University of Amsterdam

Economics, Markets and Organizations

Tutorial 11

Continuous exam 1

- 1. How is aggregate demand determined? How is aggregate supply determined? Why is aggregate supply positively sloped in the short-run and vertical in the long-run?

Continuous exam 2

- Consider a monetary expansion. How is it likely to affect output and the price level both in the short-run and the long-run, and why?

Key objectives

- Getting familiar with trade policy tools (tariffs, export subsidies)
- Understanding the welfare effects of these tools (important: small or large country)

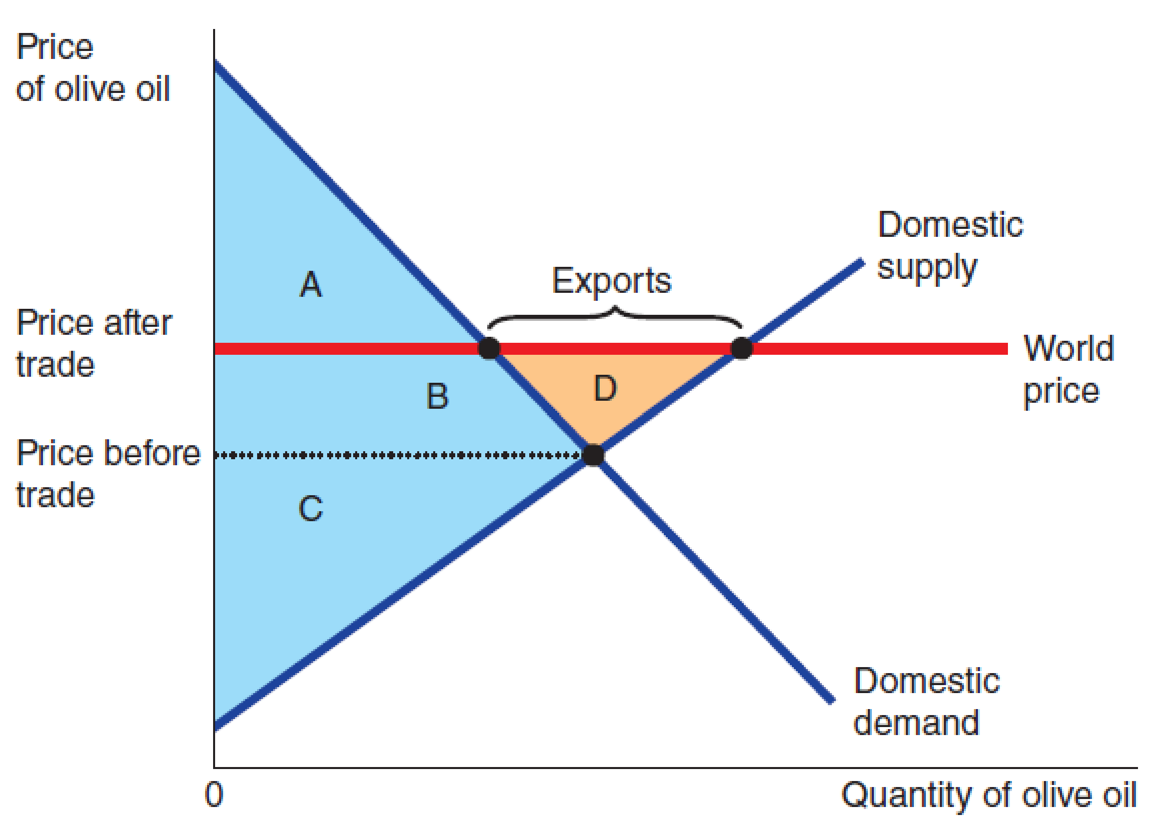
Question 1

“International trade is a zero-sum game”. What is meant by this statement? Do you support this statement when thinking in terms of the analysis of Krugman, Obstfeld and Melitz?

