Question

You have been asked by your boss to report on the expected profits from a single price strategy compared with a two-part pricing strategy. The estimated demand for the firm's product is:

Qd = 400 - 0.2P.

Per unit cost is estimated as constant at $1,000.00. Provide a report which explains the profits from a single price profit maximizing strategy with a two-part profit maximizing strategy involving a fixed fee plus a per unit fee. Assume that total fixed cost is $30,000. What is the optimal fixed fee? Why does the two-part pricing policy increase total profits?
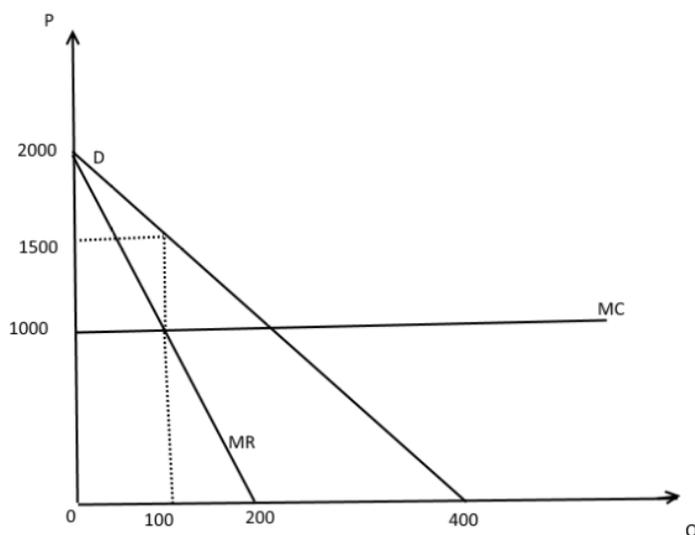
Answer

Single price profit maximizing strategy

$Q=400-0.2P$ => $0.2P=400-Q$ => $P=2000-5Q$

$TR=P*Q$ => $TR=2000Q-5Q^2$ => $MR=2000-10Q$

$VC=1000Q$, $FC=30000$ => $TC=30000+1000Q$ => $MC=1000$

Profit maximization single price strategy: $MR=MC$ => $2000-10Q=1000$ => **Q*=100, P*=1500**

Optimal fixed fee=$1/2*1000*100=$**50000**

Two-part profit maximizing strategy

$Q=400-0.2P$

$VC=1000Q$, $FC=30000$ => $TC=30000+1000Q$ => $MC=1000$

Profit maximization two-part price strategy: $P=MC$ => $P*1000$, $Q*=200$

Optimal fixed fee=1/2*1000*200=**100000**
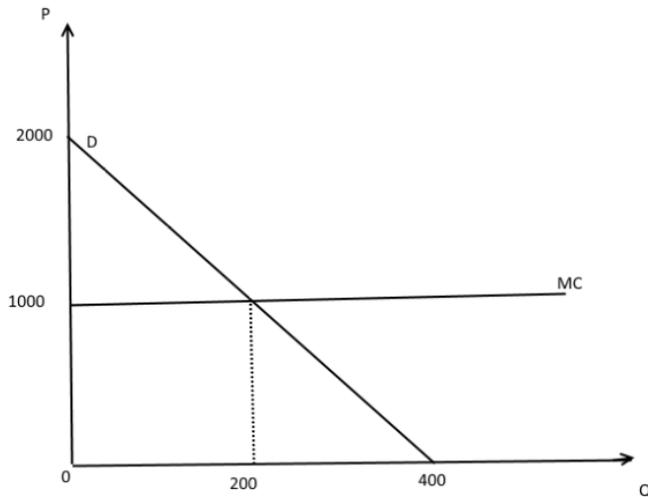
We see that the two-part tariff pricing strategy may lead to concurrent increase in output. Consequently, we can see that the single price strategy may not be as inefficient as first believed with the one price for all units sold approach. We should concede as well, however, that fixed fee (consumer surplus) may potentially disappear with the deadweight loss if the firm can successfully set prices that are equal to each consumer's maximum willingness to pay (in the case of price discrimination) or set a fixed fee that allows the firm to secure all of each consumer's consumer surplus.