

EE481: Industrial Economics

Dominant Firms

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Homework

- (Due before 1 pm, Friday 24th August at the BE office)
- ① If the demand curve is $Q(p) = 10 - p$ and the marginal cost is constant at 4, what is the profit-maximizing monopoly price and output? What is the price elasticity at the monopoly price and output?
- ② Would a profit-maximizing dominant firm ever produce more than if it were a monopoly? Hint: Show the behavior of both a monopoly and a dominant firm (in the no-entry model) on the same graph and note where the marginal revenue curves cross.
- ③ How would the no-entry model diagrams (Figure 4.6, Chapter 4 of the Carlton and Perloff book) change if fringe firms had the usual U-shape average and marginal cost curves? Assume that because of a barrier to entry, there are only n fringe firms. Describe the types of possible equilibria.

Monopoly Behavior

Competitive Firms Behavior

Why some firms are dominant

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

- ...
- ...
- ...
- ...

The Model (No-Entry)

Assumptions

- One dominant firm with a lower production costs.
- Fringe firms are all price-takers.
- ...
- ...
- ...

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?
- ...
- ...

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 ...

2 ...

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 ...

2 ...

Reference and Further Reading

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