International Trade

Chapter 9

Hussain Hadah
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Introduction

International Trade

- Our daily lives are affected by international trade
- The coffee beans that our coffee is made from is shipped from South America
- The clothes we wear are made in Asia
- A century ago, the textile industry was a major part of the US economy
- Foreign competitors were able to produce high-quality clothes at lower prices

How does international trade affect economic well-being?

Who gains and who loses from free trade among countries, and how do the gains compare to the losses?

- In chapter 3, we studied international trade by applying *absolute & comparative advantage*
- We did not explain how to explain how gains from international trade are achieved or distributed among agents
- We will also go over the effect of international trade on

The Determinants of Trade

The textile market

Using the textile market as an example is a great way to explain the gains and losses from international trade

Clothes are made in many countries around the world

There is also a lot of trade in textile

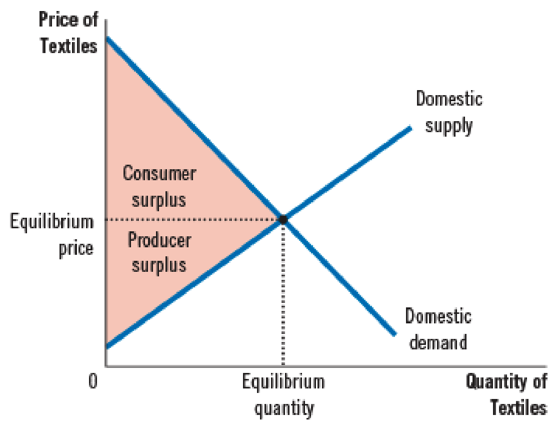
This chapter's example will take place in the fictional country of Isoland

Equilibrium without trade

- The textile market in Isoland is cut off from the rest of the world
- No one is allowed to import or export textile

Figure 1 **The Equilibrium without International Trade**

When an economy cannot trade in world markets, the price adjusts to balance domestic supply and demand. This figure shows consumer and producer surplus in an equilibrium without international trade for the textile market in the imaginary country of Isoland.



Evalutaing the trade policy in Isolandian

1. What will happen to the price and quantity of textile in Isoland if the country allows imports and exports?
    - If free trade is allowed, will Isolandians end up buying or selling textile in the world market?
    - Compare the price of textile on the world market (world price) to the local price
    - If the world price is greater than the domestic price, Isolandians will export textile
    - If the world price is less than the domestic price, Isolandians will import textile
    - At the heart of comparing the prices (world vs domestic) is figuring out if Isoland has a comparative advantage in producing textile

2. Who will gain from free trade in textiles and who will lose, and will the gains exceed the losses?

3. Should a tariff (a tax on textile imports) be part of the new trade policy?

The gains from trade (Exporting)

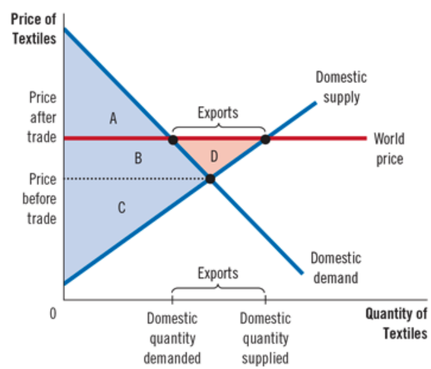
- When trade is allowed, producers are better off and consumers are worse off
- The benefits from trade exceed the losses

Figure 2 **International Trade in an Exporting Country**

Once trade is allowed, the domestic price rises to equal the world price. The supply curve shows the quantity of textiles produced domestically, and the demand curve shows the quantity consumed domestically. Exports from Isoland equal the difference between the domestic quantity supplied and the domestic quantity demanded at the world price. Sellers are better off (producer surplus rises from C to $B + C + D$), and buyers are worse off (consumer surplus falls from $A + B$ to A). Total surplus rises by an amount equal to area D, indicating that trade raises the economic well-being of the country as a whole.

	Before Trade	After Trade	Change
Consumer Surplus	A + B	A	−B
Producer Surplus	C	B + C + D	+ (B + D)
Total Surplus	A + B + C	A + B + C + D	+ D

The area D shows the increase in total surplus and represents the gains from trade.



