Comparative Advantage:***

A group of individuals, regions, or nations can produce a larger joint output if each specializes in the production of goods in which it is a low-opportunity cost producer and trades for goods for which it is a high opportunity cost producer.

Gains from Specialization and Trade

- International trade leads to mutual gain because it allows each country to specialize more fully in the production of those things that it does best according to the law of comparative advantage.
- Trade makes it possible for each country to use more of its resources to produce those goods and services that it can produce at a relatively low cost.
- With trade, it will be possible for the trading partners to consume a bundle of goods that it would be impossible for them to produce domestically.

Gains from Trade: Comparative Advantage

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- Columns (1) and (2) indicate the daily per worker output of the food and clothing industry in the U.S. & Japan.
- Japanese workers can produce 3 units of food per day, compared to only 2 units per day for U.S. workers.
- They can also produce 9 units of clothing per day, compared to 1 unit of clothing per day for U.S. workers.
- Thus, Japan has an absolute advantage—the Japanese workers are able to produce more of both food and clothing than U.S. workers.

Country	Output per worker day	
	Food (1)	Clothing (2)
U.S.	2	1
Japan	3	9
Change in <i>total output</i>		

* Change in output if US shifts 3 workers from clothing to food industry and if Japan shifts one from food to clothing.

Gains from Trade: Comparative Advantage

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- Are gains from trade possible when one country, such as Japan, has an absolute advantage in the production of both commodities?
- The answer is yes, because it is comparative advantage, not absolute advantage, that matters.

Gains from Trade:

Comparative Advantage

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- Which country is the low opportunity cost producer of food?
 - The opportunity cost for a unit of food in Japan is 3 units of clothing. In the U.S. the opportunity cost for a unit of food is one-half a unit of clothing. Thus, the U.S. is the low opportunity cost producer of food.
- Which country is the low opportunity cost producer of clothing?
 - The opportunity cost for a unit of clothing in Japan is one-third of a unit of food. In the U.S., the opportunity cost of a unit of clothing is two units of food. Thus, Japan is the low opportunity cost producer of clothing.

Gains from Trade: Comparative Advantage

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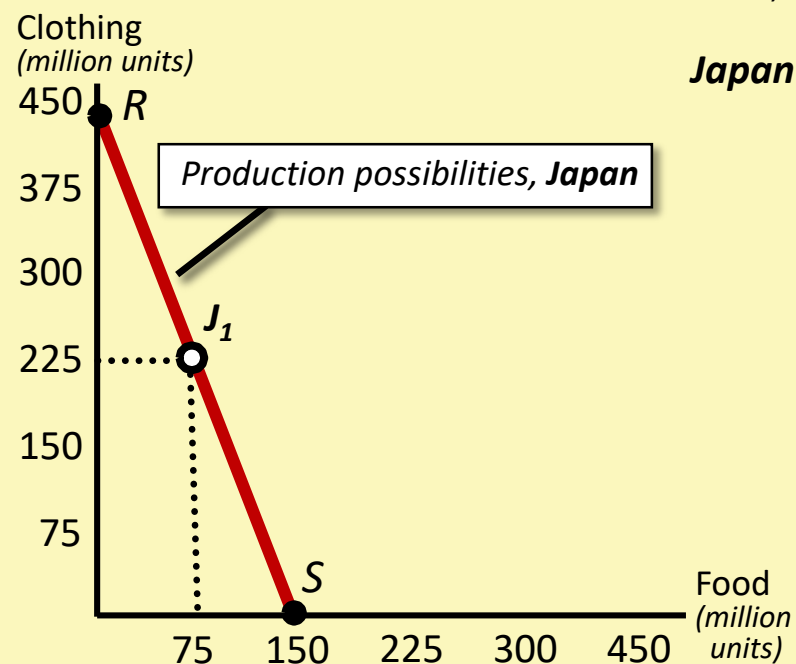
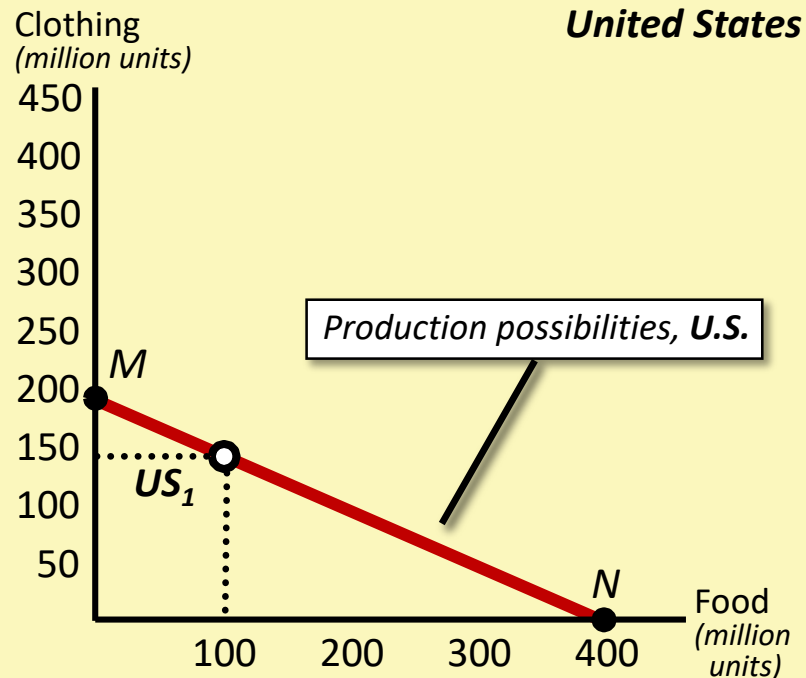
- What happens when each specializes in the area of its comparative advantage? Food for the U.S. and clothing for Japan.
- If the U.S. moves 3 workers from clothing to food, it produces 6 more units of food and only 3 fewer of clothing.
- If Japan moves 1 worker from food to clothing, it produces 9 more units of clothing and only 3 fewer of food.
- With such a reallocation of labor, the U.S. and Japan are able to increase their aggregate output of both food and clothing.

Country	Output per worker day		Potential change in output*	
	Food (1)	Clothing (2)	Food (3)	Clothing (4)
U.S.	2	1	+ 6	- 3
Japan	3	9	- 3	+ 9
Change in <i>total output</i>			+ 3	+ 6

* Change in output if US shifts 3 workers from clothing to food industry and if Japan shifts one from food to clothing.

