

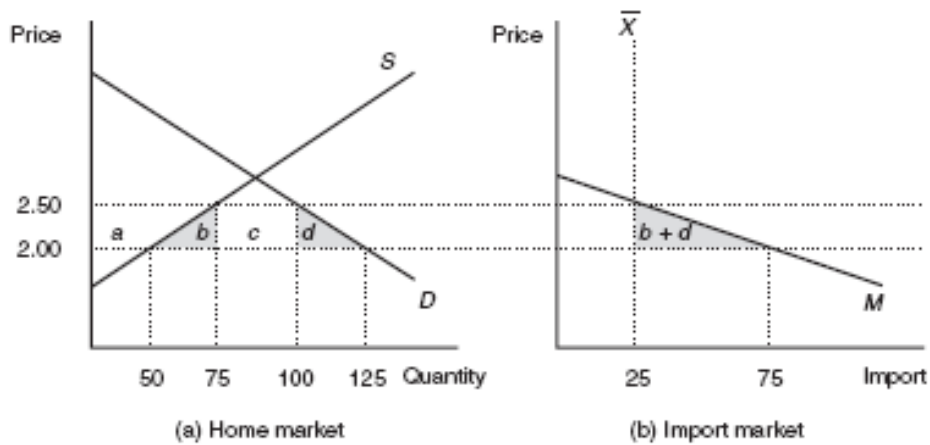
ECONOMICS 243 - 03
INTERNATIONAL TRADE
Spring 2010

Solutions to Problem Set 5
(Due Mon., April 19, 2010)
(10 points in total)

8.11

a.

Answer: With the quota removal, domestic consumption increases from 100 units to 125 units, whereas production decreases from 75 units to 50 units.



b.

Answer: Consumers gain by the areas $a + b + c + d$ with the removal of the quota.

c.

Answer: Producers lose by the area a with the removal of the quota.

d.

Answer: The quota rents are $12.5 [= (2.50 - 2.00)(100 - 75)]$.

e.

Answer: The gain to the country from the removal of the quota is $12.5 + 6.25 + 6.25 = 25$.

$$\text{area } b = (1/2) * (75 - 50) * (2.50 - 2.00) = 6.25$$

$$\text{area } c = ((100 - 75) * (2.50 - 2.00)) = 12.5$$

$$\text{area } d = (1/2) * (125 - 100) * (2.50 - 2.00) = 6.25$$

8.12

a.

Answer: The MFA is tantamount to an increase in rents on each of the imports falling under the quota amount. Because Chinese shirt producers receive these rents in the form of higher prices, they will only export the product which has the greatest price increase. As such, they will export only dress shirts.

b.

Answer: The producer will sell both types of shirts if the price increase of dress shirts is also \$0.50; the price of dress shirts under the MFA is \$10.50.

c.

Answer: The relative price of dress shirts before the MFA is $\$10 / \$2 = 5$. The relative price of dress shirts under the MFA is $\$10.50 / \$2.50 = 4.2$. The relative price of dress shirts has declined.

d.

Answer: Relative demand for dress shirts will increase.

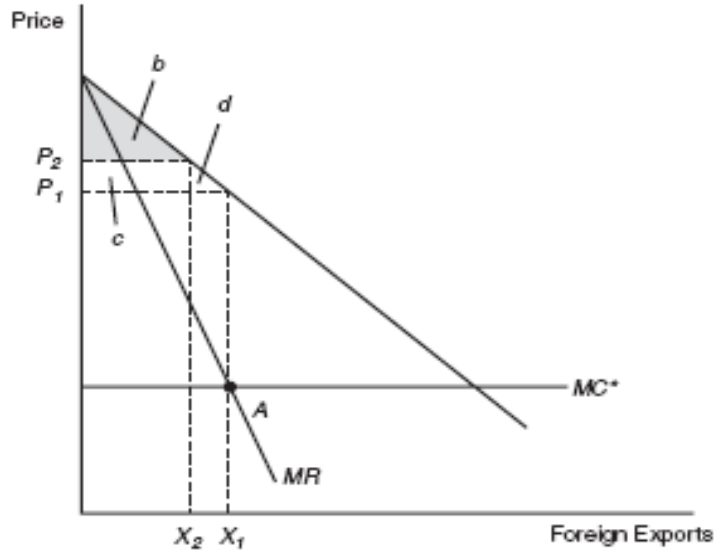
e.