Answer

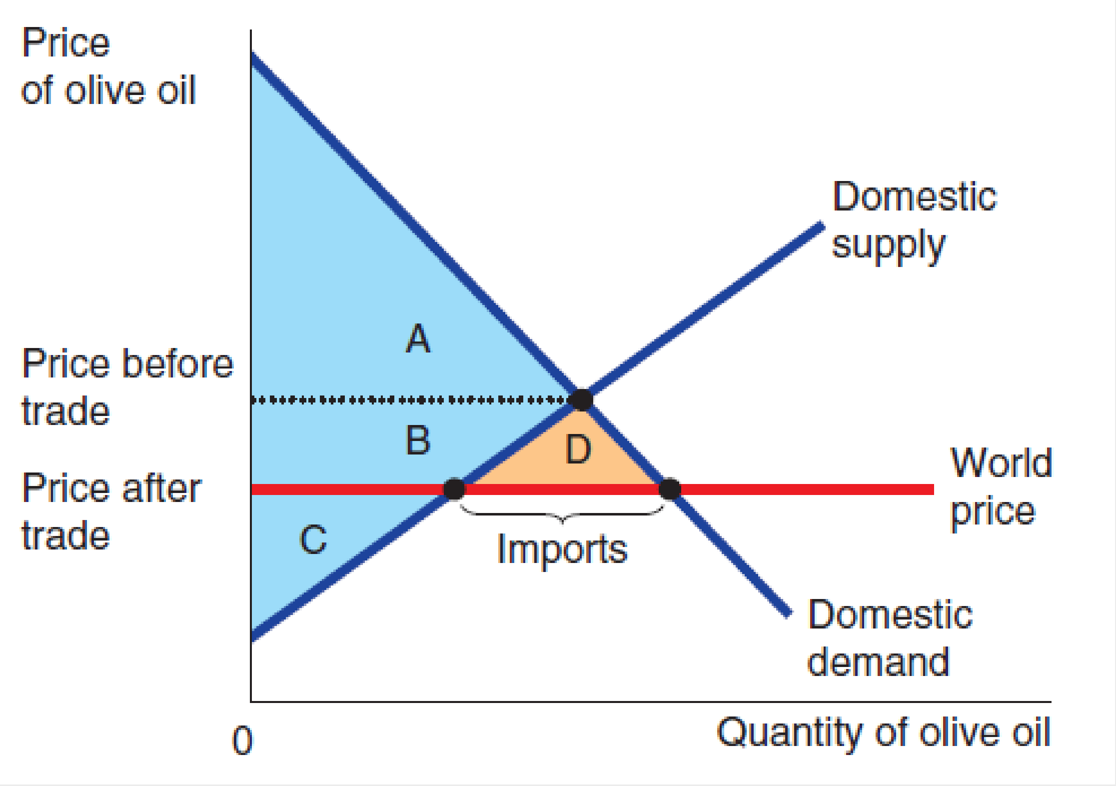
No, trade is beneficial for both countries.

The exporting country will have a higher producer surplus that outweighs the loss in consumer surplus.



Answer

The importing country will have a higher consumer surplus that outweighs the loss in producer surplus.



Question 2

In the below exercise, you are to assume a two-country world that consists of the countries Home and Foreign that are to be seen as large countries. Assume that Home's demand curve for wheat is $D = 100 – 20P$. The supply curve for wheat in Home is $S = 20 + 20P$.

a. What is the market-clearing price for wheat in Home under autarky? What is the demand for wheat in Home under autarky? What is the local supply of wheat in Home under autarky?

Answer

D = 100 – 20P

S = 20 + 20P

$D_H = S_H \rightarrow 80 = 40P_H \rightarrow P_H = 2$

$D_H = S_H = 60$

Question 2 (cont.)

Assume that Foreign's demand curve for wheat is $D^* = 80 – 20P^*$. The supply curve for wheat in Foreign is $S^* = 40 + 20P^*$.

b. What is the market-clearing price for wheat in Foreign under autarky?

The policy makers in Home and Foreign suddenly decide to completely remove all barriers to trade between these two nations.

c. Which of the two countries will start to export wheat?

Answer

$D^* = 80 - 20P^*$

$S^* = 40 + 20P^*$

$D_F = S_F \rightarrow 40 = 40P_F \rightarrow P_F = 1$

$D_F = S_F = 60$

The foreign country has lower prices, it will start to export wheat to the home country.