The gains from trade (Importing)

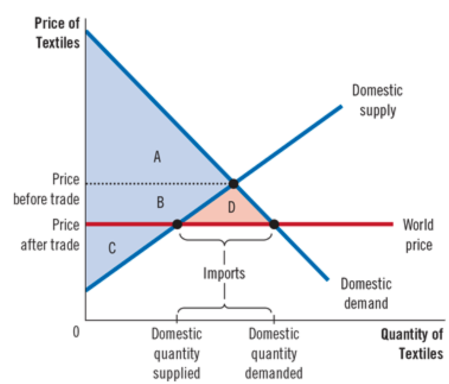
- When trade is allowed, producers are worse off and consumers are better off
- The benefits from trade exceed the losses

Figure 3 **International Trade in an Importing Country**

Once trade is allowed, the domestic price falls to equal the world price. The supply curve shows the amount produced domestically, and the demand curve shows the amount consumed domestically. Imports equal the difference between the domestic quantity demanded and the domestic quantity supplied at the world price. Buyers are better off (consumer surplus rises from A to $A + B + D$), and sellers are worse off (producer surplus falls from $B + C$ to C). Total surplus rises by an amount equal to area D, indicating that trade raises the economic well-being of the country as a whole.

	Before Trade	After Trade	Change
Consumer Surplus	A	A + B + D	+ (B + D)
Producer Surplus	B + C	C	−B
Total Surplus	A + B + C	A + B + C + D	+ D

The area D shows the increase in total surplus and represents the gains from trade.



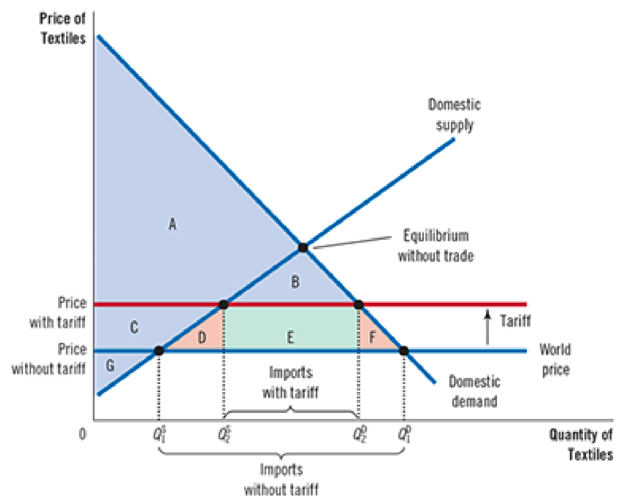
The effects of a tarrif

Figure 4 **The Effects of a Tariff**

A tariff, a tax on imports, reduces the quantity of imports and moves a market closer to the equilibrium that would exist without trade. Total surplus falls by an amount equal to area $D + F$. These two triangles represent the deadweight loss from the tariff.

	Before Tariff	After Tariff	Change
Consumer Surplus	A + B + C + D + E + F	A + B	−(C + D + E + F)
Producer Surplus	G	C + G	+ C
Government Revenue	None	E	+ E
Total Surplus	A + B + C + D + E + F + G	A + B + C + E + G	−(D + F)

The area D + F shows the fall in total surplus and represents the deadweight loss of the tariff.



Other benefits of trade

1. Increased variety of goods
2. Lower costs through economies of scale
3. Increased competition
4. Increased productivity
5. Enhanced flow of ideas

The Arguments for Restricting Trade

The jobs argument

- Opponents of free trade argue that trade destroys domestic jobs
- In our example, when Isoland was an importer of textile, production decreased, which will lead to some job loss
- But trade creates jobs.
- When Isolandians import goods from another country, other nations will become wealthier
- Other nations will demand goods that Isoland has a comparative advantage in
- The transition may impose hardship on some workers in the short run, but Isolandians as a whole would still enjoy a higher standard of living

The national security argument

- Imagine that Isoland were considering free trade in steel
- Domestic steel producers might point out that steel is used to make guns and tanks
- Free trade would allow Isoland to become dependent on foreign countries to supply steel
- In the case of a war, foreign supply might be interrupted
- Isoland might be unable to quickly produce enough steel and weapons to defend itself
- Economists acknowledge that protecting key industries may be appropriate when there are legitimate concerns over national security
- We need to ask ourselves why are steel producers and not the defense department and makers of weapons are the ones lobbying for protection?

