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Ch 12 (con't) Perfect Competition and the Supply Curve

Profit Maximization

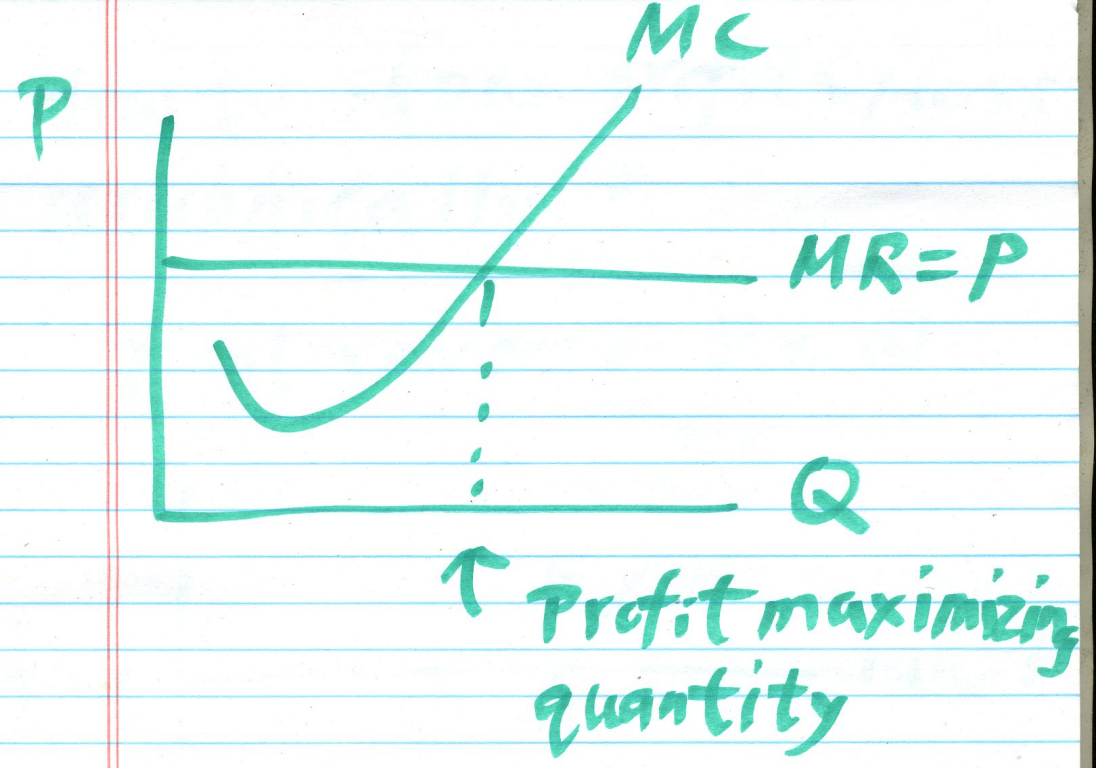
Profit = Total revenue − Total cost

= TR − TC

= P × Q − ATC × Q

= (P − ATC) × Q

$ATC = TC/Q$



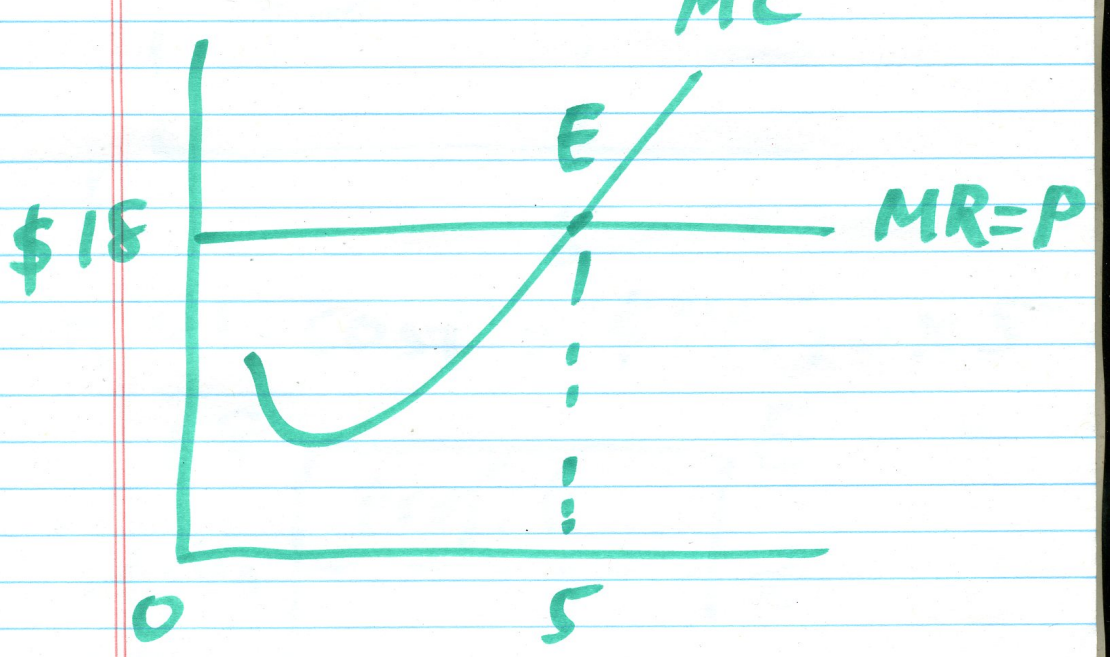
Extra benefit to firm is extra revenue (MR)

