

設空白石英製造業為一完全競爭市場，甲為40家的其中一家  
消費者需求函數： $Q^d = 2000 - 10p$

該製造商技術水平相同又短期生產成本為： $STC = q_k^2 + 50q_k + 100$

① 廠商短期供給函數

$$MC = 2q_k + 50$$

$$AVC = q_k + 50 \Rightarrow AVC < MC = q_k + 50 < 2q_k + 50$$

$$\Rightarrow q_k > 0$$

$$P = MC = 2q_k + 50$$

$$q_k = \frac{P}{2} - 25$$

$$A: q_k = \frac{P}{2} - 25, q_k > 0$$

② 市場供給函數

$$Q^s = 40 \left( \frac{P}{2} - 25 \right) > 20P - 1000$$

$$A: 20P - 1000$$

③ 市場均衡

$$Q^s = Q^d$$

$$20P - 1000 = 2000 - 10P$$

$$30P = 3000$$

$$P = 100, Q = 1000$$

$$A: P^* = 100, Q^* = 1000$$

④ 廠商最適產量與利潤

$$q_k = \frac{100}{2} - 25 = 25$$

$$AC = q_k + 50 + \frac{100}{q_k} = 79$$

$$\pi = 100 \times 25 - 79 \times 25 = 25$$

$$A: \text{最適產量} = 25, \pi = 25$$

市場需求對短期均衡的影響

40家廠商  $Q^d = 3500 - 10P$ ,  $STC = 9q + 50q + 100$

① 廠商短期均衡曲線

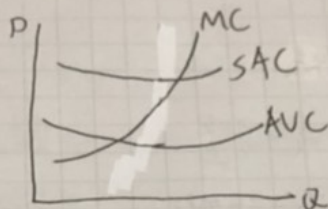
$MC > AVC$

$29q + 50 > 9q + 50$

$9q > 0$

$P = MC = 29q + 50$

$\Rightarrow 9q = \frac{P}{2} - 25$



$A: 9q = \frac{P}{2} - 25, q > 0$

② 市場供給曲線

$Q^s = 40(\frac{P}{2} - 25) = 20P - 100$

$A: 20P - 100$

③ 市場均衡

$20P - 100 = 3500 - 10P$

$30P = 4500$

$P^* = 150$

$Q^* = 2000$

$A: P^* = 150, Q^* = 2000$

④ 廠商最適產量與利潤:  $P^*(\pi)$

$q' = \frac{P}{2} - 25 = \frac{150}{2} - 25 = 50$

$AC = 9q' + 50 + \frac{100}{q'} = 102$

$\pi = TR - TC$

$= 150 \times 50 - 102 \times 50$

$= 7500 - 5100$

$= 2400 \neq$

最適產量 50

$\pi = 2400$



要素对短期均衡的影响

40家厂商,  $Q^d = 2000 - 10P$   $STC = 9q + 50q^2 + 300$

① 厂商短期供给曲线

$$MC > AVC$$

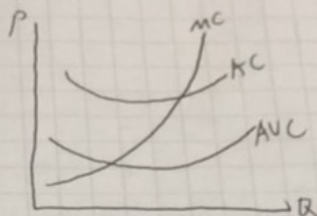
$$29q + 80 > 9q + 100$$

$$q > 0$$

$$P = MC = 29q + 80$$

$$q = \frac{P}{29} - 40$$

$$A: q = \frac{P}{29} - 40, q > 0$$



② 市场供给曲线

$$Q^s = 40 \left( \frac{P}{29} - 40 \right)$$

$$= 20P - 1600$$

$$A: 20P - 1600$$

③ 市场均衡

$$20P - 1600 = 2000 - 10P$$

$$30P = 3600$$

$$P^* = 120, Q^* = 800$$

$$A: P^* = 120, Q^* = 800$$

④ 厂商最适产量与利润

$$q = \frac{P}{29} - 40 = \frac{120}{29} - 40 = 20$$

$$AC = 9q + 80 + \frac{300}{q} = 115$$

$$\pi = 20 \times 120 - 20 \times 115$$

$$= 2400 - 2300$$

$$= 100$$

最适产量 = 20  
A:  $\pi = 100$