The Infant-Industry Argument

- New industries sometimes argue for temporary trade restrictions to help them get started
- After a period of protection, they will mature and be able to compete with foreign firms
- Economists are often skeptical about such claims
- Infant-industry argument is difficult to implement in practice
- The government would need to determine which industries will eventually be profitable
- “Picking winners” is difficult.
- It is made even more difficult by the political process, which often awards protection to industries with the most political clout
- Once a politically powerful industry is protected from foreign competition, the “temporary” policy can be hard to remove

The Unfair-Competition Argument

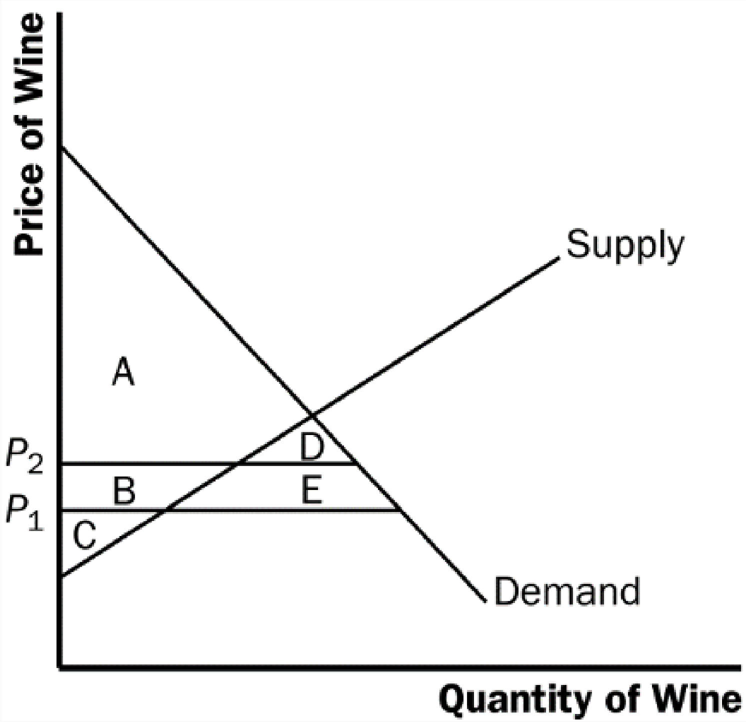
- A common argument is that free trade is desirable only if all countries play by the same rules
- Suppose that the government of Neighborland subsidizes its textile industry, lowering the costs of production
- Isolandian textile industry might argue that it should be protected from these unfair foreign practices
- Isolandian textile consumers would benefit from the low price
- Isolandian textile producers would suffer
- The gains of the consumers from buying at the low price would exceed the losses of the producers

Problems and Applications

Question 1

The world price of wine is below the price that would prevail in Canada in the absence of trade.

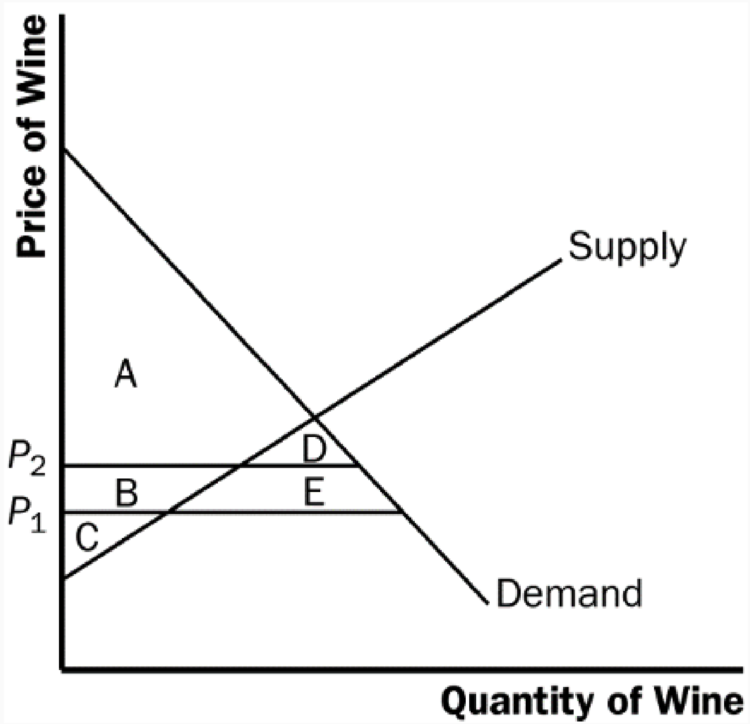
Assuming that Canadian imports of wine are a small part of total world wine production, draw a graph for the Canadian market for wine under free trade. Identify consumer surplus, producer surplus, and total surplus in an appropriate table.



