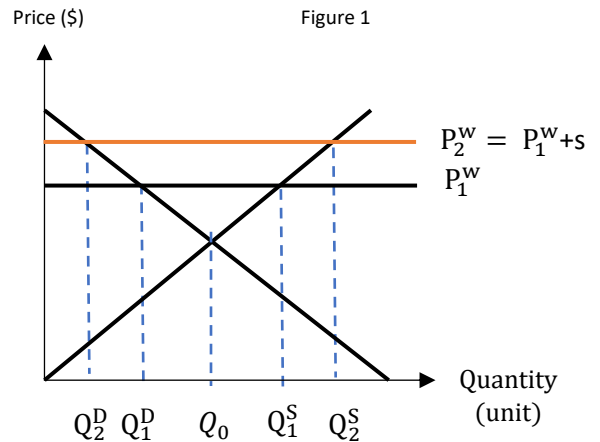


EE311 HW1 solution

Consumer a small economy, The Galápagos Islands that exports and imports banana to the rest of the world. Suppose that world price of banana (P^w) is above 'the domestic price before trade.' Now the Galapagos government gives an export subsidy to the domestic producers by s dollar per unit.

- 1) Describe economic environment **before** the export subsidy: price people buy and sell banana domestically, domestic production of banana, domestic consumption of banana, amount of banana exports.
- 2) Describe economic environment **after** the export subsidy: price that domestic producers get, price that domestic consumers pay, amount of banana exports by domestic producers, amount of banana imports, net exports of banana.
- 3) Does domestic price change after the subsidy has put in place?
- 4) Do the domestic firms sell banana to domestic consumers? If not so, whom do they sell to?
- 5) What happen to the quantity of banana exports after the subsidy has put in place?
- 6) Compare consumer surplus, producer surplus, government revenue, and total surplus with and without subsidy.

- 1) Environment before export subsidy
 - a. Price people buy and sell domestically: P_1^w
 - b. Domestic production of banana: Q_1^S
 - c. Domestic consumption of banana: Q_1^D
 - d. Amount of banana export: $Q_1^S - Q_1^D$
- 2) Environment after export subsidy
 - a. Price that domestic producer gets: P_2^w
 - b. Price that domestic consumer pay: P_1^w
 - c. Amount of banana export by domestic producers: Q_2^S
 - d. Amount of banana import: Q_1^D
 - e. Net export of banana: $Q_2^S - Q_1^D$
- 3) No. It remains at P_1^w because of the adjustment through importing more bananas.
- 4) No, because price sold domestically is lower than export price.
- 5) Higher at amount of $(Q_2^S - Q_1^S) + Q_1^D$
- 6)



	BF export subsidy	AF export subsidy	change
CS	A+B+C	A+B+C	0
PS	H+I+J	B+C+D+E+F+H+I+J	B+C+D+E+F
Gov't rev	0	-(B+C+D+E+F+G)	-(B+C+D+E+F+G)
Total surplus	A+B+C+H+I+J	(A+B+C) +(H+I+J)-G	-G

Noted: The firm will get subsidy only if they export. So, the government revenue is equal to amount export multiply by amount of subsidy.

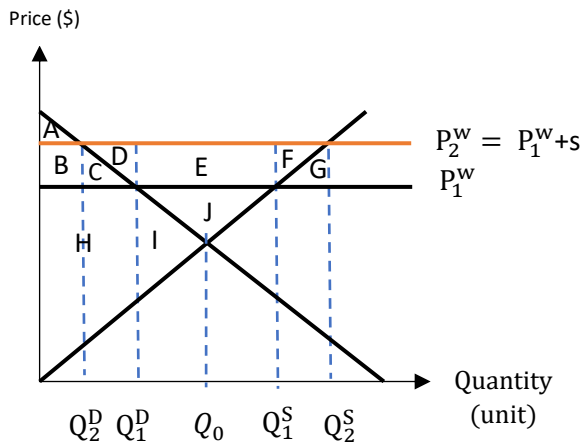


Figure 2

>> Answer in paragraph version

An export subsidy increases the price of banana exports received by producers by the amount of the subsidy, s , as shown in Figure 1. The figure shows the world price, P_w , before the subsidy is put in place. At that price, domestic consumers buy quantity Q_1^D of banana, producers supply Q_1^S units, and the country exports the quantity $Q_1^S - Q_1^D$. With the subsidy put in place, suppliers get a total price per unit of $P_w + s$, because they receive the world price for their exports P_w , and the government pays them the subsidy of s . However, note that domestic consumers can still buy banana at the world price, P_w , by importing it. Domestic firms do not want to sell banana to domestic customers, because they do not get the subsidy for doing so. So domestic companies will sell all the banana they produce abroad, in total quantity Q_2^S . Domestic consumers continue to buy quantity Q_1^D . The country imports banana in quantity Q_1^D and exports the quantity Q_2^S , so net exports of banana are the quantity $Q_2^S - Q_1^D$. The end result is that the domestic price of banana is unchanged, the quantity of banana produced increases, the quantity of banana consumed is unchanged, and the quantity of banana exported increases. As the following table shows, consumer surplus is unaffected, producer surplus rises, government revenue declines, and total surplus declines.