Extra cost to firm is extra cost (MC)

MC

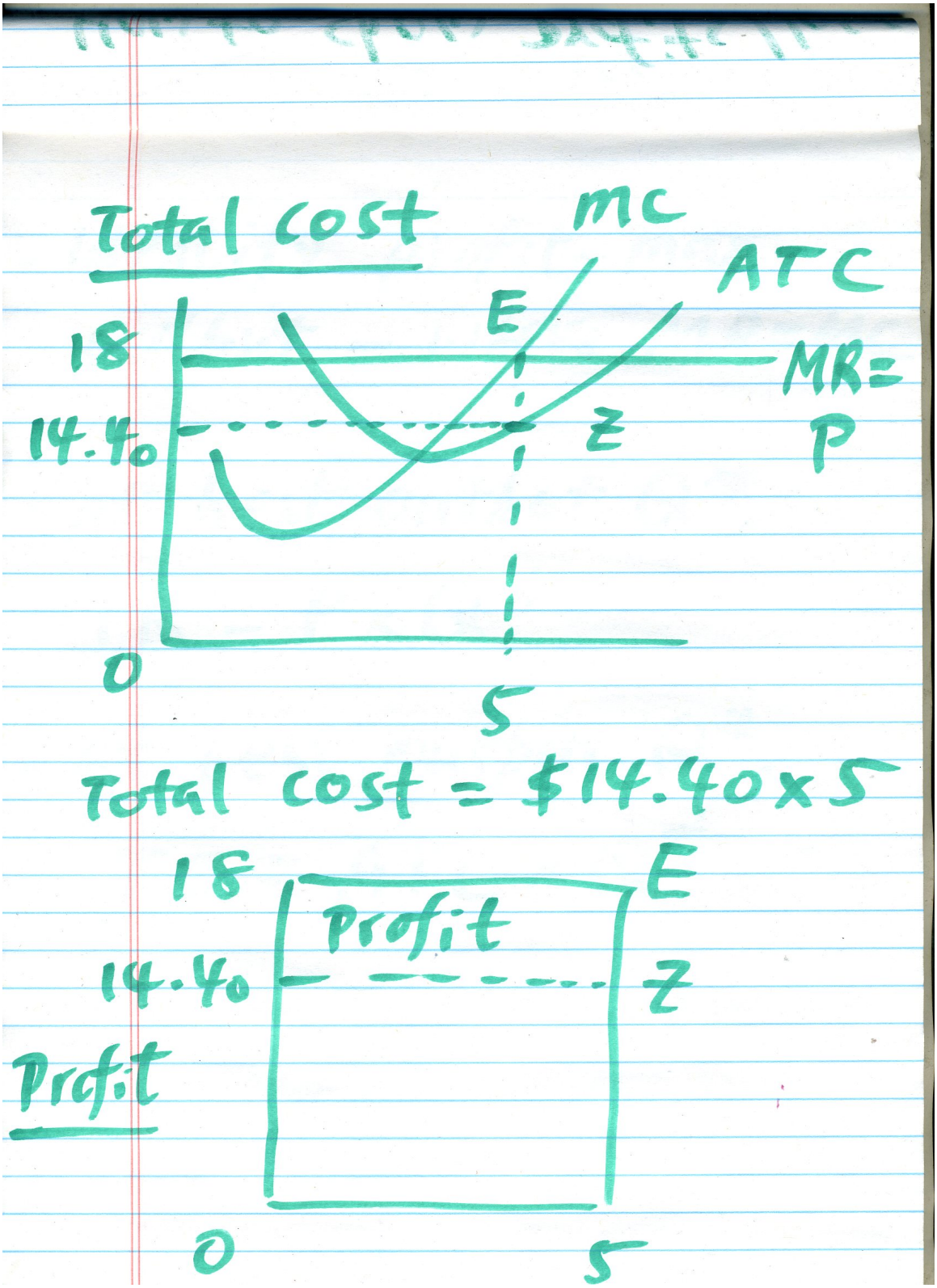
How to show profits/loss graphically ?