Question 2 (cont.)

The complete removal of all barriers to trade creates a world market for wheat.

d. What is he price on the world market when Home and Foreign allow for unhindered international trade in wheat? You should denote the world market price by P^W.

Answer

The import demand is:

$$D_H - S_H = 100 - 20P^W - \left(20 + 20P^W\right) = 80 - 40P^W$$

The export supply is:

$$S_F - D_F = 40 + 20P^W - \left(80 - 20P^W\right) = -40 + 40P^W$$

The world price is then:

$$80 - 40P^W = -40 + 40P^W \rightarrow 80P^W = 120$$

$$P^W = 1.5$$

Question 2 (cont.)

You have clarified the direction of trade in the previous two questions. However, you can even calculate the precise amount of international trade in wheat.

e. How large is the supply of wheat in Home under free trade? How large is the demand for wheat in Home under free trade? Finally, how large is the amount of exports of wheat from Foreign to Home? In your answer you are **NOT** allowed to use the demand and supply functions of Foreign.

Answer

The import of wheat at home is, which should eual exports by the foreign country:

$$D_H - S_H = 80 - 40P^W = 80 - 40 \cdot 1.5 = 20$$

Alternatively:

At the new prices home demand for wheat is:

$$D_H = 100 - 20P^W = 70$$

And domestic supply is: $D_H = 20 + 20P^W = 50$

So import must be 20.

Question 2 (cont.)

Later on, the government of Home decides to introduce a specific (import) tariff of 0.5 since it is of the opinion that such measure benefits its consumers.

f. Is that claim correct? You have to answer in words (no calculations are allowed for).

Answer

- This claim is incorrect, higher prices as a result of the tariff, will reduce consumer surplus relative to free trade.

Question 2 (cont.)

g. This import tariff of 0.5 has an overall welfare effect of +1.25 for Home. You are required to calculate this result in two ways, namely via the familiar welfare concepts such as the consumer and the producer surplus and also via the efficiency gains and losses. You may find it useful to draw a graph for the market of wheat in Home.

Answer

- The import demand function becomes:

$$D_H - S_H = 80 - 40(P^W + T) = 80 - 40(P^W + 0.5) = 60 - 40P^W$$

- The export supply function remains as it was:

$$S_F - D_F = -40 + 40P^W$$

- Hence the tariff will change the world price:

$$60 - 40P_T^W = -40 + 40P_T^W \rightarrow P_T^W = 1.25$$

- The home price is then: 1.75

Answer

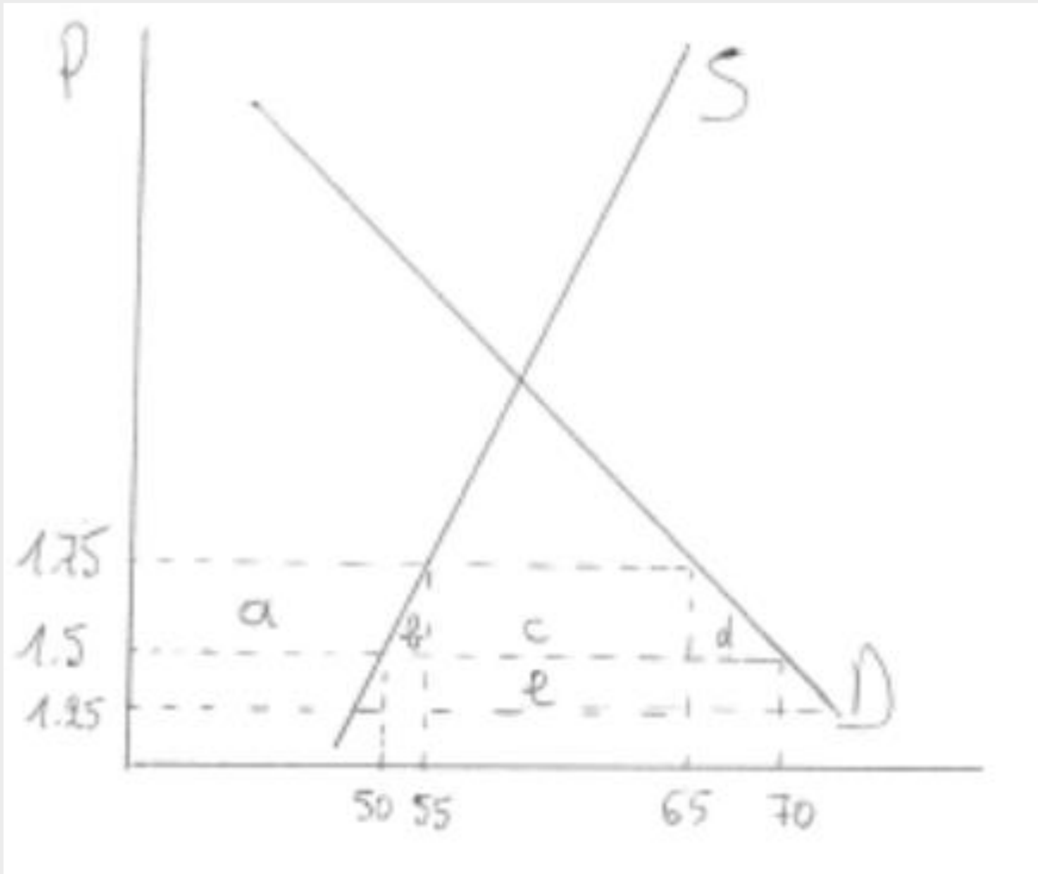
At the new 1.75 home price, the demand at home is:

$$D_H = 100 - 20P = 100 - 20 \cdot 1.75 = 65$$

And the home supply is:

$$S_H = 20 + 20P = 20 + 20 \cdot 1.75 = 55$$

Answer



Answer

The decrease in consumer supply is then a+b+c+d, where $a+b+c=65\cdot 0.25=16.25$ and $d=5\cdot 0.25/2=0.625$, that is: 16.875 in total.

The increase in producer surplus is a, which has the area:

$a=0.25\cdot 55-5\cdot 0.25/2=13.75-0.625=13.125$

Finally the tariff revenue is: $c+e=0.5\cdot(65-55)=5$

The total gain in welfare is: $13.125+5-16.875=1.25$

Question 2 (cont.)

Suppose now alternatively that the government of Foreign would have introduced a specific import tariff of 0.5 immediately after the countries Home and Foreign had opened up to international trade and thus after they saw the emergence of a world market price at $P^W = 1.5$.

h. What would have been the change in welfare for Foreign when compared with the situation of free trade?

Answer

- There would have been no effect as the foreign country was an exporter, there was no import to it.

3. Which of the following statements on the effects of trade policy measures are correct?

I. An import tariff will increase the domestic price, but an export subsidy decreases the domestic price.

II. An export subsidy that is given by the domestic government implies a transfer of welfare from the domestic economy to the foreign economy.

- 1. Statements I and II are correct.
- 2. Statement I is correct, statement II is not correct.
- 3. Statement I is not correct, statement II is correct.
- 4. Statements I and II are not correct.

Answer

- None of them is true.
- I. is not true since export subsidy will increase exports so the domestic price must go up.
- II is not true if we have a small country, since the increasing export would not affect world prices. If we had a large country and international prices were lowered by an increase in its exports, then this would be indeed a welfare transfer.

FIGURE 9-9

Costs and Benefits of a Tariff for the Importing Country

The costs and benefits to different groups can be represented as sums of the five areas *a*, *b*, *c*, *d*, and *e*.