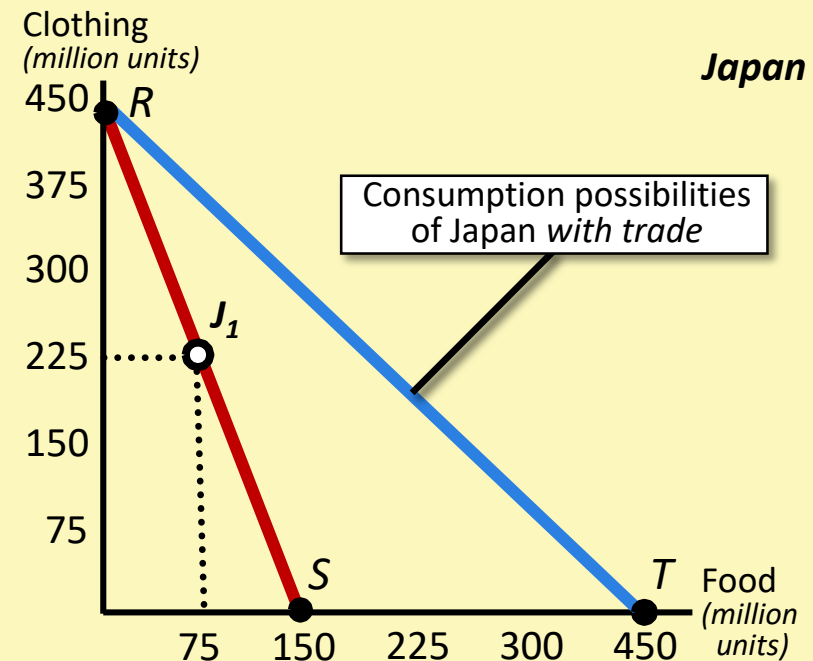
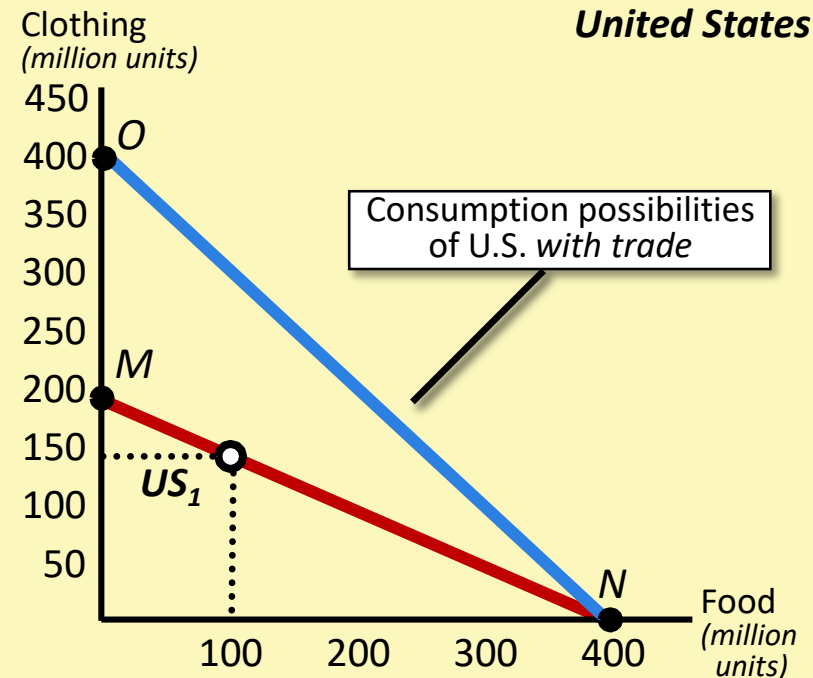
PPC Before Specialization and Trade

- Here we illustrate the daily production of the labor force of both the US (200 million) and Japan (50 million) given the production costs of food and clothing from the previous slide.
- In the absence of trade, consumption possibilities will be restricted to points like US_1 in the U.S. & J_1 in Japan.
- Each of these points lies along the production possibilities curve (PPC) of the respective nation.



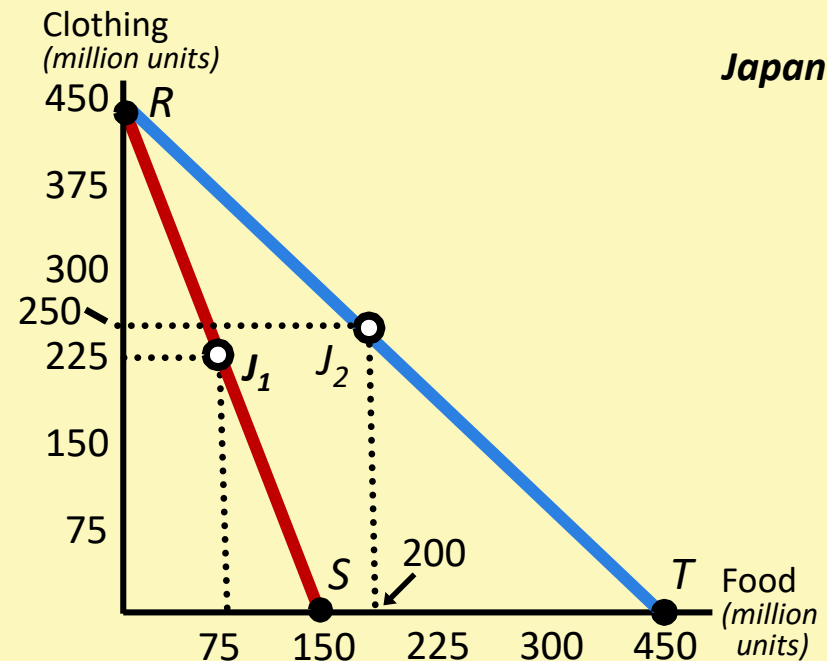
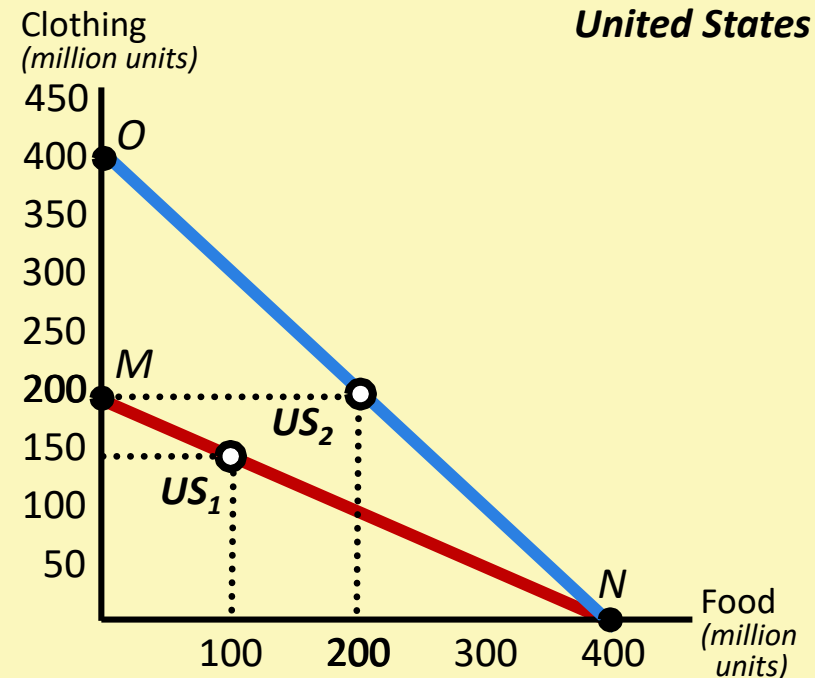
Trade Expands Consumption Possibilities

- Specialization and trade expand consumption possibilities.
- If the U.S. trades food for clothing (1-for-1), it can specialize in the production of food and consume along the **O-N** line (rather than its original production-possibilities constraint, **M-N**).
- Similarly, if Japan trades clothing for food (1-for-1), it can specialize in the production of clothing and consume any combination along the **R-T** line (rather than its original, **R-S**).