Question 1

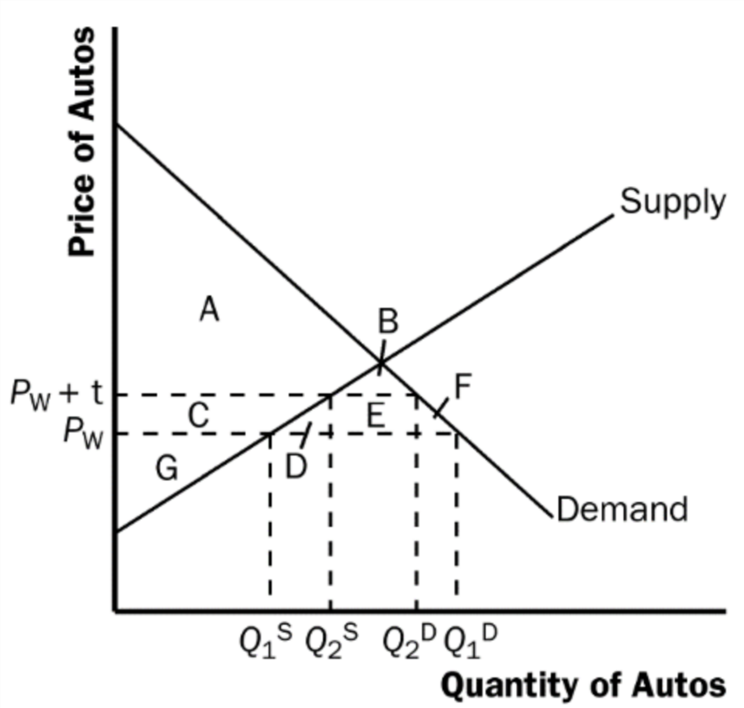
The world price of wine is below the price that would prevail in Canada in the absence of trade.

Now suppose that an unusual shift of the Gulf Stream leads to an unseasonably cold summer in Europe, destroying much of the grape harvest there. What effect does this shock have on the world price of wine? Using your graph and table from part (a), show the effect on consumer surplus, producer surplus, and total surplus in Canada. Who are the winners and losers? Is Canada as a whole better or worse off?



