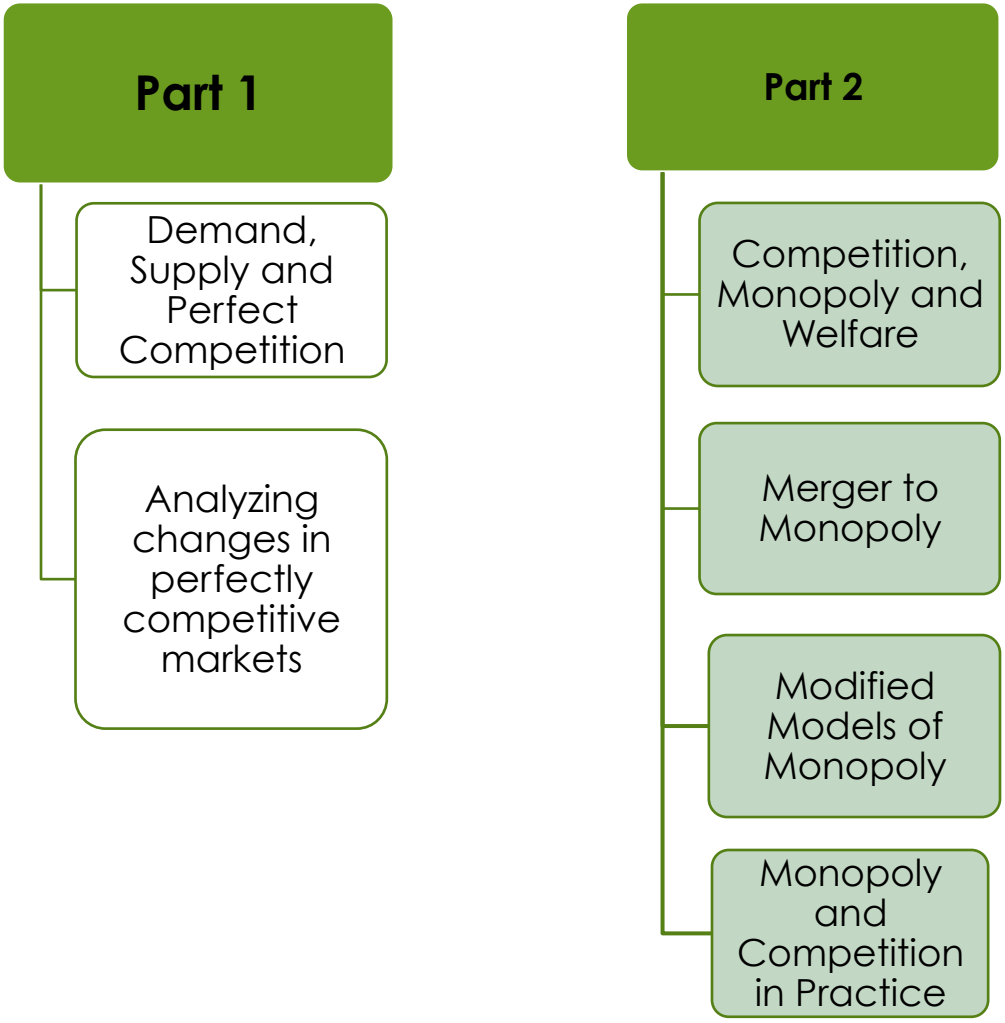
ANTITRUST ECONOMICS 2013

David S. Evans
University of Chicago, Global Economics Group

Elisa Mariscal
CIDE, ITAM, CPI

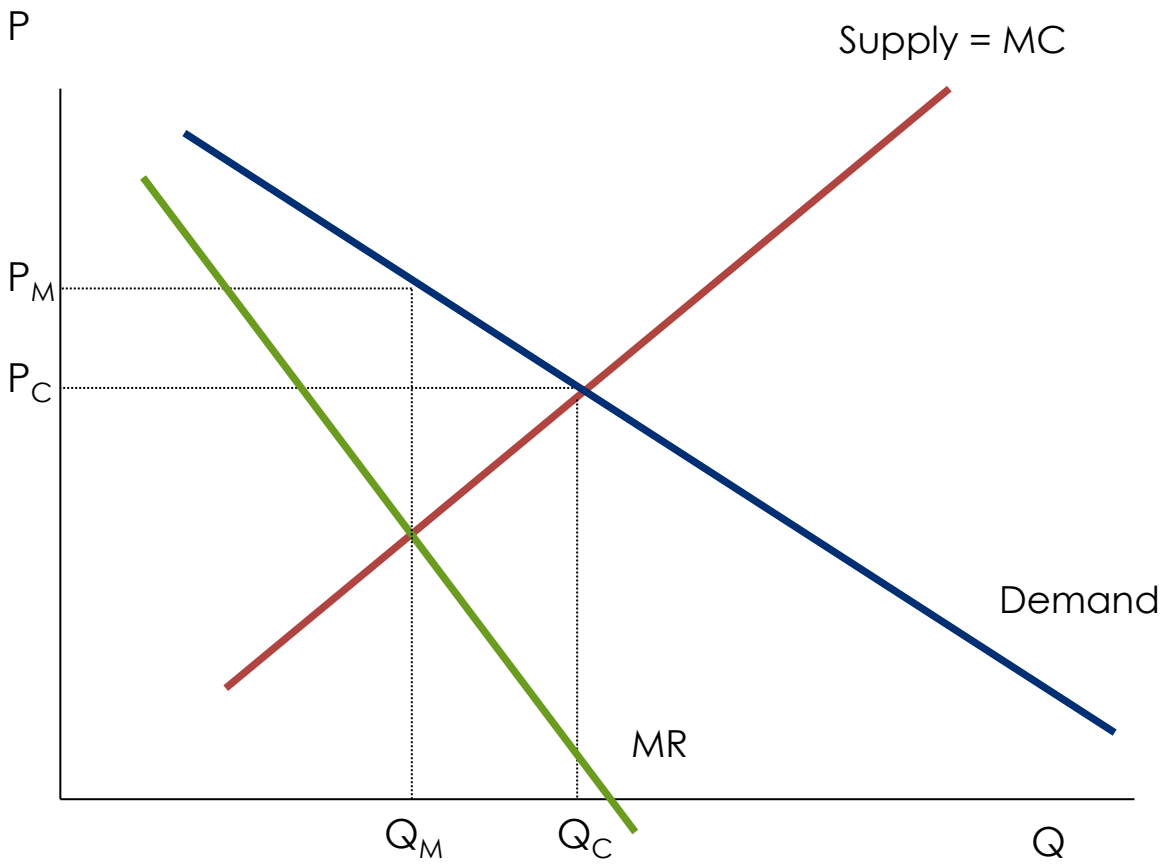
TOPIC 3: DEMAND, SUPPLY AND STATIC COMPETITION

Overview


Part 1
Demand, Supply and Perfect Competition
Analyzing changes in perfectly competitive markets
Part 2
Competition, Monopoly and Welfare
Merger to Monopoly
Modified Models of Monopoly
Monopoly and Competition in Practice