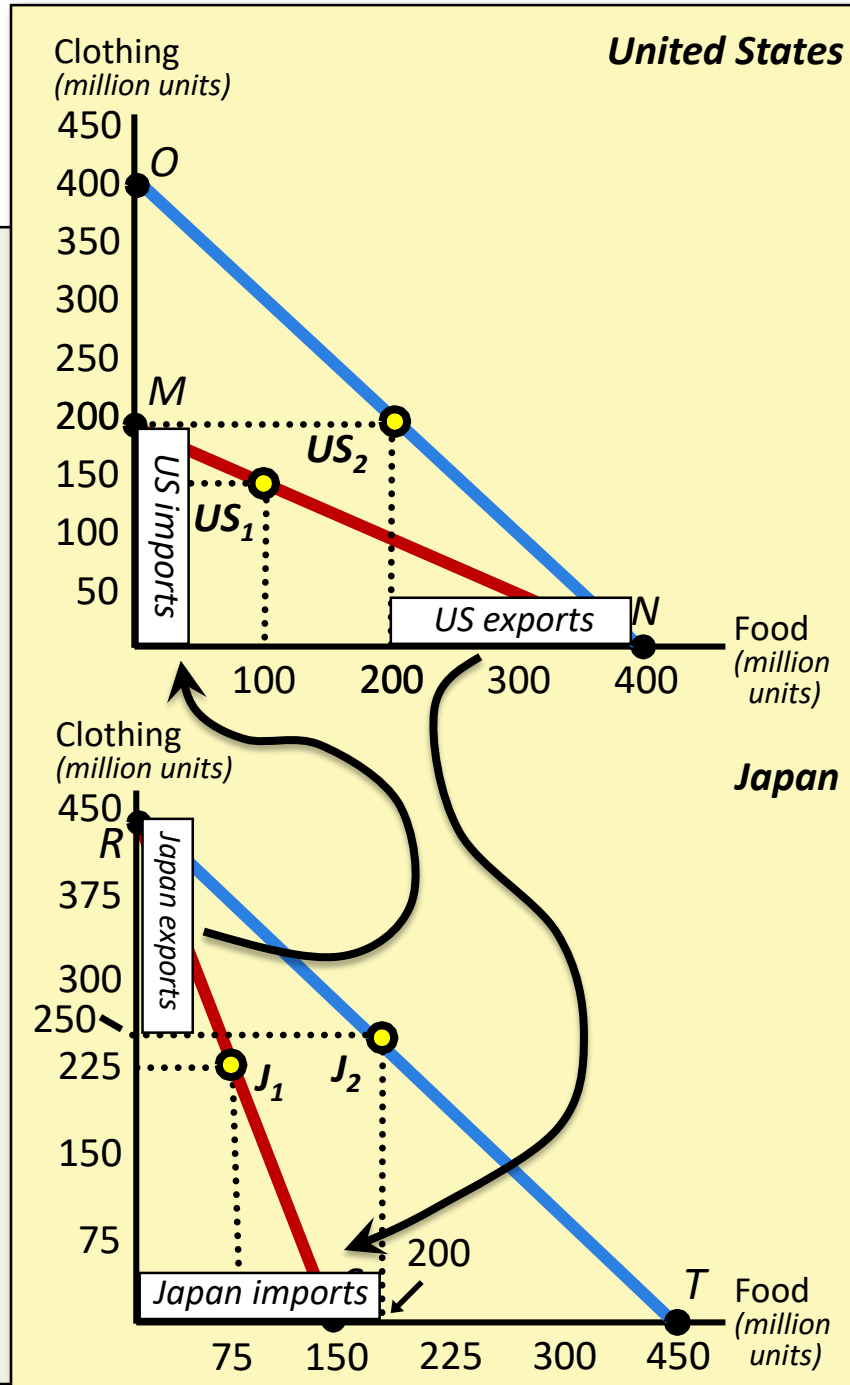
Trade Expands Consumption Possibilities

- For example, with specialization and trade, the U.S. could increase its consumption from US_1 to US_2 , gaining 50 million units of clothing and 100 million units of food.
- Simultaneously, Japan could increase consumption from J_1 to J_2 , a gain of 125 million units of food and 25 million units of clothing.



Trade Expands Consumption Possibilities

- How exactly do the U.S. and Japan consume at US_2 and J_2 ?
- The U.S. produces 400 million units of food, consumes 200 million, and exports 200 million to Japan.
- Japan produces 450 million units of clothing, consumes 250 million, and exports 200 million to the U.S..
- Each consumes more than it could produce domestically.



Keys to Prosperity: International Trade

- In addition to gains from specialization in areas of comparative advantage, international trade also leads to gains from:



- ***Economies of Scale:***

International trade allows both domestic producers and consumers to gain from reductions in per-unit costs that often accompany large-scale production, marketing, and distribution.

- ***More Competitive Markets:***

International trade promotes competition in domestic markets and allows consumers to purchase a wider variety of goods at economical prices.

