

TWO-PART Tariff with two kinds of consumers

With two-part tariff, the firm charges “lump-sum” price and “per-unit” price. For example, some bars require “entry fee” and “price per drink”.

For one kind of consumers, the firm sets per-unit price = $P = MC$ so that the consumer surplus is maximized. The firm then charges lump-sum price equal to the consumer surplus.

Now, let's suppose the firm sells goods to 2 consumers with different demands and wants to implement two-part tariff.

Type 1 with the demand: $P = 5 - Q_1$

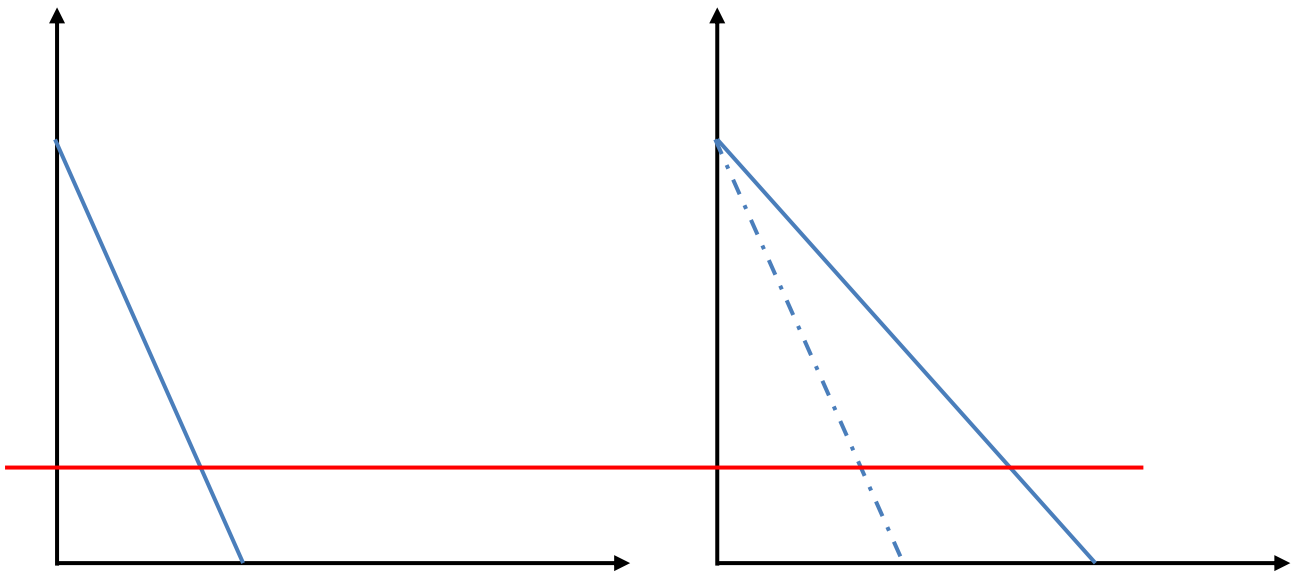
Type 2 with the demand: $P = 5 - (1/2)Q_2$

MC for the firm is 0.5.

When faced with two kinds of consumers, the firm cannot charge “lump-sum price” too high; otherwise, consumers with lower consumer surplus will not pay. The firm may lose some customers.

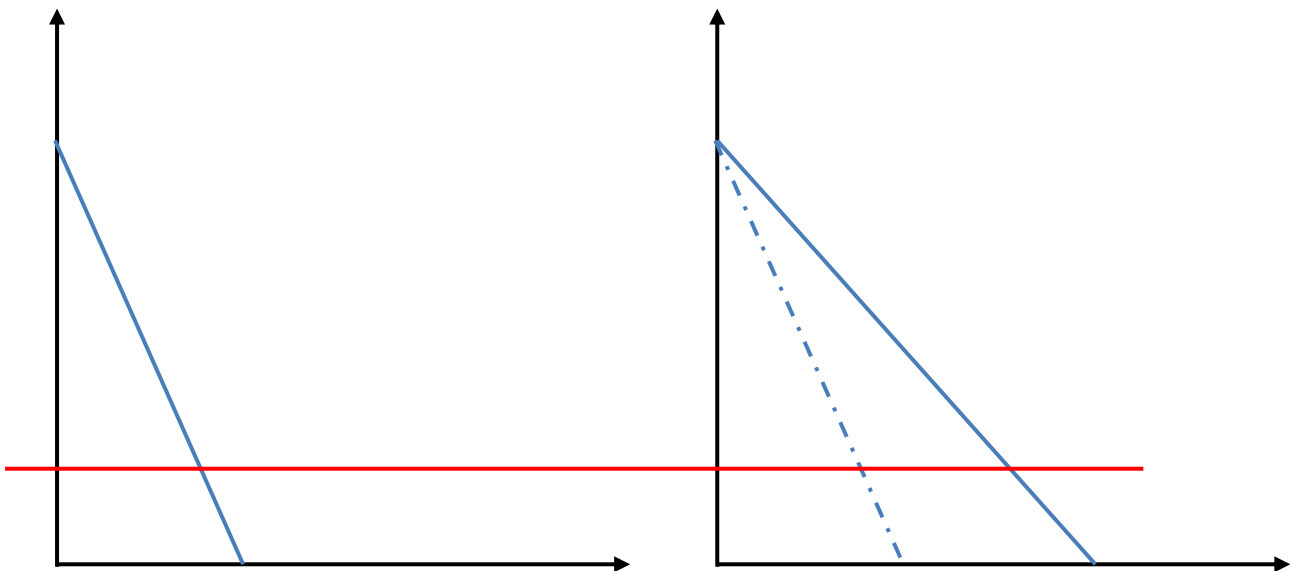
Suppose the firm charge “lump-sum” price equal to the consumer surplus of Type 1 consumers who seem to have lower surplus.

The shaded areas show the total profit the firm can make (producer surplus) from these two kinds of consumers.



However, the firm can do better by striking the balance between profits from lump-sum price and per-unit price.

Here, suppose that the firm charges P^* for per-unit price as well as the “remaining” consumer surplus for lump-sum price.



It is clear that the shaded areas are now larger than before.

Now, we want to find P^* that maximizes the shaded areas.

Total Profit = Profit from lump-sum charge + Profit from per-unit sales

Profit from lump-sum charge =

Profit from per-unit sales =

Total Profit =

Find P^* that maximizes total profit