Total revenue P x Q



TR = $18 x 5

area 18 E

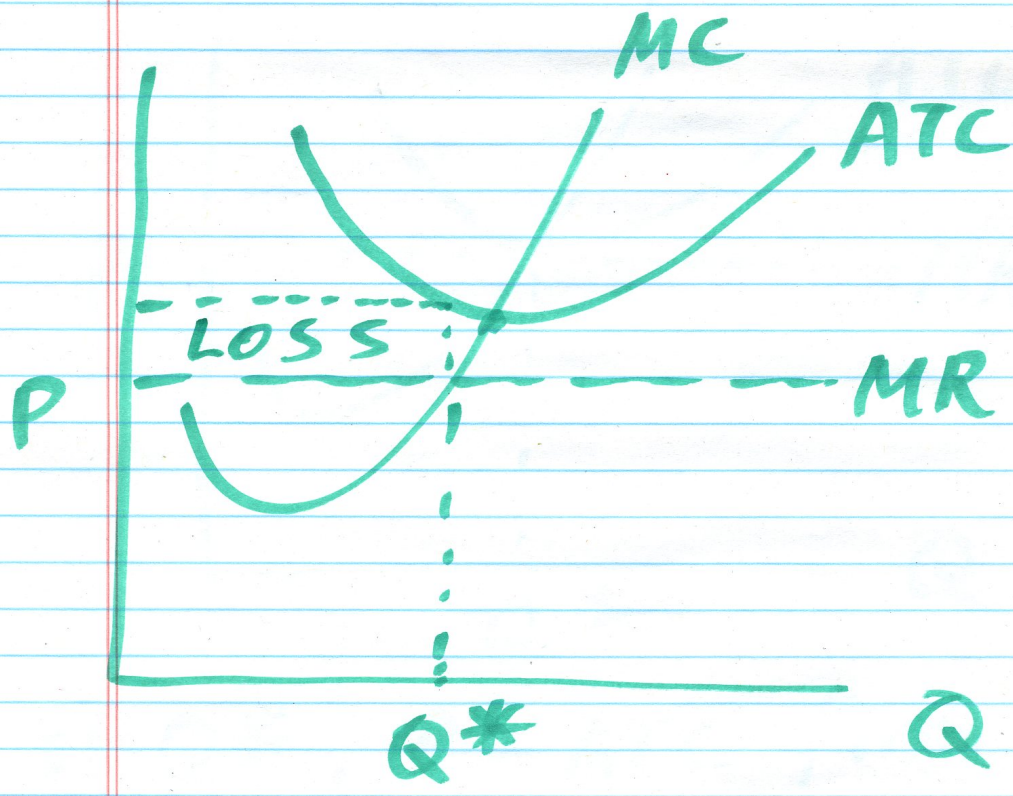

Total cost
MC
ATC
E
18
MR=
P
14.40
Z
0
5
Total cost = $14.40 x 5
18
E
Profit
14.40
Z
Profit
0
5