Supply, Demand, and International Trade

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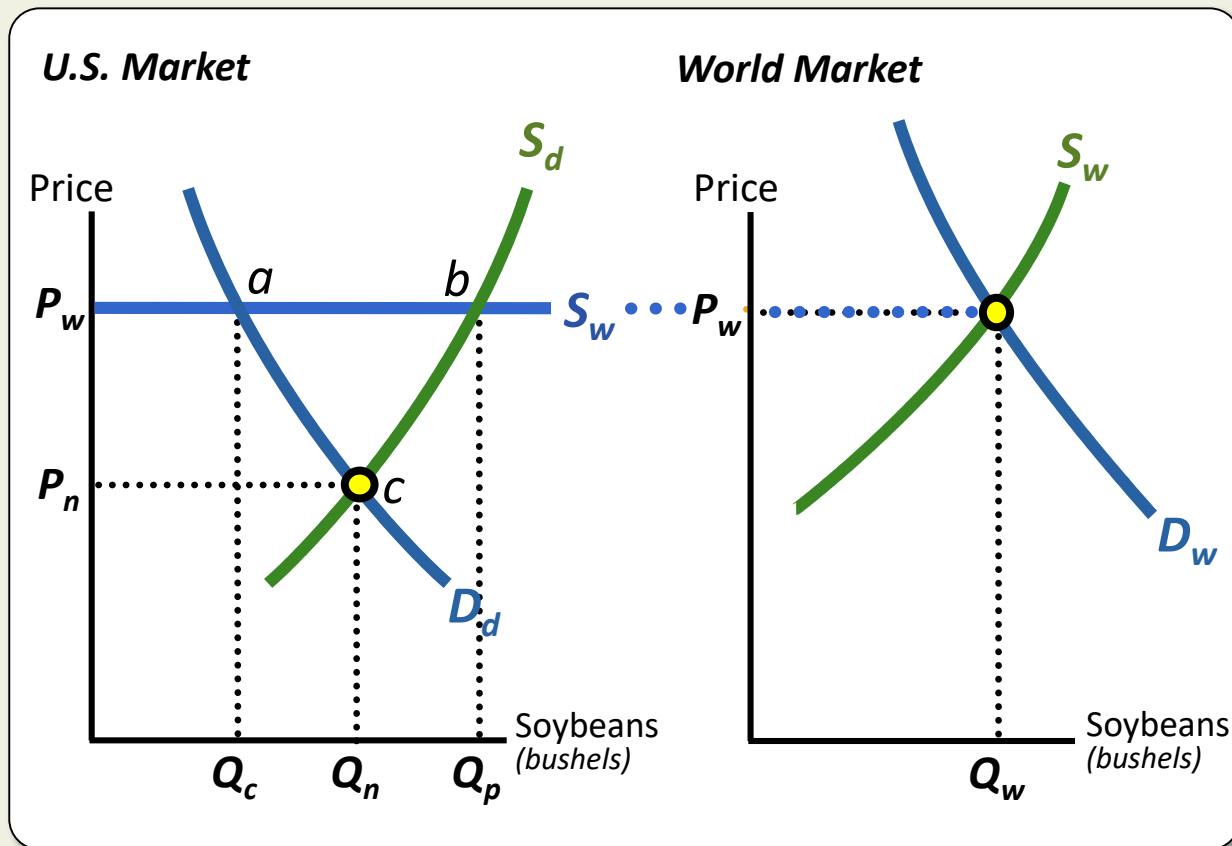
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U.S. Has a Comparative Advantage

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- The price of soybeans and other internationally traded commodities is determined by the forces of supply and demand in the world market.
- If U.S. soybean producers were prohibited from selling to foreigners, the domestic price would be P_n .
- Free trade permits U.S. soybean producers to sell Q_p units at the higher world price of P_w .

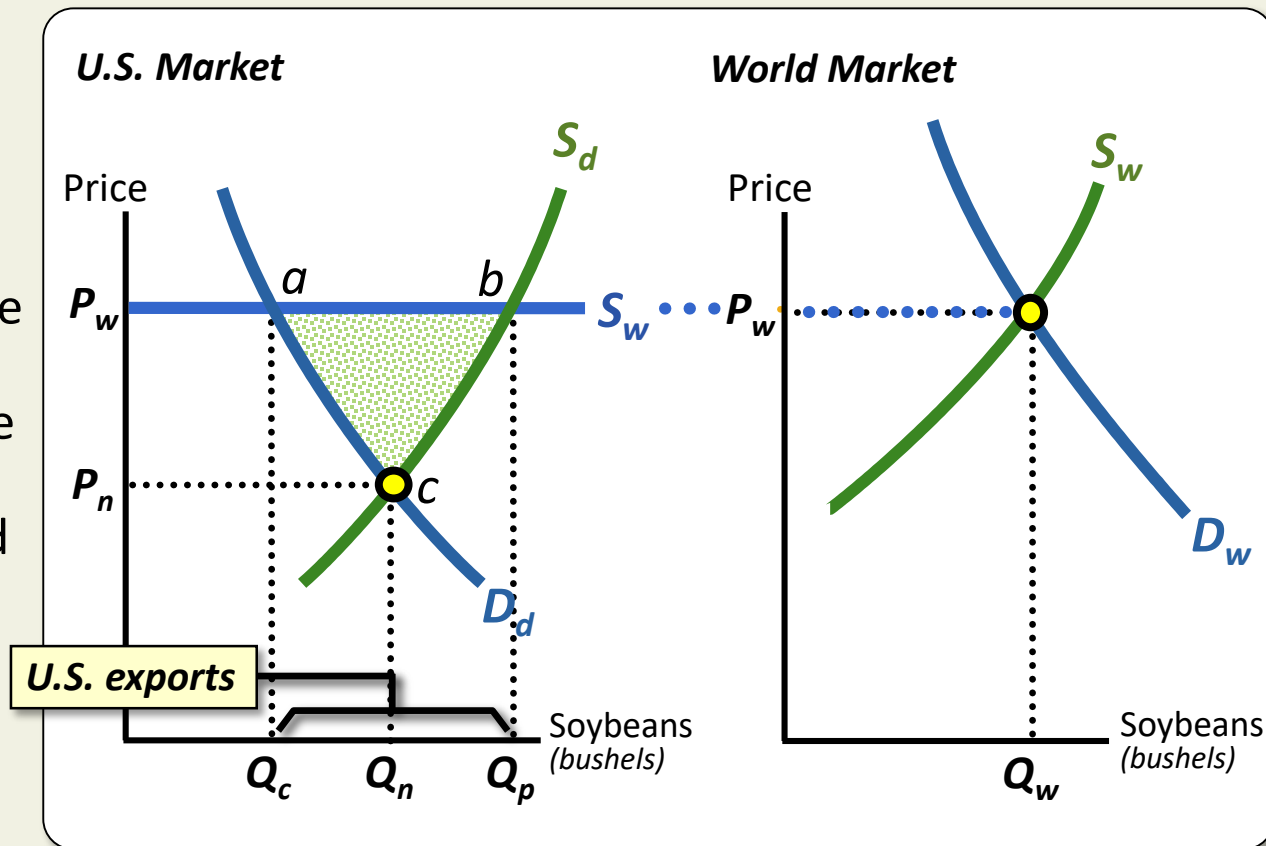


U.S. Has a Comparative Advantage

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- At the world price of P_w , the quantity ($Q_p - Q_c$) is exported.
- Compared to the no-trade situation, the producers' gain from the higher price (area) $P_w - b - c - P_n$ exceeds the cost imposed on domestic consumers (area) $P_w - a - c - P_n$ by the triangular (area) $a - b - c$.



