Table 7.1 Variation of Short-Run Cost with Output

Output, q	Fixed Cost, FC	Variable Cost, VC	Total Cost, TC	Marginal Cost, MC	Average Fixed Cost, $AFC = FC/q$	Average Variable Cost, $AVC = VC/q$	Average Cost, $AC = TC/q$
0	48	0	48				
1	48	25	73	25	48	25	73
2	48	46	94	21	24	23	47
3	48	66	114	20	16	22	38
4	48	82	130	16	12	20.5	32.5
5	48	100	148	18	9.6	20	29.6
6	48	120	168	20	8	20	28
7	48	141	189	21	6.9	20.1	27
8	48	168	216	27	6	21	27
9	48	198	246	30	5.3	22	27.3
10	48	230	278	32	4.8	23	27.8
11	48	272	320	42	4.4	24.7	29.1
12	48	321	369	49	4.0	26.8	30.8

7-2

FACT #1 AS q RISES, AFC IS FALLING.

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

$\frac{FC}{q}$

↓ AFC ☺

= SPREADING EFFECT

q

NOTE $\frac{FC}{q}$ FALLS SHARPLY AT THE BEGINNING AND FALLS STEADILY AT LARGER LEVELS OF OUTPUT

EX: $FC = 1{,}000{,}000$ USD

IF $q = 1$, $\frac{FC}{q} = \frac{1{,}000{,}000}{1} = 1{,}000{,}000$ USD/CD

IF $q = 2$, $\frac{FC}{q} = \frac{1000000}{2} = 500{,}000$ USD/CD

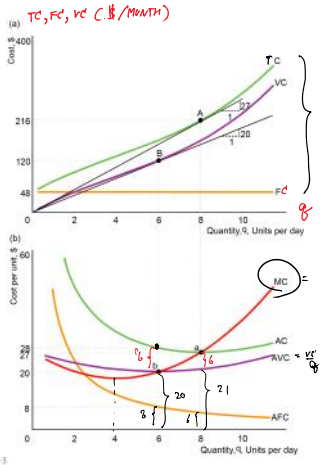
IF $q = 10$, $\frac{FC}{q} = \frac{1{,}000{,}000}{10} = 100{,}000$ USD/CD

IF $q = 1{,}000{,}000$, $\frac{FC}{q} = \frac{1000000}{1000000} = 1$ USD/CD

IF $q = 100{,}000{,}000$, $\frac{FC}{q} = 1$ CENT/CD

$FC = 1{,}000{,}000$ USD } FC IS SPREADING OVER EACH UNIT OF OUTPUT AND THEN $\frac{FC}{q}$ ↓

Figure 7.1 Short-Run Cost Curves

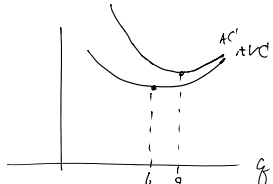


7-3

$TC = FC + VC$

NOTE THAT VC INCREASES AT DECREASING RATE AND THEN INCREASES AT INCREASING RATE

- THE GAP BETWEEN AC AND AVC IS AFC
- NOTICE THAT THE GAP GETS NARROWER AS q ↑ (WHY?)



- NOTICE: AVC BOTTOMS OUT FIRST ($q = 6$) AND AC BOTTOMS OUT LATER ($q = 8$)

FACT #2 $\frac{VC}{q}$ FALLS FIRST AS WE PRODUCE MORE OF OUTPUT, BOTTOMS OUT AT $q = 6$ ($AVC = 20$), AND RISES WHEN $q > 6$.

FACT #3 AC FALLS FIRST AS q RISES, BOTTOMS OUT AT $q = 8$ ($AC = 28$), AND RISES WHEN $q > 8$.