- Identify profit-max output - where MR=MC

- at best output Q^*,
  $TR = P \times Q^*$

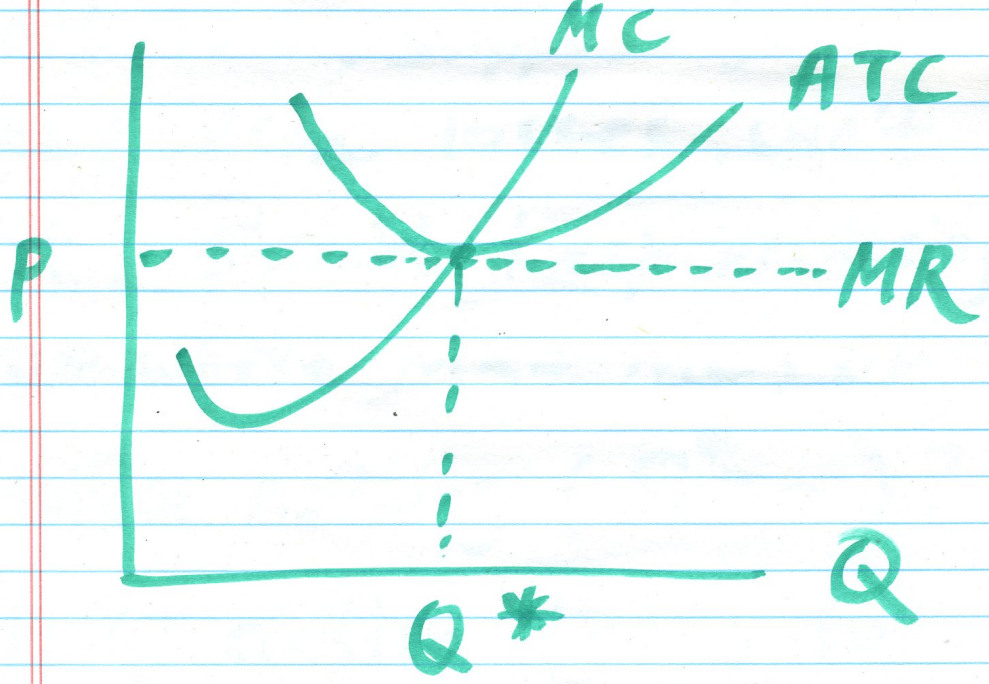
- at best output Q^*,
  $TC = ATC \times Q^*$

Economic loss



- can show profit/loss without numbers
- in short run, can have losses. long run,

Zero Economic Profit



at Q*, P = ATC firm breaks even

breakeven price: price when profits = 0

Another Decision: in the short run, suppose you make econ losses, can't exit; should keep producing (Q^* where MR = MC) or produce nothing ($Q^* = 0$)? Which action leads to <u>less</u> econ loss?

If you keep producing Q^*

loss = TR − FC − VC

If you produce nothing,
you keeping paying
FC but do not
hire workers; but
no revenue

loss = − FC

either case, pay FC

if TR − VC > 0 produce
$Q^* > 0$

If you keep producing $Q^* > 0$ and if your total revenue is higher than variable cost, you are better off

