EE481: Industrial Economics

Dominant Firms

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Objectives

1. Students understand the concept of “residual demand curve”.
2. Students understand incentives of dominant firms and fringe firms.
3. Students can explain the pricing behavior of dominant firms in a systematic way.
4. Students can relate what is learned in class to real-life situations

Monopoly Behavior

Competitive Firms Behavior (Short-run)

Competitive Firms Behavior (Long-run)

Why some firms are dominant

One big firm (dominant) and many smaller firms (fringes).

Why **dominant firm?**

- More efficient
- Enter earlier - become more efficient
- Enter earlier - had time to grow
- Government favor the orginal firm

The Model (No-Entry)

Assumptions

- One dominant firm with a lower production costs.
- Fringe firms are all price-takers.
- One dominant firm with a lower production costs.
- Fringe firms are all price-takers.
- There are n fringe firms (no more entries).
- The dominant firm knows the shape of market demand curve $D(p)$.
- The dominant firm can predict the best action by the fringes. (knows the shape of fringes' supply curve $S(p)$).

The Model (No-Entry)

Fringe Firms' Reasoning

- Since I am a price-taker (perfectly competitive), my supply curve is $S(p)$ where $p = mc$:

Dominant Firm's Reasoning

- At what price (p) and quantity (q) should I produce?
- At what price (p) and quantity (q) should I produce?
- Not the monopoly p and q.
- If the fringe firms will produce some, then I should maximize profit for the left-over demand (residual demand).

The Model (No-Entry) - Graph

The Model (No-Entry) - Results

Given that

- $\bar{p}$ = minimum marginal average cost for the fringes, MC_f = the fringes' marginal cost.
- $D(p)$ = market demand
- $S(p)$ = the fringe firms' aggregate supplycurve
- $D_d(p)$= $D(p) - S(p)$ =the dominant's residual demand curve
- MC_d= the dominant's marginal cost

We can get 2 types of results

1. If $MC_d < MC_f \rightarrow$dominant firm charges high price, the fringes get to produce.
2. if $MC_d \ll MC_f \rightarrow$dominant firm charges low price, the fringes shutdown.

The Model (Free-Entry)

Assumptions

- ...

Fringe Firms' Reasoning

- ...

Dominant Firm's Reasoning

- Same as before

The Model (Free-Entry) - Graph

The Model (Free-Entry) - Results

- Now, no fringe firm can make a positive profit.

We can get 2 types of results

1. If $MC_d < \overline{p} \rightarrow$dominant firm charges high price, the fringes get to produce.
2. if $MC_d \ll \overline{p} \rightarrow$dominant firm charges low price, the fringes shutdown.

Reference and Further Reading

Carlton, D.W. and J.M., Perloff.
Modern Industrial Organization. 4th Edition.
Pearson Addison Wesley Press, 2005.