Question 2

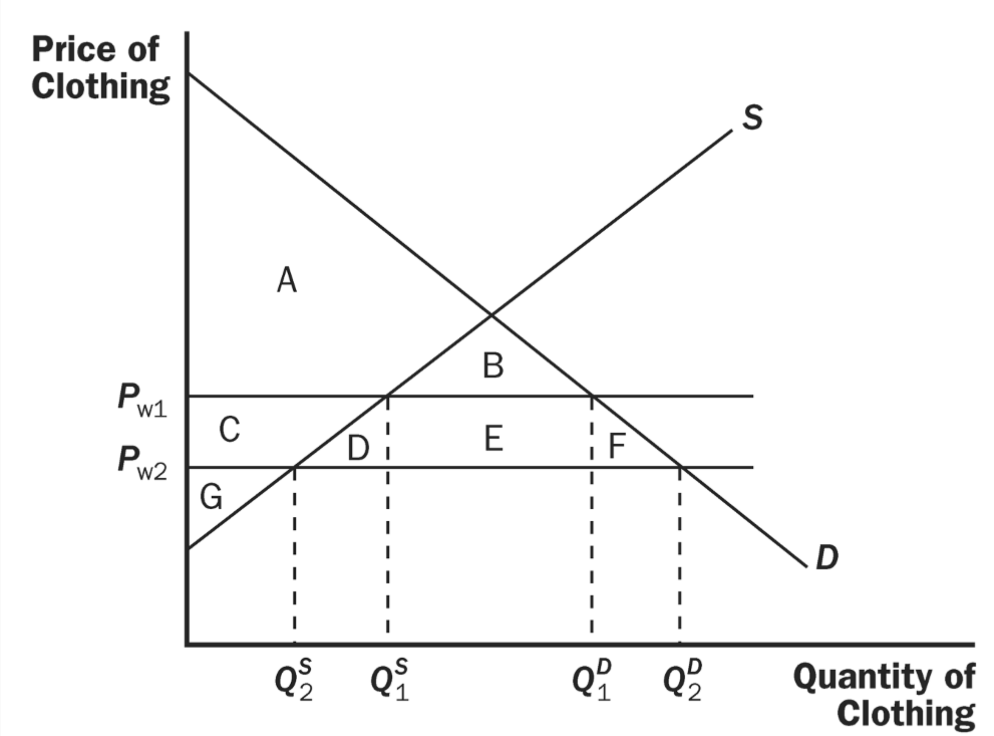
Suppose that Congress imposes a tariff on imported automobiles to protect the U.S. auto industry from foreign competition. Assuming that the United States is a price taker in the world auto market, show the following on a diagram: the change in the quantity of imports, the loss to U.S. consumers, the gain to U.S. manufacturers, government revenue, and the deadweight loss associated with the tariff. The loss to consumers can be decomposed into three pieces: a gain to domestic producers, revenue for the government, and a deadweight loss. Use your diagram to identify these three pieces.



Question 3

When China's clothing industry expands, the increase in world supply lowers the world price of clothing.

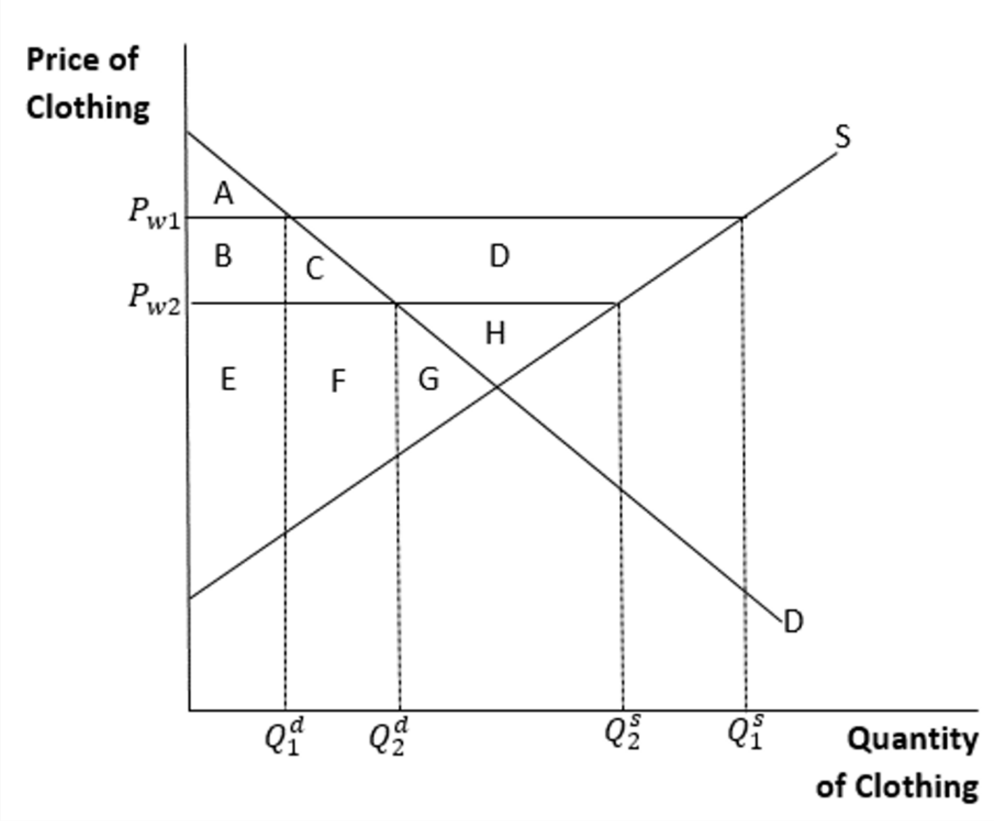
Draw an appropriate diagram to analyze how this change in price affects consumer surplus, producer surplus, and total surplus in a nation that imports clothing, such as the United States.