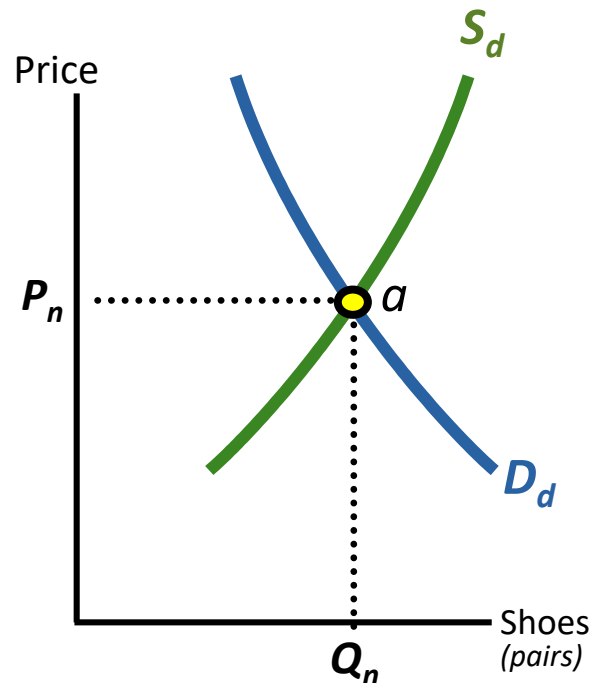
Foreigners Have a Comparative Advantage

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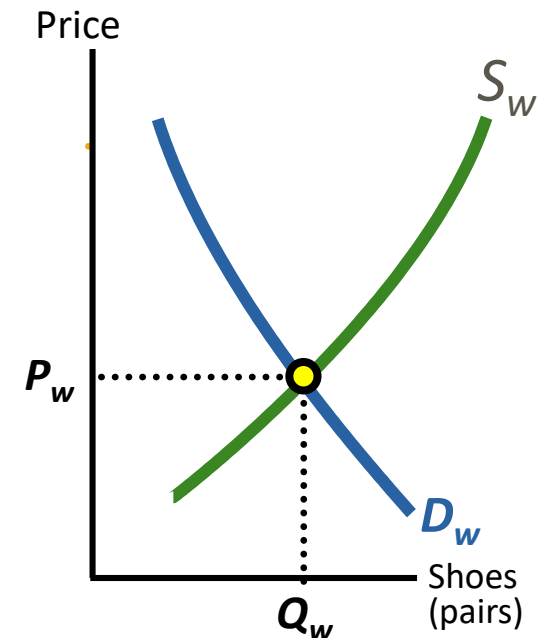
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- Consider the international market for manufactured shoes.
- In the absence of trade, the domestic price would be P_n .
- As many foreign producers have a comparative advantage in the production of shoes, international trade leads to lower prices P_w .

U.S. Market



World Market

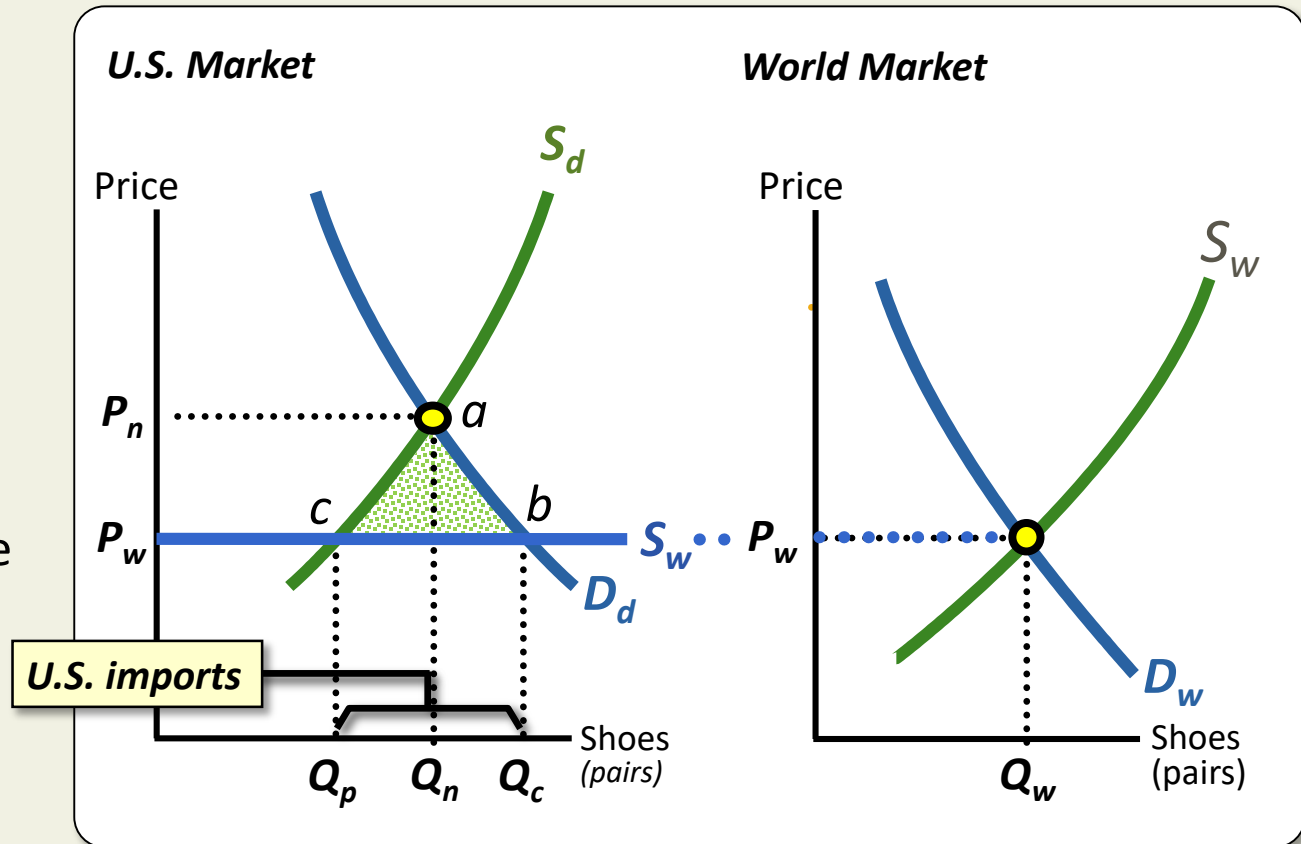


Foreigners Have a Comparative Advantage

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- At the price P_w , U.S. consumers demand Q_c units of which $(Q_c - Q_p)$ are imported.
- Compared to no trade, consumers gain (area) $P_n - a - b - P_w$, while domestic producers lose (area) $P_n - a - c - P_w$.
- A net gain of (area) $a - b - c$ results.



Summary: Supply, Demand, and Gains from Trade

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- International trade and specialization result in lower prices (and more domestic consumption) for imported products and higher prices (and less domestic consumption) for exported products.
- Trade makes it possible for domestic producers to obtain higher prices for the items they export and for domestic consumers to buy imported items at lower prices.
- As a result, the residents of each nation are able to focus more of their resources on the things they do best (produce at a low cost), while trading for those goods for which they are high opportunity cost producers.