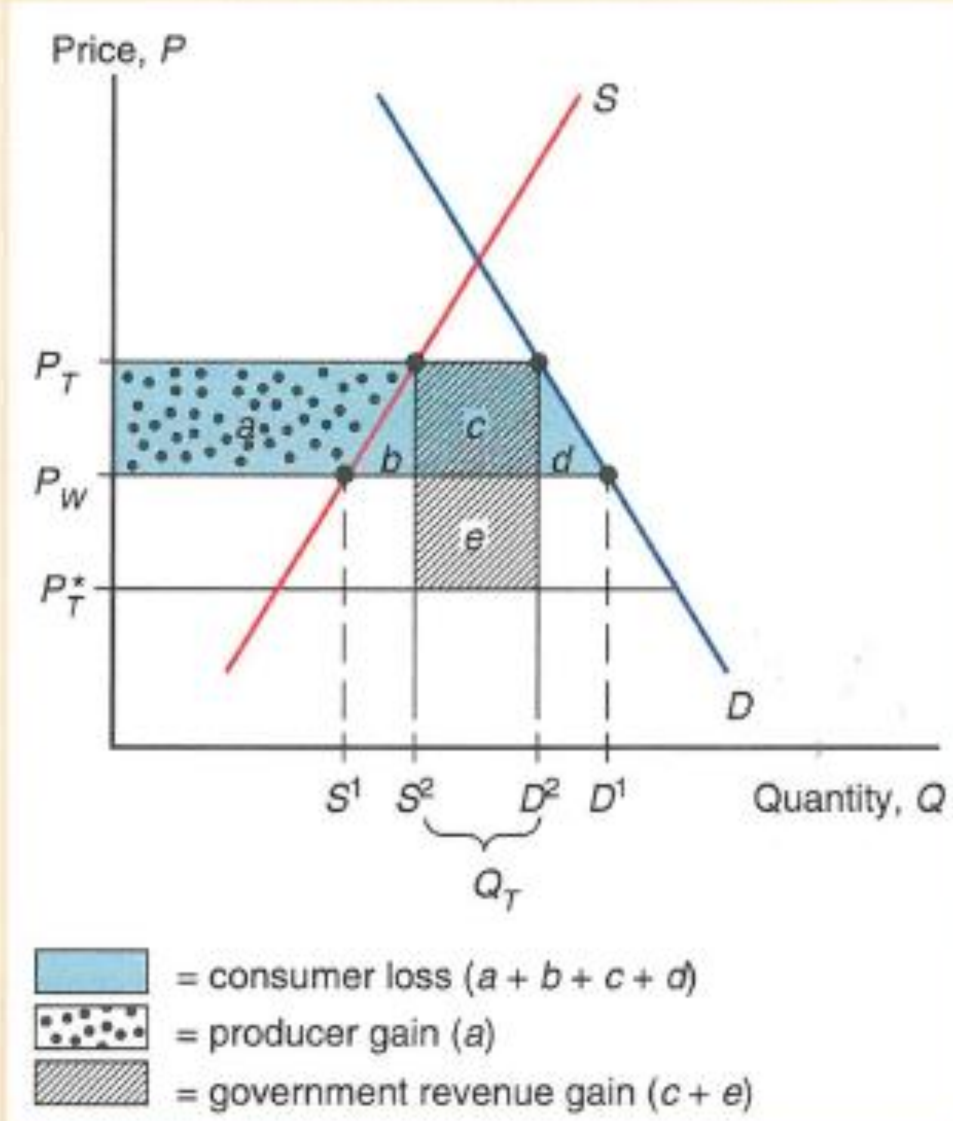
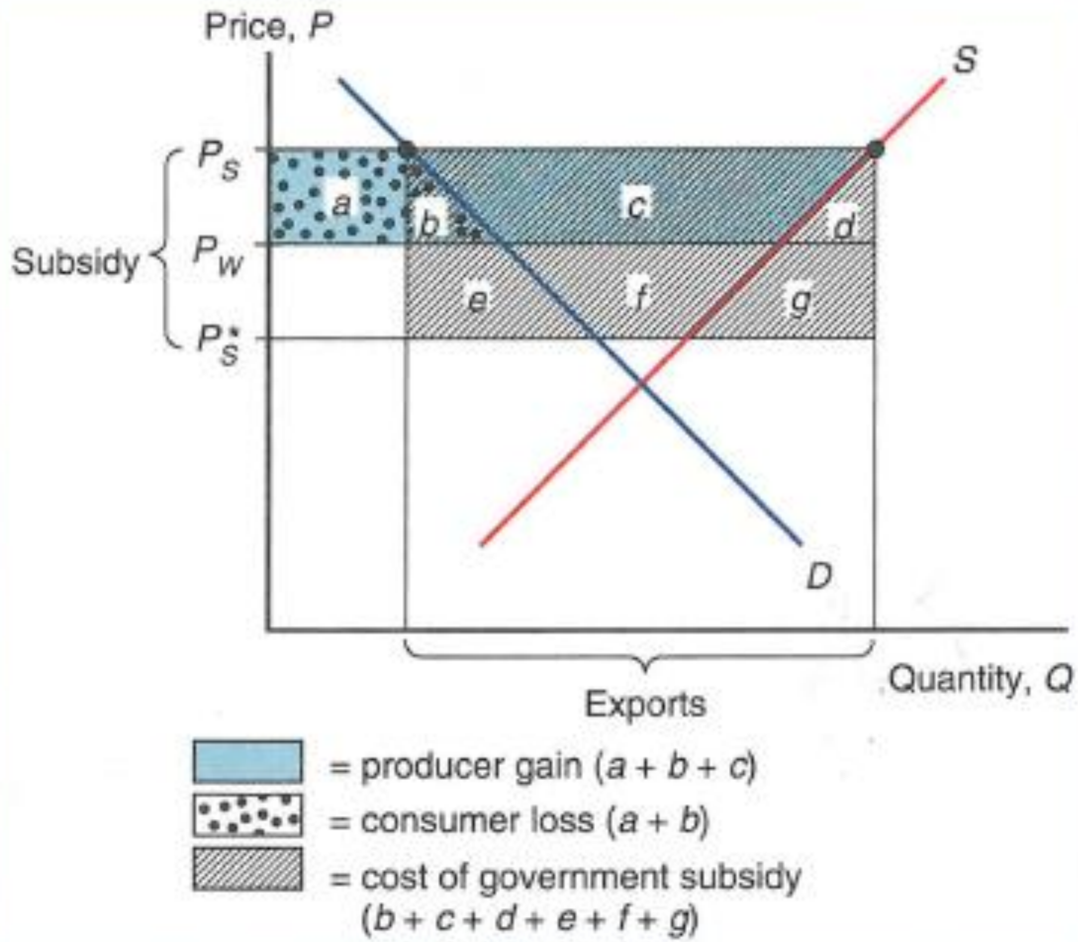


