

FIN 423

Dominant Firm Monopoly Model

Assume that industry is made up of one large firm (perhaps created by a merger/tender offer), and many smaller price-taking competitors

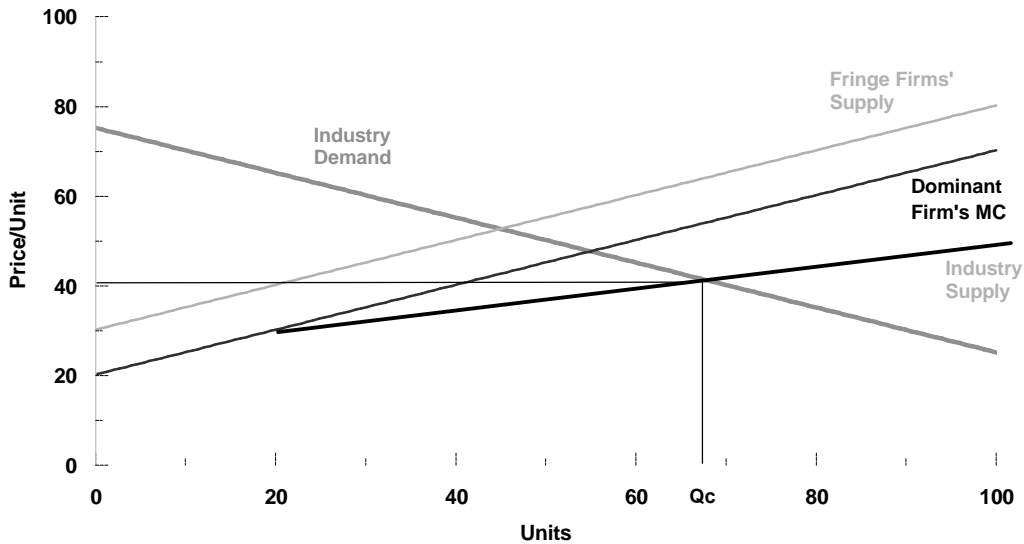
- **"dominant firm" has a comparative advantage (lower MC of production)**
- **"dominant firm" can afford to restrict its output, let price-taking firms sell as much as they want, and still increase its own profits**

Dominant Firm Monopoly Model: Competitive Solution

First consider industry equilibrium without monopolistic behavior

- **industry supply is the horizontal sum of dominant firm's MC and fringe firms' supply curves**
- **equilibrium price and quantity occur where demand = supply**

Dominant Firm Monopoly Model: Competitive Solution

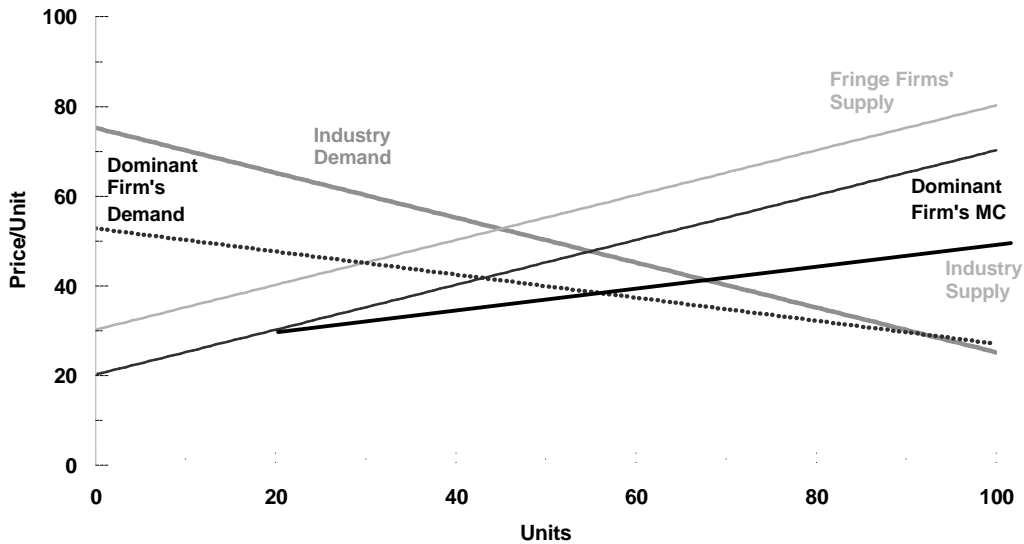


Dominant Firm Monopoly Model: Fringe Firms as Price-takers

The demand curve facing the dominant firm is the horizontal difference between the industry demand and the fringe firms' supply curve

- i.e., let the fringe firms sell as much as they want at any given price level, without restricting output
- only works if dominant firm has cost advantage