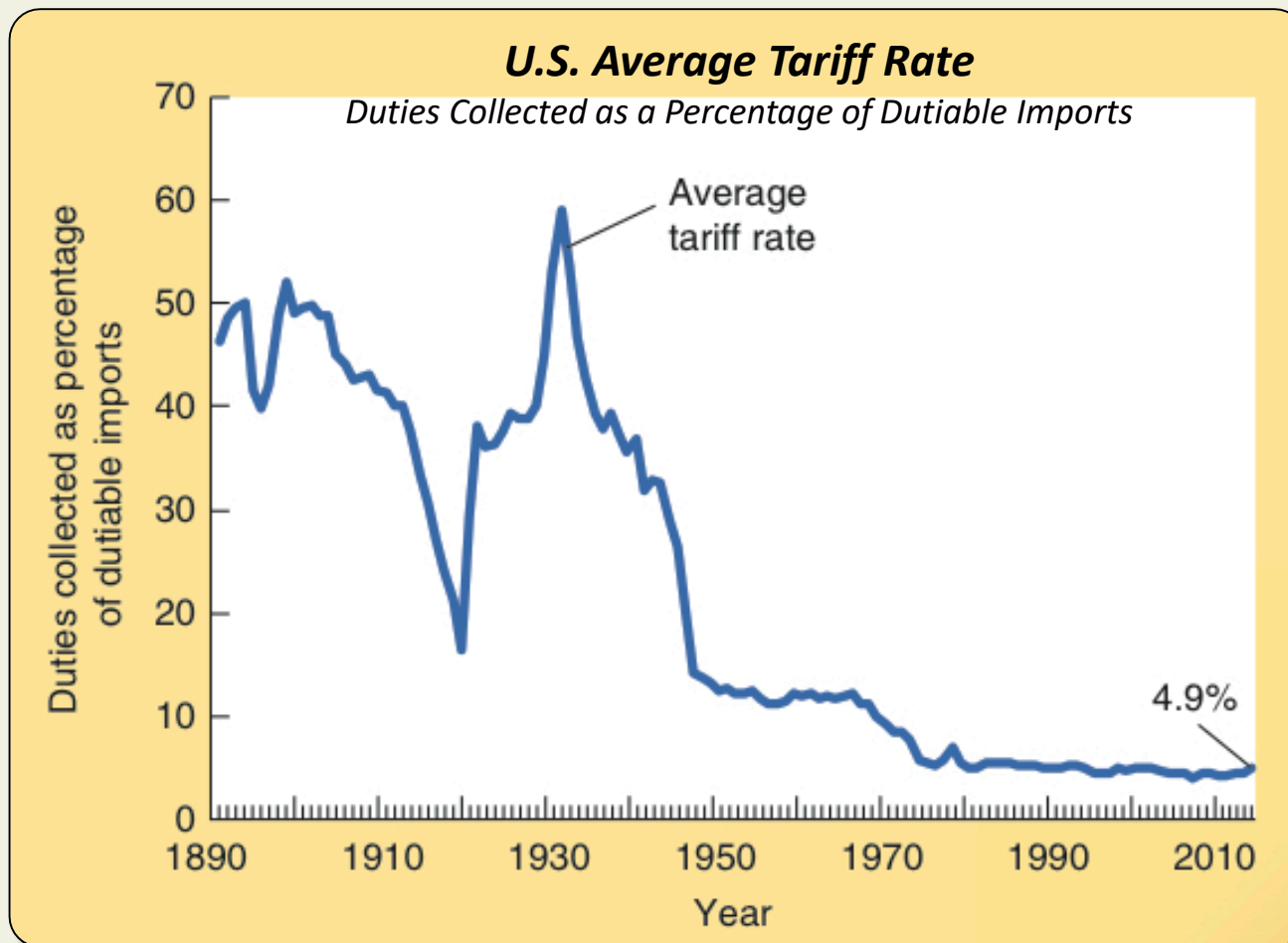
The Economics of Trade Restrictions

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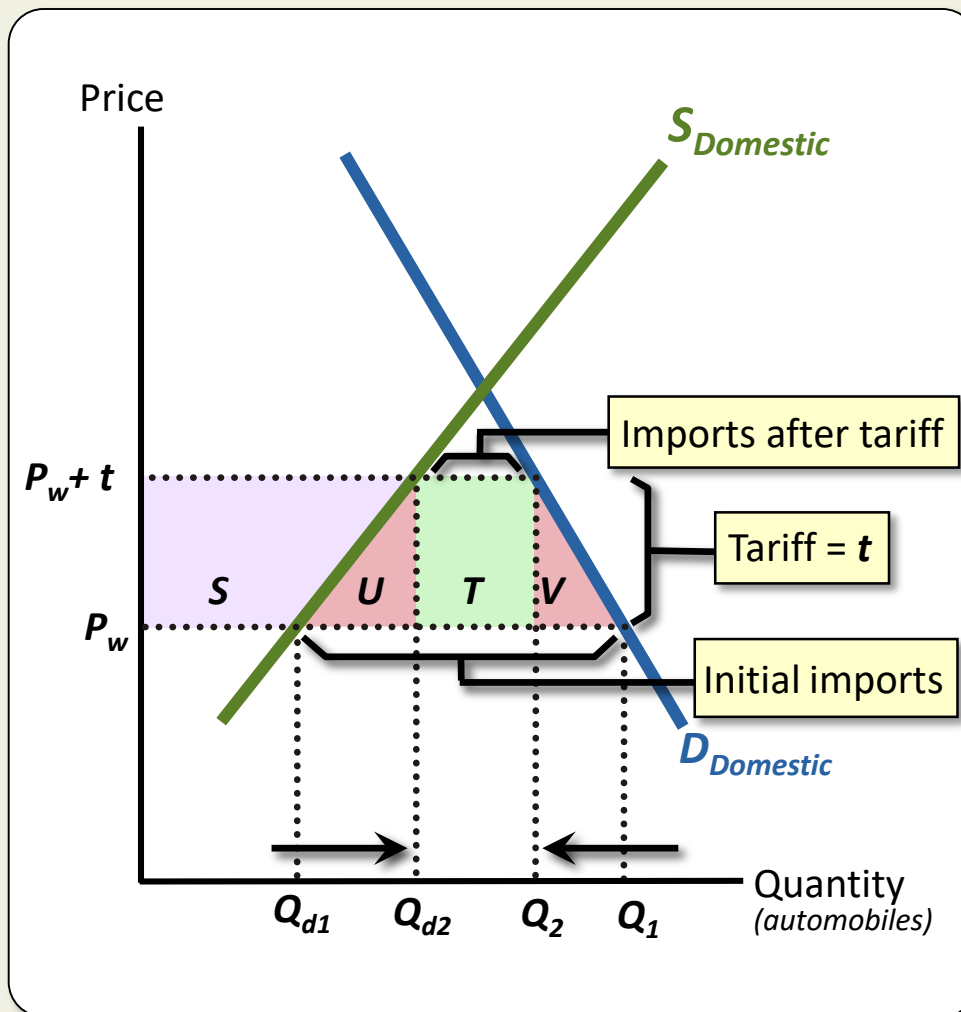
Economic Freedom and Growth

- The average tariff rate (taxes levied upon imports) for the United States (since 1890) is illustrated here.