Answer: The MFA causes quality upgrading. Demand for dress shirts increases relative to T-shirts, causing the relative amount of dress shirts in the Chinese exporter's bundle to increase. Removing the MFA would drive up the relative price of dress shirts with converse effects on the average quality of the exporter's bundle.

9.8

a.

Answer: Refer to the following figure: To achieve export sales of exactly X_2 , the Foreign monopolist would charge P_2 .



b.

Answer: Refer to the figure in part (a): Home consumer surplus is represented by the shaded triangle with area b .

c.

Answer: Refer to the figure in part (a): Consumer surplus under free trade is a triangle with area $b + c + d$. Under a quota, consumer surplus decreases by $c + d$. The Home welfare loss due to the quota is thus area $c + d$.

d.

Answer: Because there is no terms-of-trade gain associated with the quota, welfare is lower under a quota regime relative to a tariff regime.

10.3

a.

Answer: Under the export subsidy, exports increase to 40 tons, whereas the amount exported under free trade is 20 tons.

b.

Answer: Refer to the following figure:

Consumer surplus decreases by the area $a + b$:

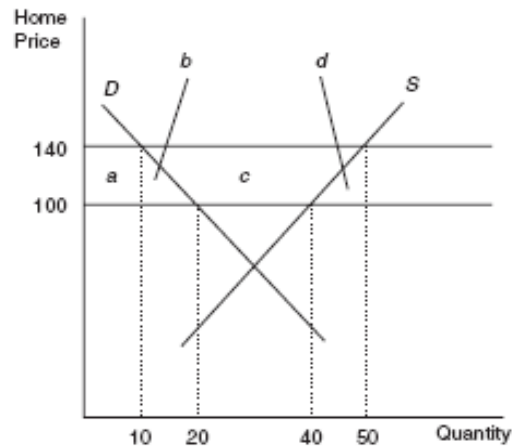
$$\begin{aligned}\Delta CS &= -(40 \cdot 10) - \frac{1}{2}(40 \cdot 10) \\ &= -600\end{aligned}$$

Producer surplus increases by the area $a + b + c$:

$$\begin{aligned}\Delta PS &= (40 \cdot 40) + \frac{1}{2}(40 \cdot 10) \\ &= 1,800\end{aligned}$$

Government revenue decreases by the area $b + c + d$:

$$\begin{aligned}\Delta \text{Govt Rev} &= -(40 \cdot 40) \\ &= -1,600\end{aligned}$$



c.

Answer: The net effect on Home welfare is the sum of changes in consumer surplus, producer surplus, and government revenue: -400 . This is the total dead-weight loss of the subsidy, equal to the area $b + d$.

10.4.

a.

Answer: The new domestic price increases by less in the large-country case because part of the subsidy is offset by decreasing world prices. This reflects a downward-sloping import demand curve in the rest of the world.

b.

Answer: Refer to the following figure:

Consumer surplus decreases by the area $a + b$:

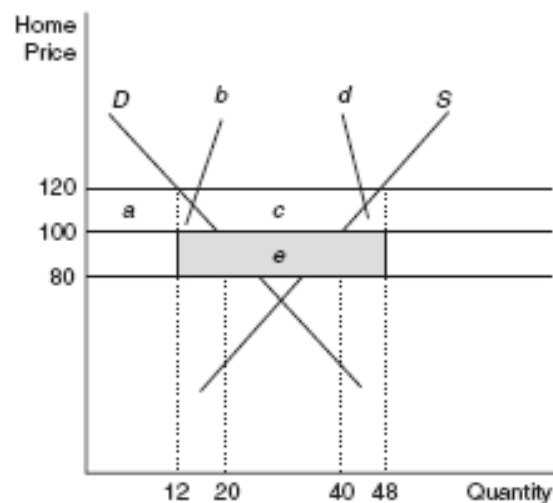
$$\begin{aligned}\Delta CS &= -(20 \cdot 12) - \frac{1}{2}(20 \cdot 8) \\ &= -320\end{aligned}$$

Producer surplus increases by the area $a + b + c$:

$$\begin{aligned}\Delta PS &= (20 \cdot 40) + \frac{1}{2}(20 \cdot 8) \\ &= 880\end{aligned}$$

Government revenue decreases by the area $b + c + d + e$:

$$\begin{aligned}\Delta \text{Gov. Rev.} &= -(40 \cdot 36) \\ &= -1,440\end{aligned}$$



c.

Answer: The net decrease in welfare due to the subsidy is -880 . This is a larger loss than in the small country because of Home's terms-of-trade loss.