if $TR = VC$ you're indifferent

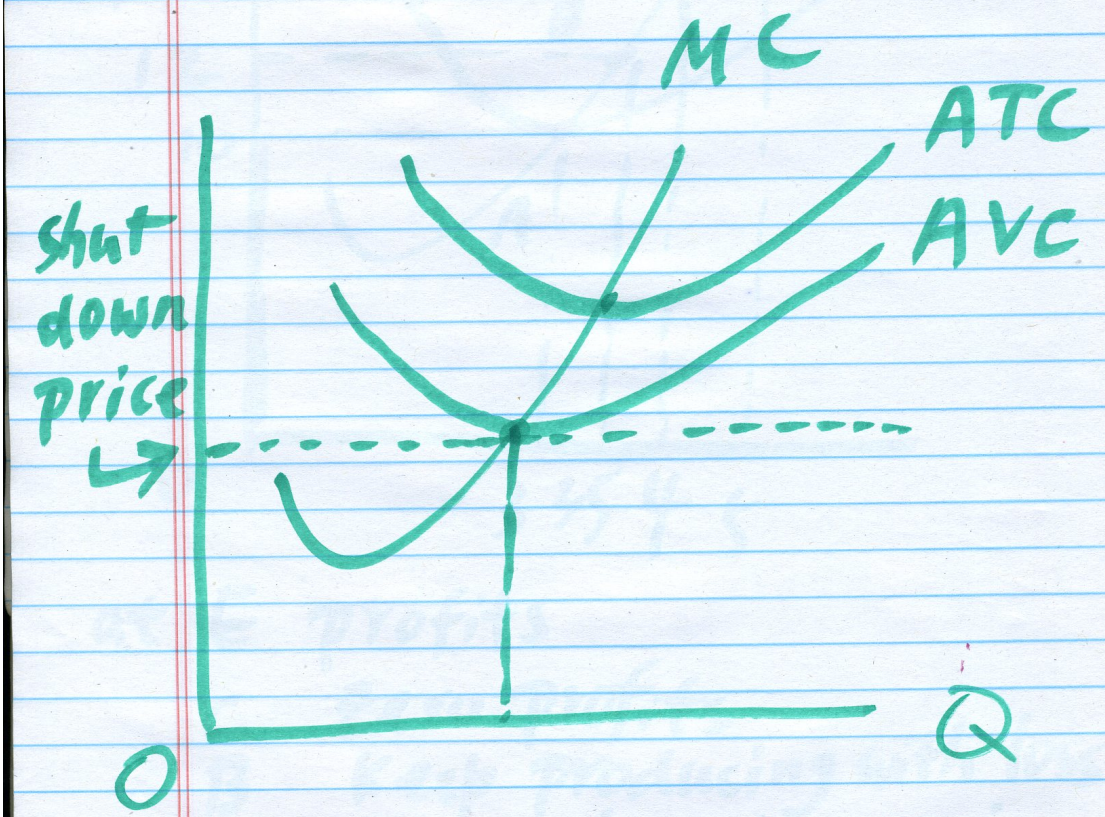
$TR < VC$, shut down $Q = 0$

Shut down price when

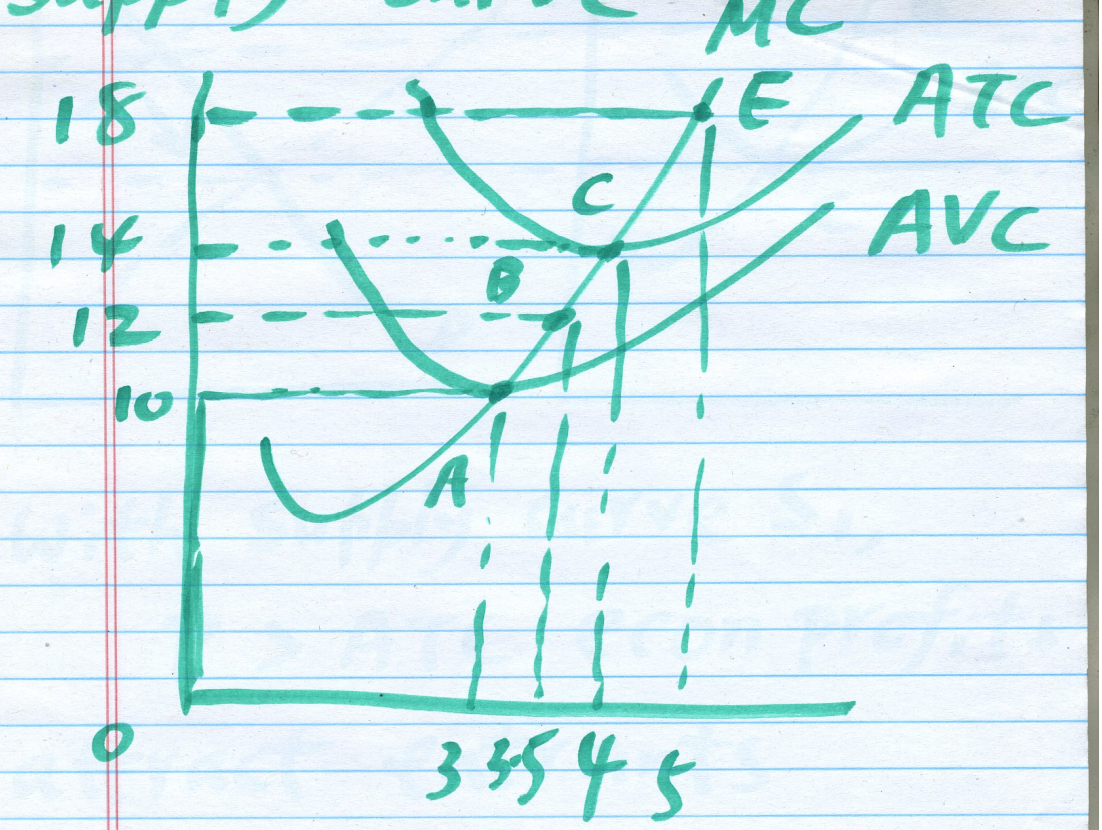
$TR = VC$

or $P \times Q = Q \times AVC$

or $P = AVC$

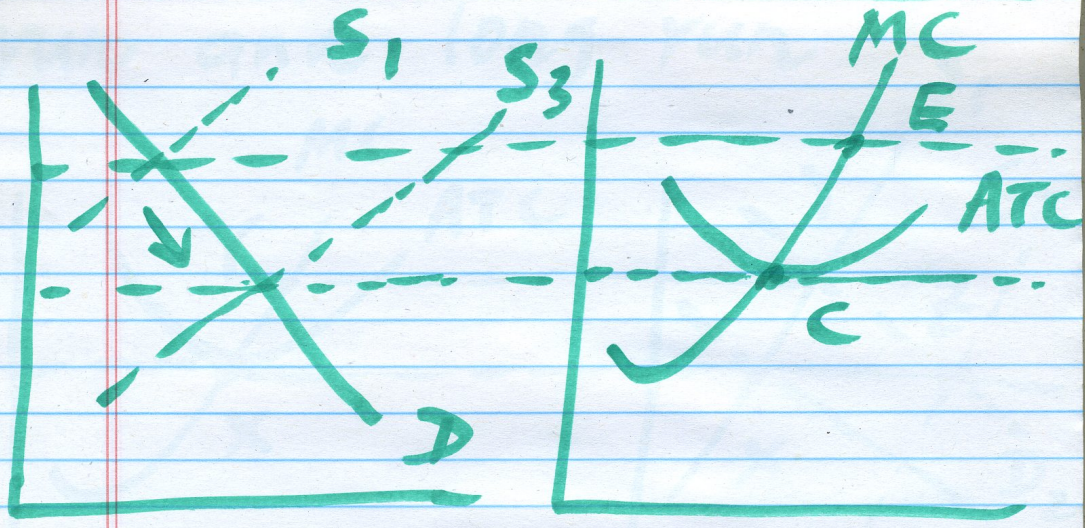


Short run individual Supply Curve



at E profits
C zero profits
B keep producing with loss
A P=10 shut down price

Long-Run Market Equilibrium