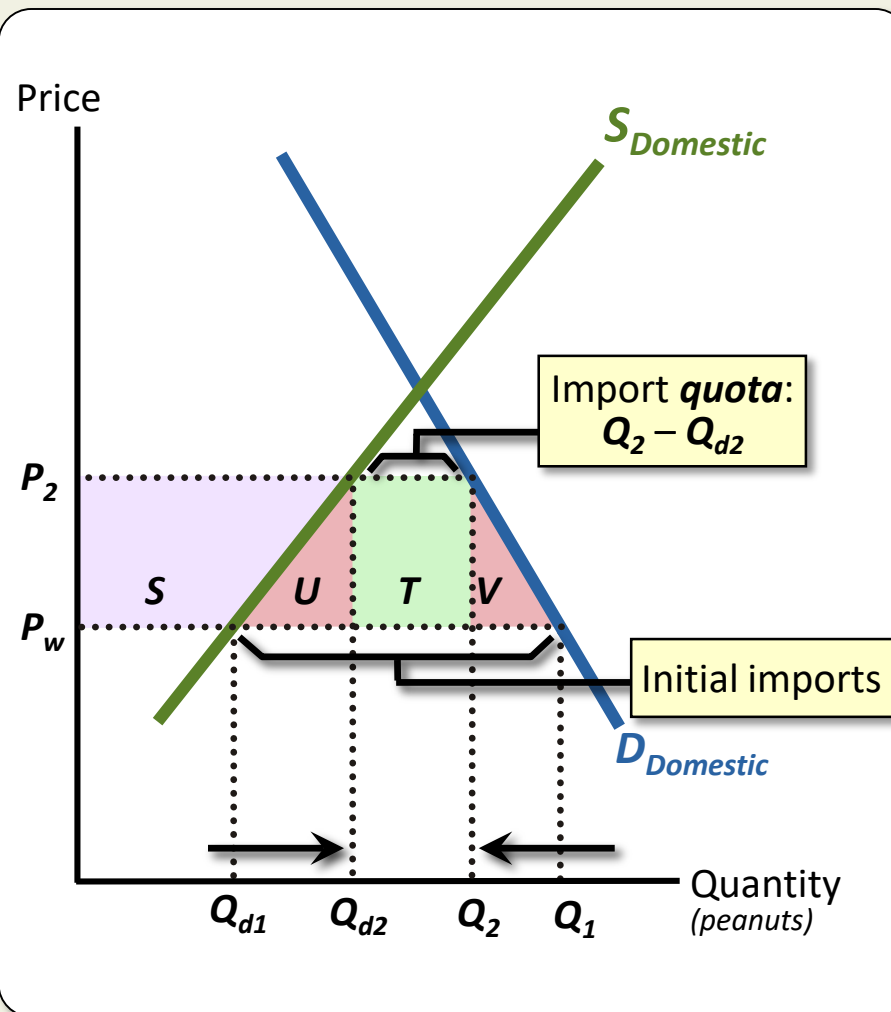
Trade Restrictions: Impact of a Tariff

- Consider a **tariff** on auto imports.
- Without a tariff, world price is P_w . At P_w consumers in the U.S. purchase Q_1 units ... Q_{d1} from U.S. producers and ... $Q_1 - Q_{d1}$ from foreign producers.
- A tariff (t) makes it more costly for Americans to purchase autos from abroad. U.S. prices rise to $P_w + t$ and purchases fall from Q_1 to Q_2 .
- U.S. purchases from domestic producers rise from Q_{d1} to Q_{d2} ... imports fall to $Q_2 - Q_{d2}$.
- Producers gain S ... T tax revenues (from the tariff) are generated ... U & V are **deadweight losses**.
- Consumers lose $S + U + T + V$ in the form of higher prices and a reduction of *consumer surplus*.



Trade Restrictions: Impact of a Quota

- Consider a **quota** on peanuts.
- Without trade restraints, P_w (world price) would be the domestic price. At P_w U.S. consumers would purchase $Q_1 \dots Q_{d1}$ from U.S. producers and ... $Q_1 - Q_{d1}$ from foreign producers.
- A quota of $Q_2 - Q_{d2}$ imports pushes the U.S. price up to P_2 .
- While total U.S. purchases fall (from Q_1 to Q_2), those from U.S. rise (from Q_{d1} to Q_{d2}) and ... imports fall to $Q_2 - Q_{d2}$.
- U.S. producers gain S . Area T goes to foreign producers with permits to import.
- Areas U & V are **deadweight losses**. Consumers lose $S + U + T + V$ in the form of higher prices and a reduction of *consumer surplus*.



Why do Nations Adopt Trade Restrictions?

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Arguments Used to Justify Trade Restrictions

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- Proponents of trade restrictions often use the following arguments in an effort to justify their position:
 - ***National defense argument:***
domestic industry is needed for national defense purposes.
 - ***Dumping:***
the sale of goods abroad at a price below the cost of production (and below the domestic market price of the exporting nation).
 - Dumping is illegal under U.S. law.
 - ***Infant Industry argument:***
new industry needs protection so it can mature.

A Few Additional Issues Related to Dumping

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- When considering the merits of anti-dumping restrictions, remember that:
 - Firms with large inventories (either domestic or abroad) may find it in their interest to offer goods at prices below their original cost of production.
 - Domestic firms are legally allowed to engage in this practice.
 - Lower prices benefit domestic consumers.

Trade Restrictions are a Special Interest Issue

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- *“Protectionism is a politician's delight because it delivers visible benefits to the protected parties while imposing the costs as a hidden tax on the public.”*

—Murray L. Weidenbaum

- The special interest effect provides the primary explanation for trade restrictions.
- Trade restrictions almost always provide highly visible, concentrated benefits for a small group of people, while imposing widely dispersed costs that are often difficult to identify on the general citizenry.
- Politicians have a strong incentive to favor special interest issues, even if they conflict with economic efficiency.

Trade Barriers and Popular Trade Fallacies

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Trade Fallacies

- Trade fallacies abound because people often fail to consider the ***secondary effects***.
- Key elements of international trade are often linked – you cannot change one element without changing the other.
 - This is the case with imports and exports; policies that restrain imports also restrain exports.

Trade Fallacies

- ***Trade fallacy 1:***

“Trade restrictions that limit imports save jobs for Americans.”

- This view is false because if foreigners sell less to us they will have fewer dollars with which to buy things from us. Thus, restraints on imports will also restrain exports.
- Trade restrictions do not “save” jobs; they merely reshuffle them. Jobs “saved” in protected industries will be offset by jobs “lost” in export industries.
- As the result of trade restrictions, fewer Americans are employed in areas where we have a comparative advantage.

Trade Fallacies

- **Trade fallacy 2:**

"Free trade with low-wage countries, such as Mexico and China, will reduce the wages of Americans."

- Both high- and low-wage countries will gain when they are able to focus more of their resources on those productive activities that they do well.
- The key to this issue is how will U.S. resources be used. If a low-wage country can supply a good cheaper than we can produce it, the U.S. can gain by purchasing the good from the low-wage country and using its resources to produce other goods for which it has a comparative advantage.