Dominant Firm Monopoly Model: Oligopolistic Solution

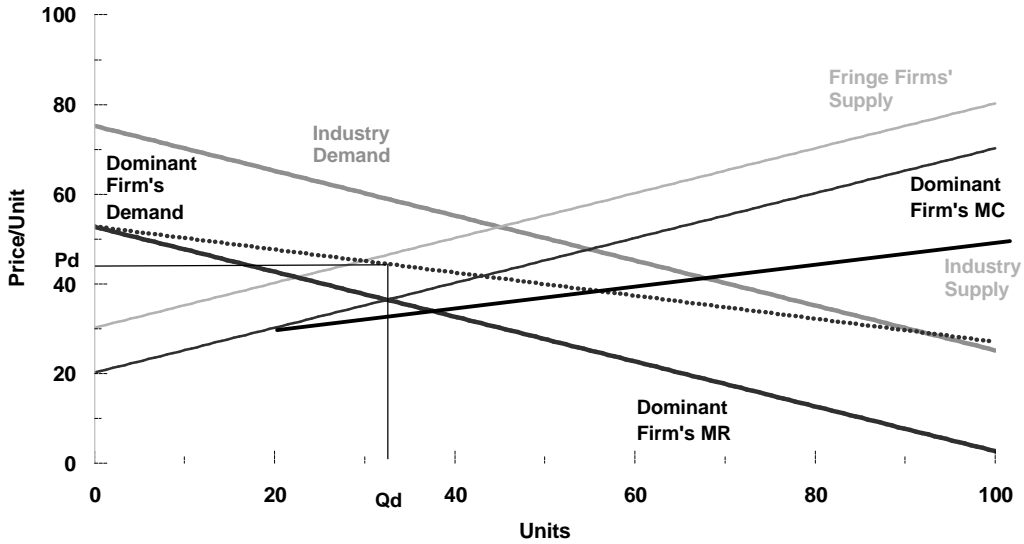


Dominant Firm Monopoly Model: Profit-maximization

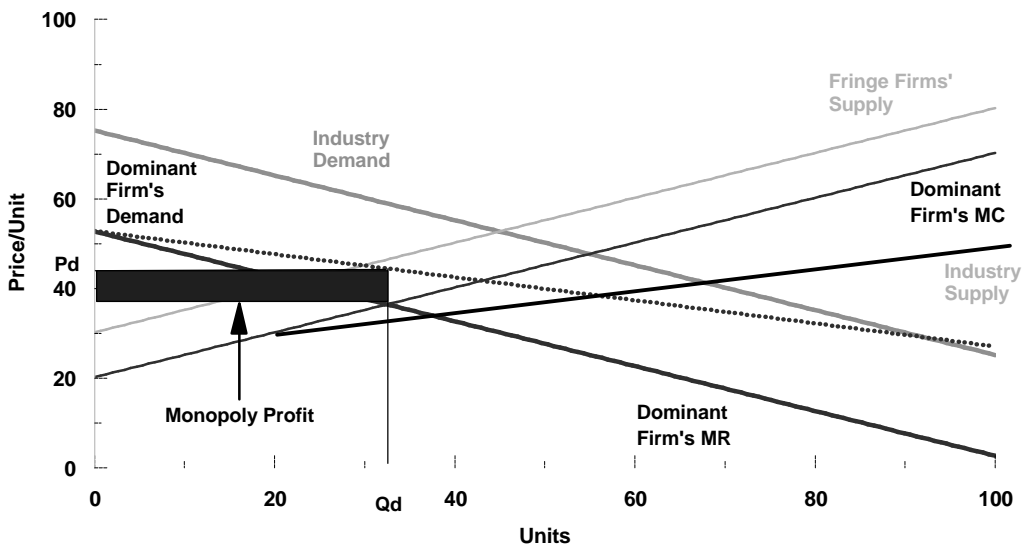
The dominant firm can now maximize profits by deriving the marginal revenue (MR) curve relative to its demand curve

- set $MR = MC$ to find profit-maximizing price
- restrict output
- monopoly profits equal to shaded square area

Dominant Firm Monopoly Model: Oligopolistic Solution



Dominant Firm Monopoly Model: Oligopolistic Solution



Dominant Firm Monopoly Model: Implications

- (1) Fringe firms will benefit from increased monopoly pricing by the dominant firm**
 - they sell more, at a higher price, because the dominant firm restricts its own output
- (2) Fringe firms will be helped if a new efficiency will lower costs for all firms in the industry**
- (3) Fringe firms will be hurt if the dominant firm improves its efficiency (MC curve shifts downward)**
 - dominant firm can increase output and profits at a lower price

Testing the Dominant Firm Model

Look at stock price reaction to horizontal merger announcements for a portfolio of firms in the same industry

- either monopolization or efficiency gains predict that the merged firms will increase in value
- also look at reactions to antitrust complaints that might negate a pending merger proposal

Testing the Dominant Firm Model: Eckbo (JFE, 1983)

1963-78, large mining & manufacturing
NYSE/AMEX firms (at least one firm listed)

- 191 horizontal mergers
 - 26 challenged by FTC, 39 challenged by Justice
- 68 vertical mergers
 - 5 challenged by FTC, 6 challenged by Justice
- avg: 11 rivals per merger (median = 5)

Effects on Merging Firms

Announcement effects (3-day, Table 5):

	<u>Bidders</u>	<u>Target</u>
Merger proposal, unchallenged (N)	0.1% (102)	6.2% (57)
Merger proposal, challenged (N)	1.2% (57)	10.2% (29)
Antitrust complaint (N)	-0.7% (49)	-9.2% (17)

Effects on Rival Firms

Announcement effects (days -20 to +10, Table 6):

	<u>Total Sample</u>	<u>Industry Sample</u>
Merger proposal, unchallenged (N)	1.1% (126)	-0.1% (53)
Merger proposal, challenged (N)	2.5% (65)	4.5% (24)
Antitrust complaint (N)	1.8% (55)	-2.2% (18)

Testing the Dominant Firm Model: Summary

(1) Rival and merging firms benefit from merger announcements

- not comparative efficiency gain for merging firms

(2) Antitrust challenges seem to happen when rival firms' stock prices rise

- common industry sample includes cases where there is also an unchallenged merger in the same industry

Testing the Dominant Firm Model: Summary

(3) Merging firms' prices fall on antitrust complaints, but rivals' prices do not

- **inconsistent with monopolization effect of merger**
- **implies that "efficiency gains" are available to rivals, but less so to merging firms**

(4) Vertical mergers seem to have no anti-competitive effects (Table 9)

- **but sample sizes are small**