Tuesday, September 13, 2016 12:49 PM

The Model (No-Entry) - Results

Given that

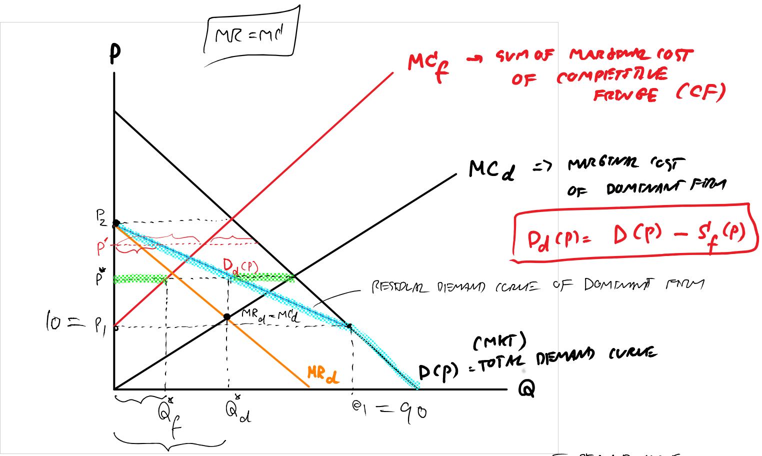
- p = minimum marginal average cost for the fringes $P = AC' = MC'$
- MC_f = the fringes' marginal cost.
- $D(p)$ = market demand
- $S(p)$ = the fringe firms' aggregate supply curve
- $D_d(p) = D(p) - S(p)$ = the dominant's residual demand curve
- MC_d = the dominant's marginal cost

We can get 2 types of results

1 If $MC_d < MC_f$, dominant firm charges high price, the fringes get to produce.

2 if $MC_d << MC_f$, dominant firm charges low price, the fringes shutdown.

5



NUMERICAL EXAMPLE : SUPPOSE $P = 100 - Q$ → MARKET DEMAND CURVE

$P = 10 + 4Q$ → AGGREGATE SUPPLY CURVE BY COMPETITIVE FRINGES

$MC_d = 18$ → MC OF DOMINANT FIRM.

LET'S FIND DOMINANT FIRM'S RESIDUAL DEMAND CURVE.

$100 - Q = 10 + 4Q$

$5Q = 90$ OR $Q = 18$ AND $P = 100 - 18 = 82$

SO VERTICAL INTERCEPT OF THE RESIDUAL DEMAND CURVE IS 82.

THE RESIDUAL DEMAND CURVE WILL JOIN W/ THE MKT DEMAND CURVE EXACTLY AT PRICE AT WHICH QUANTITY SUPPLIED BY CF = 0

$P = 10 + 4Q$

IF $Q = 0$, THEN $P = 10$

WHEN $P = 10$, QUANTITY DEMANDED (TOTAL) ⇒ $10 = 100 - Q$

$Q = 90$ #

SO FAR, WE GOT 2 POINTS ON THE RESIDUAL DEMAND CURVE OF DF :

$\boxed{P = 82 \;\&\; Q = 0}$

$\boxed{P = 10 \;\&\; Q = 90}$

WE CAN CALCULATE SLOPE $\dfrac{(82 - 10)}{(90 - 0)} = \dfrac{72}{90} = \dfrac{4}{5} = 0.8$

SO, TOP PART OF THE DF'S DEMAND CURVE IS : $P = 82 - 0.8Q$!

THEN DF'S MR IS $MR = 82 - 1.6Q$.

PROFIT MAXIMIZATION : $MR = MC$

$82 - 1.6Q = 18$

$$\boxed{Q^*_d = 40}$$

TO GET P^*, WE SUBSTITUTE $Q^*_d = 40$ INTO THE RESIDUAL DEMAND CURVE $\Rightarrow$ $\boxed{P^* = 82 - 0.8(40) = 50}$

CF WILL SUPPLY $P = 10 + 4Q \Rightarrow 50 = 10 + 4Q$

$$\boxed{Q^*_f = 10}$$