FIGURE 9-11

Effects of an Export Subsidy

An export subsidy raises prices in the exporting country while lowering them in the importing country.



4. You have to judge the validity of the following five statements.

A. The overall welfare effect of an import tariff for a small country may but must not be negative as the overall welfare effect depends on the magnitude of the terms-of-trade gain. Assume that there are no externalities.

B. Domestic and world market prices can only differ when transportation costs exist.

C. Export subsidies can only increase exports when the country in question is large.

D. An import tariff increases overall welfare when the increase in the producer surplus exceeds the decrease in the consumer surplus.

E. An export subsidy decreases welfare of private agents, i.e. decreases the sum of the consumer and producer surplus, because the group of consumers is larger than the group of producers.

Answer

A is not true: if we have a small country, then the world price will not change as a result of the new import tariff, so there is no terms of trade gain. The welfare effect of import tariff is always negative for a small country.

B is not true either: import tariff for example, may also change the domestic price relative to world price.

C is not true: even in a small country, export subsidy will encourage exports.

Answer

D is not true: When a tariff is introduced the Consumer surpls will decrease more than the producer surplus increases.

E is not true: when a country is an exporter than it produces more than its domestic demand. Hence the gains in producer surplus must outweigh the decrease in the consumer surplus.

Question 5

5. One of the advantages of free trade is that it prevents rent-seeking behaviour. What is rent-seeking behaviour? Is it necessarily wasteful?

Answer

The expenditure of resources in order to bring about an uncompensated transfer of goods or services from another person or persons to one's self as the result of a “favorable” decision on some public policy.

Example: lobbing for import tariffs or export subsidies.

It may result in gains for the lobbying companies, organizations but protectionism reduces overal welfare. Hence it is harmful from a general welfare perspective. Also it requires lot of resources, that could have been put to other uses, hence it is wasteful.