With supply curve S_1,

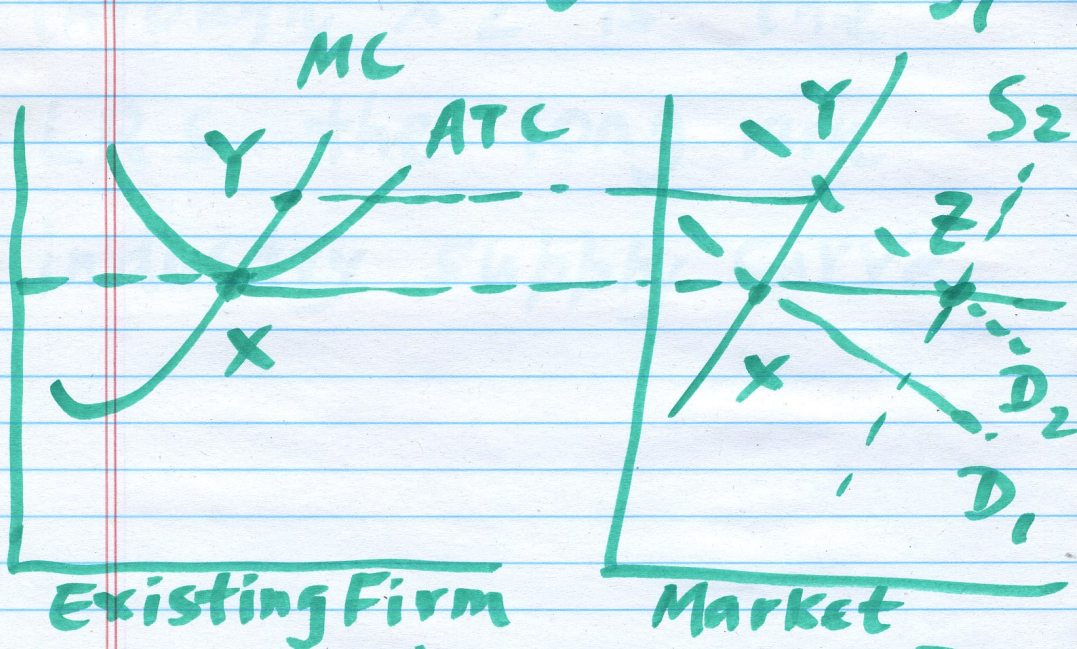
P > ATC econ profits

attract entrants

S_1 shifts until S_3

with zero econ profits

Increase in demand: short run and long run



Increase in D, $D_1 \rightarrow D_2$

at Y, econ profits

attract entrants

$S_1 \rightarrow S_2$ until Z

zero economic profit

Horizontal line passing through XZ is the LRS the long run industry supply curve