Question 3

When China's clothing industry expands, the increase in world supply lowers the world price of clothing.

Now draw an appropriate diagram to show how this change in price affects consumer surplus, producer surplus, and total surplus in a nation that exports clothing, such as the Dominican Republic.



Question 3

Compare your answers to parts (a) and (b). What are the similarities and what are the differences? Which country should be concerned about the expansion of the Chinese textile industry? Which country should be applauding it? Explain.

Overall, importing countries benefit from the fall in the world price of clothing, while exporting countries are harmed.

Question 4

Consider the arguments for restricting trade.

Imagine that you are a lobbyist for timber, an established industry suffering from low-priced foreign competition, and you are trying to get Congress to pass trade restrictions. Which two or three of the five arguments discussed in the chapter do you think would be most persuasive to the average member of Congress? Explain your reasoning.

- **There are many answers to this question. Here's my answer. I would use the job and unfair-competition arguments**
- **The timber industry employs many people that are not well-trained for jobs in other industries if their jobs are lost due to less expensive imports**
- **Other countries may have less regulations or support the timber industries making their timber industry production cheaper**

Question 4

Consider the arguments for restricting trade.

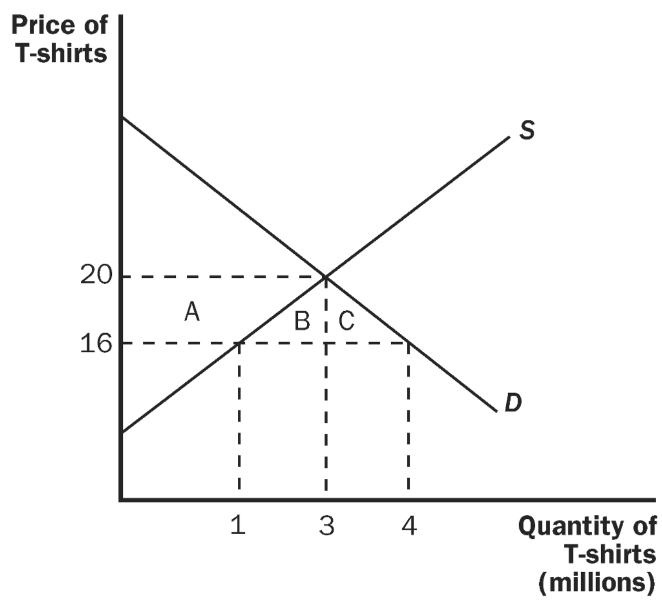
Now assume you are an astute student of economics (not a hard assumption, we hope). Although all the arguments for restricting trade have their shortcomings, name the two or three arguments that seem to make the most economic sense to you. For each, describe the economic rationale for and against these arguments for trade restrictions.

- **There are many answers to this question. Here's my answer. I would use the the national-security and the infant-industry arguments**
- **If the product is necessary for national security, we should not rely on imports**
- **The economic rationale against the national-security argument is that the proponents of trade restrictions may exaggerate the fact that the product is necessary for national security**
- **The economic rationale for the infant-industry argument is that firms in industries just getting started need protection from foreign competition to become established in the industry**
- **The economic rationale against the infant-industry argument is that it is very difficult for government to foresee which industries will be profitable and worth protecting**

Question 5

The nation of Textilia does not allow imports of clothing. In its equilibrium without trade, a T-shirt costs $20, and the equilibrium quantity is 3 million T-shirts. One day, after reading Adam Smith's The Wealth of Nations while on vacation, the president decides to open the Textilian market to international trade. The market price of a T-shirt falls to the world price of $16. The number of T-shirts consumed in Textilia rises to 4 million, while the number of T-shirts produced declines to 1 million.