Institutions and the Changing Nature of Global Trade



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Economic Freedom as a Measure of Institutional Quality

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- Gains from trade, entrepreneurial discovery, and investment are largely dependent on institutions and policies supportive of voluntary exchange, market allocation, freedom to compete, and protection of people and their property from aggressors.
- These ingredients comprise the foundation of ***economic freedom***.

Trade Openness, Income, and Growth

- The income levels and growth rates of the ten most and ten least open economies (as measured by the ***Trade Openness Index – TOI***) are displayed here.
- Note that more open economies both achieved higher income levels and grew more rapidly.

Source: Derived from Economic Freedom of the World 2015 Dataset and World Bank, World Development Indicators. The purchasing power parity method was used to convert the per capita GDP figures into 2011 international dollars.

Ten Most Open Economies	Trade Openness	GDP Per Capita, 2013	Growth Rate (1980-2013)
Hong Kong	9.52	\$53,367	3.6%
Singapore	9.25	\$80,296	4.1%
Luxembourg	9.01	\$95,929	2.8%
UK	8.89	\$39,111	1.9%
Netherlands	8.84	\$47,955	1.5%
Belgium	8.80	\$43,060	1.4%
Germany	8.65	\$44,185	1.6%
Denmark	8.53	\$45,270	1.4%
Ireland	8.49	\$47,600	3.4%
United States	8.46	\$52,980	1.7%
Average	8.84	\$54,975	2.4%

Ten Least Open Economies	Trade Openness	GDP Per Capita, 2013	Growth Rate (1980-2013)
Zimbabwe	4.1	\$1,740	-1.0%
Pakistan	4.0	\$4,624	2.1%
Sierra Leone	4.0	\$1,893	0.4%
Tanzania	3.8	\$2,413	-2.2%
Nigeria	3.5	\$5,628	0.7%
Iran	3.4	\$16,554	0.9%
Bangladesh	3.3	\$2,937	2.8%
Algeria	3.3	\$13,741	0.7%
Burundi	2.8	\$749	-0.7%
Myanmar	0.0	\$1,678	2.7%
Average	3.2	\$5,196	0.6%

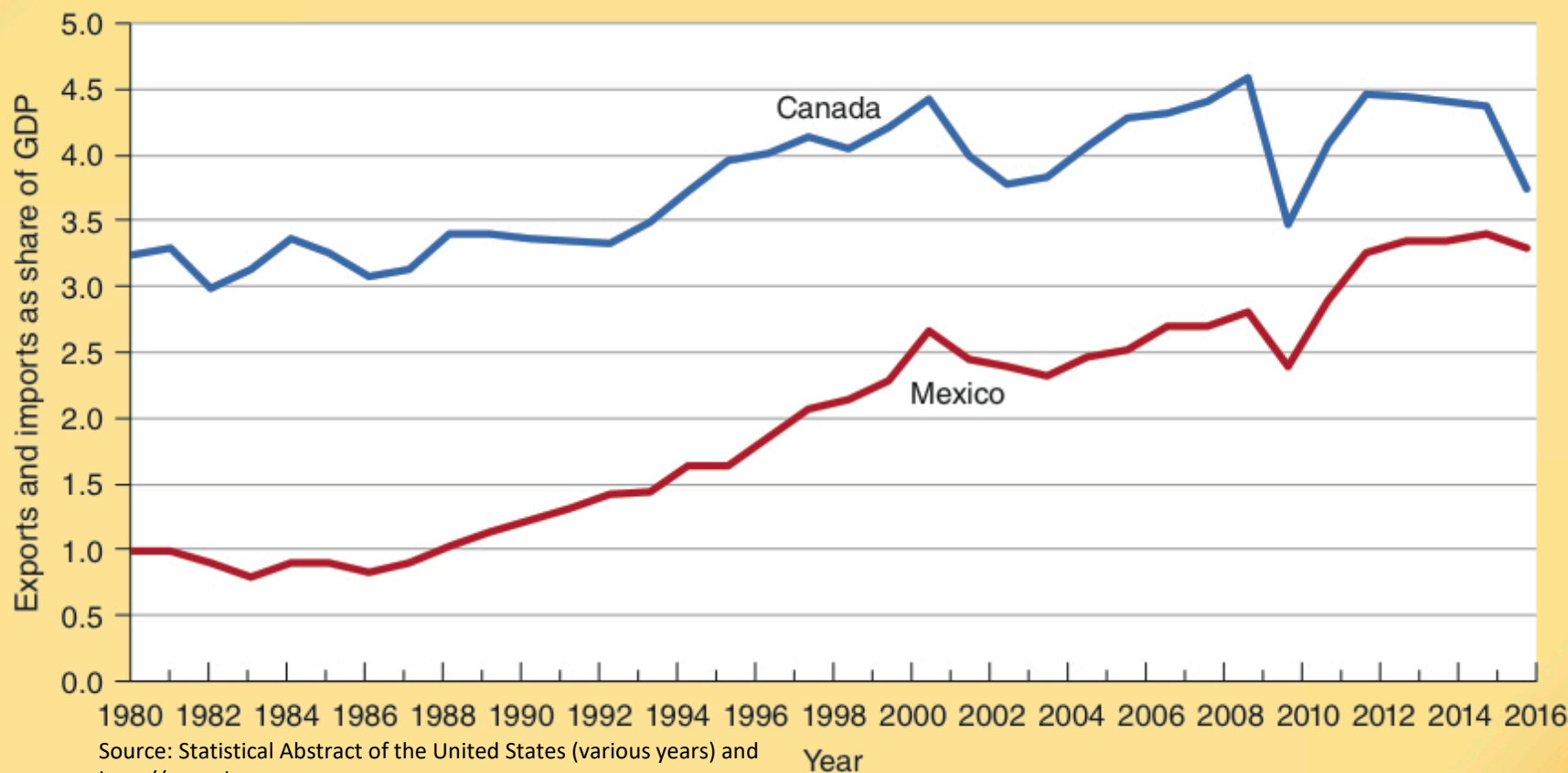
Trade Openness, Income, and Growth

- Countries like Hong Kong and Singapore that have persistently followed more open trade policies, have achieved higher income levels, and grown more rapidly than more closed economies.
- During the last two decades, trade restrictions have declined sharply, particularly in less developed economies.
- Following the passage of NAFTA, U.S. trade with both Canada and Mexico grew rapidly.
 - The U.S. economy performed impressively, as the size of the trade sector grew during the 1990s.

U.S. Trade with Canada and Mexico

- Measured as a share of GDP, U.S. trade with both Canada and Mexico has increased sharply as a result of NAFTA during the last 18 years.

U.S. Trade with Canada and Mexico, 1980-2015



Trade Openness, Income, and Growth

- Today, less developed countries are often at the forefront of those pushing for greater trade openness, while high-income countries often impose restrictions in order to protect various domestic industrial interests and preserve their farm subsidy programs.