

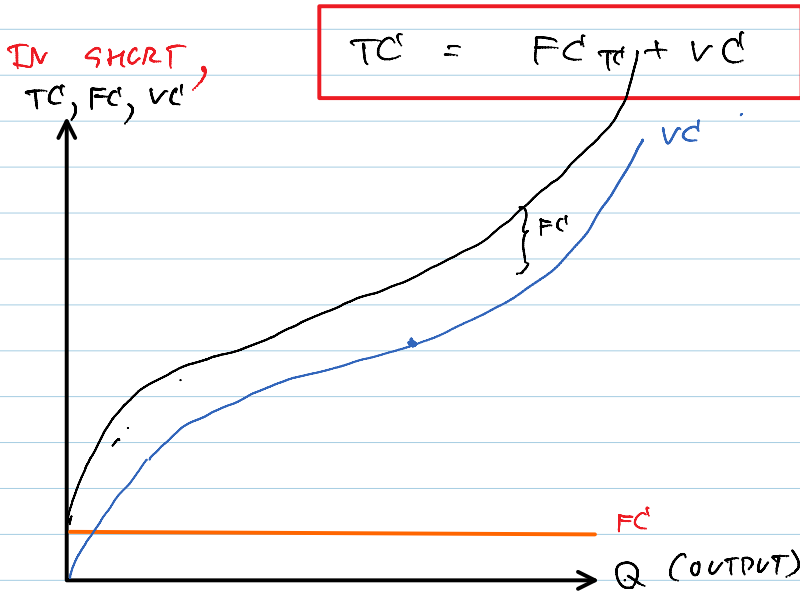
PRODUCTION IN THE SHORT RUN

- TP, AP, MP & RELATIONSHIPS & LINKS THEM ✓
- LAW OF DIMINISHING MP ✓

TODAY 16.11.12

COSTS OF PRODUCTION IN THE SHORT RUN

- TOTAL COST (TC') = FIXED COST (FC') + VARIABLE COST (VC')



- FC' DOES NOT VARY W/ OUTPUT
- VC' INCREASES WHEN OUTPUT (Q) INCREASES, FIRST AT DECREASING RATE AND THEN AT INCREASING RATE, THE SAME FINDING APPLIES TO TC.

AVERAGE COST (AC') = AVERAGE FIXED COST (AFC') + AVERAGE VARIABLE COST (AVC')

IN SHORT: $AC' = AFC' + AVC'$

FROM $TC' = FC' + VC'$

DIVIDING THROUGHOUT BY Q :

ALSO $\frac{TC'}{Q} = \frac{FC'}{Q} + \frac{VC'}{Q}$

CALLED ← $AC' = AFC' + AVC'$
 "UNIT COST" OR "COST PER UNIT"
 FIXED COST PER UNIT (OF OUTPUT) + VARIABLE COST PER UNIT (OF OUTPUT)

Ex:

$$FC = 10,000 \text{ BAHT/DAY}$$

$$VC = 5000 \text{ BAHT/DAY}$$

$$TC = FC + VC = 10,000 + 5000 = 15,000 \text{ BAHT/DAY}$$

SUPPOSE $Q = 5000 \text{ UNITS/DAY}$

COOKIE



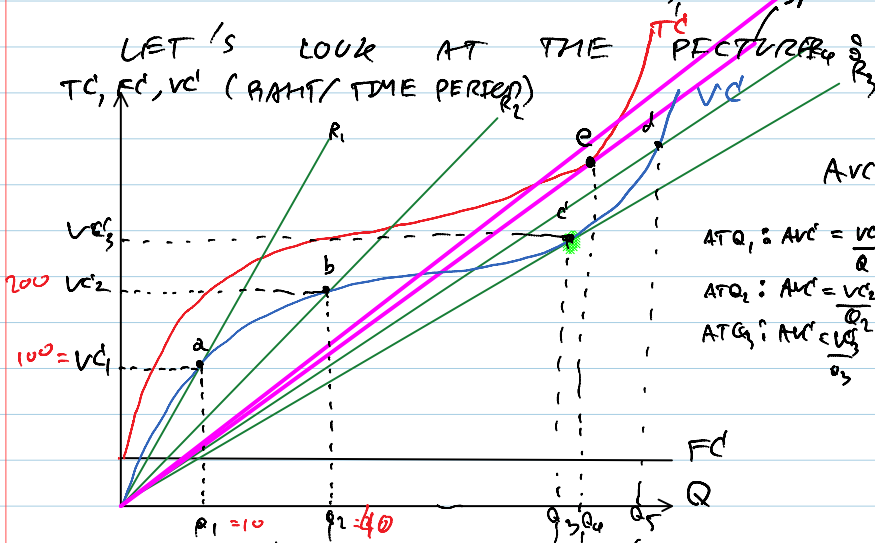
COST = 3 BAHT/UNIT

$$AC = \frac{TC}{Q} = \frac{15,000}{5000} = 3 \text{ BAHT/UNIT}$$

$$AFC = \frac{FC}{Q} = \frac{10,000}{5000} = 2 \text{ BAHT/UNIT}$$

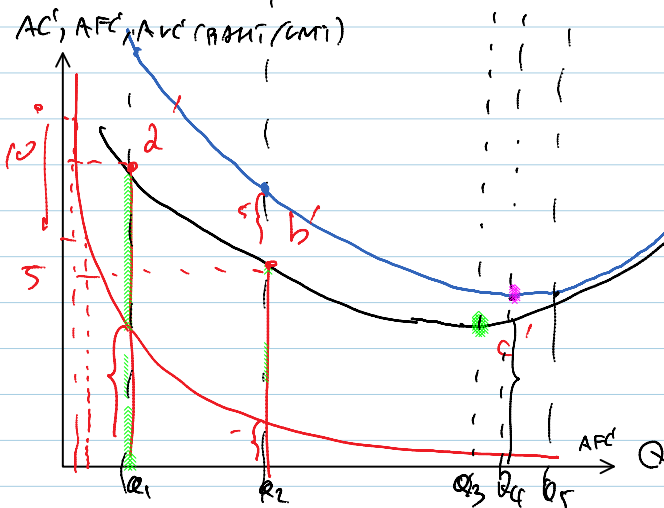
$$AVC = \frac{VC}{Q} = \frac{5000}{5000} = 1 \text{ BAHT/UNIT}$$

LET'S LOOK AT THE



$AVC = \frac{VC}{Q} \Rightarrow$ = SLOPE OF A STRAIGHT LINE FROM THE ORIGIN TO A CORRESPONDING POINT ON VC CURVE

AC, AFC, AVC (BAHT/UNIT)



AFC, AVC, AC

$$AFC = \frac{FC}{Q}$$

THIS IS CALLED "SPREADING EFFECT"

$$AC = AFC + AVC$$

- AFC FALLS SHARPLY AT LOW OUTPUT AND FALLS SLOWLY AT HIGH OUTPUT.

- Ex: BILL GATES SPENT 1,000,000 \$VS TO DEVELOP WINDOWS 8. IF HE PRODUCES 8

⊙ $Q = 1$, $AFC = 1,000,000/1 = 1,000,000 \text{ \$/CD}$.

$$\begin{aligned} \textcircled{2} \textcircled{2} \quad Q = 2, \quad AFC &= 1,000,000/2 = 500,000 \text{ \$ / CD} \\ \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \quad Q = 4, \quad AFC &= 1,000,000/4 = 250,000 \text{ \$ / CD} \\ Q = 10, \quad AFC &= \frac{1,000,000}{10} = 100,000 \text{ \$ / CD} \\ Q = 1,000,000, \quad AFC &= \frac{1,000,000}{1,000,000} = 1 \text{ \$ / CD} \\ Q = 100,000,000 \quad AFC &= 1 \text{ CENT / CD} \downarrow \end{aligned}$$

SPREADING EFFECT: FIXED COST IS SPREADING OVER EACH UNIT OF CD.
OR
EACH CD HELPS TO SHARE FIXED COST.

$$AC = AFC + AVC$$

• NEXT, $AVC \dots$

$$AVC = \frac{VC}{Q}$$

- FROM $Q=0 \rightarrow Q=Q_3$: AS Q RISES, AVC IS FALLING
- AT $Q=Q_3$: AVC REACHES ITS BOTTOM 😊
- FROM $Q=Q_3$ ONWARDS: AVC IS RISING. ☹️