Illustrate the situation just described in a graph. Your graph should show all the numbers.



Question 5

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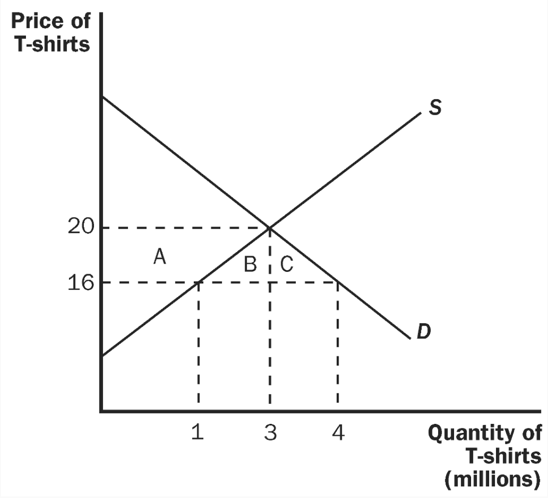
Calculate the change in consumer surplus, producer surplus, and total surplus that results from opening up trade. (Hint: Recall that the area of a triangle is ½ × base × height.)



- Area A is equal to (4)(1 million) +(0.5)(4)(2 million) = 8 million
- Area B is equal to (0.5)(4)(2 million) = 4 million
- Area C is equal to (0.5)(4)(1 million) = 2 million
- CS = 14 million, PS decreases by A and TS rises by B + C

Question 6

China is a major producer of grains, such as wheat, corn, and rice. Some years ago, the Chinese government, concerned that grain exports were driving up food prices for domestic consumers, imposed a tax on grain exports.

Draw the graph that describes the market for grain in an exporting country. Use this graph as the starting point to answer the following questions.

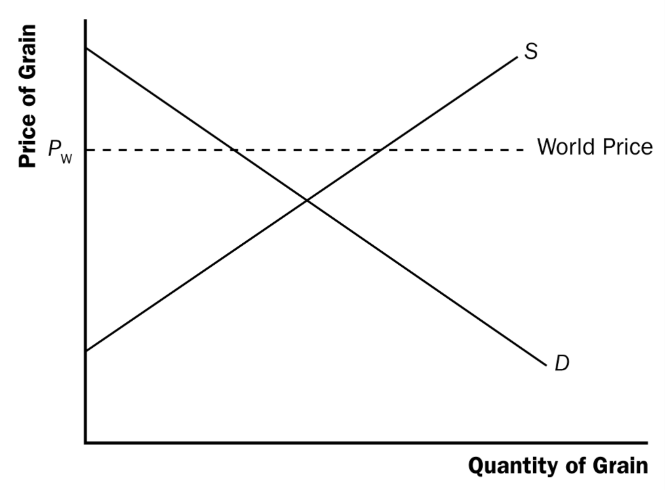
Question 6

China is a major producer of grains, such as wheat, corn, and rice. Some years ago, the Chinese government, concerned that grain exports were driving up food prices for domestic consumers, imposed a tax on grain exports.

How does an export tax affect domestic grain prices?

How does it affect the welfare of domestic consumers, the welfare of domestic producers, and government revenue?

What happens to total welfare in China, as measured by the sum of consumer surplus, producer surplus, and tax revenue?



Question 7

Consider a country that imports a good from abroad. For each of following statements, state whether it is true or false. Explain your answer.

"The greater the elasticity of demand, the greater the gains from trade."

This statement is true. For a given world price that is lower than the domestic price, quantity demanded will rise more when demand is elastic. Therefore, the rise in consumer surplus will be greater when demand is elastic.

"If demand is perfectly inelastic, there are no gains from trade."

This statement is false. Quantity demanded would remain unchanged, but buyers would pay a lower price. This would increase consumer surplus. Domestic producer surplus will fall, but by less than the rise in consumer surplus. Gains from trade will increase.

"If demand is perfectly inelastic, consumers do not benefit from trade."

This statement is false. Even though quantity demanded does not rise when trade is allowed, consumer surplus rises, because consumers are paying a lower price.