Competition, Monopoly, and Welfare

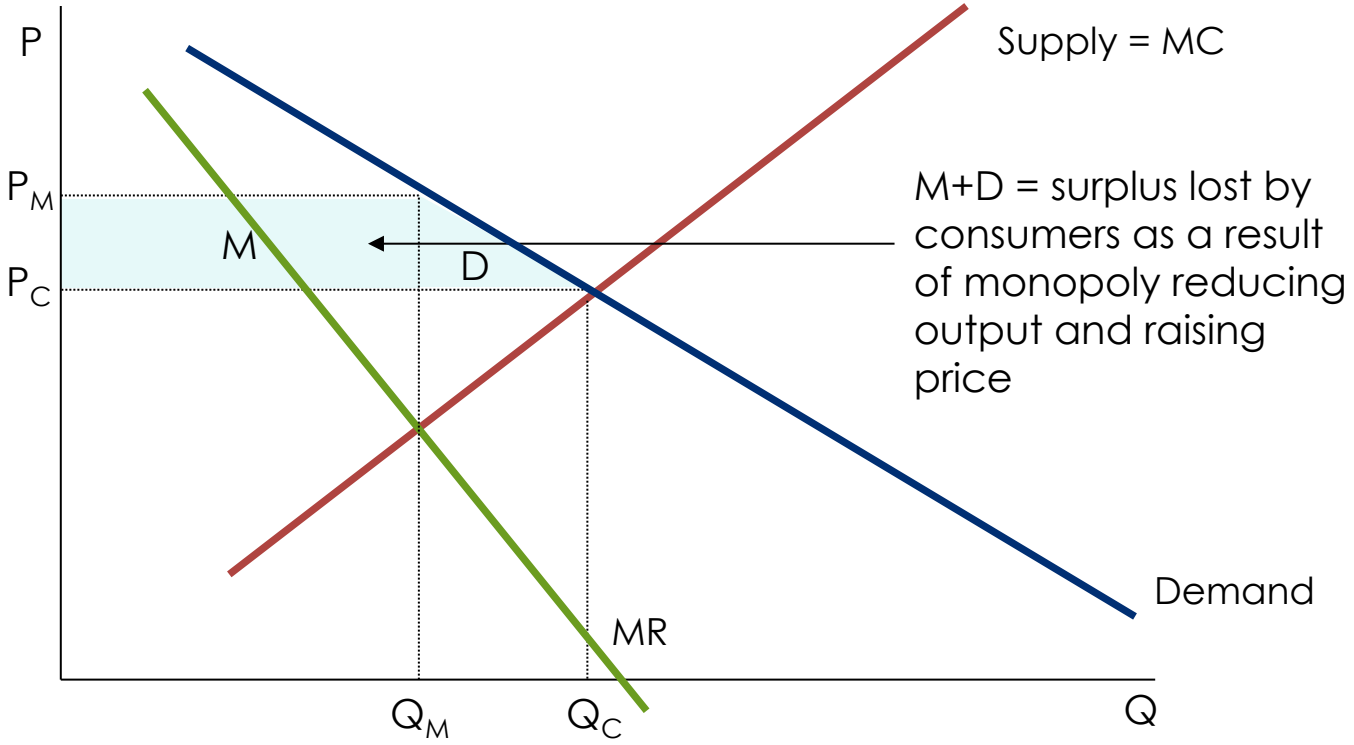
Perfect Monopoly vs. Perfect Competition



Compare perfect competition with perfect monopoly under the assumption that the marginal cost curve for the monopolist and the supply curve for competitive industry are coincident.

- That would be the case for example if there was a merger of all competitive producers but no consolidation.
- So the only thing that changes is that there is a single decision maker on price.

Perfect Monopoly vs. Perfect Competition Illustrated



Consumers are worse-off under perfect monopoly than they are under perfect competition (all other things held constant).

- Under perfect monopoly prices are higher and output is lower than under perfect competition.
- Under perfect monopoly <u>total</u> welfare is lower than under perfect competition by the amount of the deadweight loss.
- Under perfect monopoly <u>consumer</u> welfare is lower than under perfect competition.

Perfect Monopoly vs. Perfect Competition Illustrated

- Deadweight loss = D which is loss of consumer surplus to consumers of output not produced by monopoly.
- Monopoly profit = M which is profit to monopoly as a result of higher prices on output produced
- M also equals loss to consumers for output bought at a higher price.
- Consumer welfare loss = D + M which is the transfer of value from them to the monopolist (M) and the loss of value from output not produced (D)

Merger to Monopoly

Analysis of mergers

A merger occurs when two companies come together as one.

- Horizontal mergers: two or more companies operating at the same level of the production chain and producing substitutes
- Vertical mergers: two or more companies producing at different levels of the chain
- Conglomerate mergers: two or more companies producing unrelated products (independent goods)

A merger makes sense from a business point of view if the value of the two companies after the merger is greater than the sum of the values of the individual companies before the merger.

$V(A) + V(B) < V(A+B)$

Mergers are routine transactions in fairly competitive markets where anti-competitive considerations aren't plausible.

Reasons for mergers

- Cheaper to expand by buying assembled assets than creating from scratch
- Economies of scale for horizontal mergers.
- Economies of vertical integration for vertical mergers.
- Economies of scope and complementary resources for horizontal, vertical and conglomerate mergers
- Eliminating inefficiencies because one firm is better managed than the other or because there are duplicate resources.
- Leveraging management talent or punishing inefficient management.
- Limiting competition and raising prices.

Analysis of horizontal mergers

Competition policy is interested in analyzing the welfare implications of mergers.

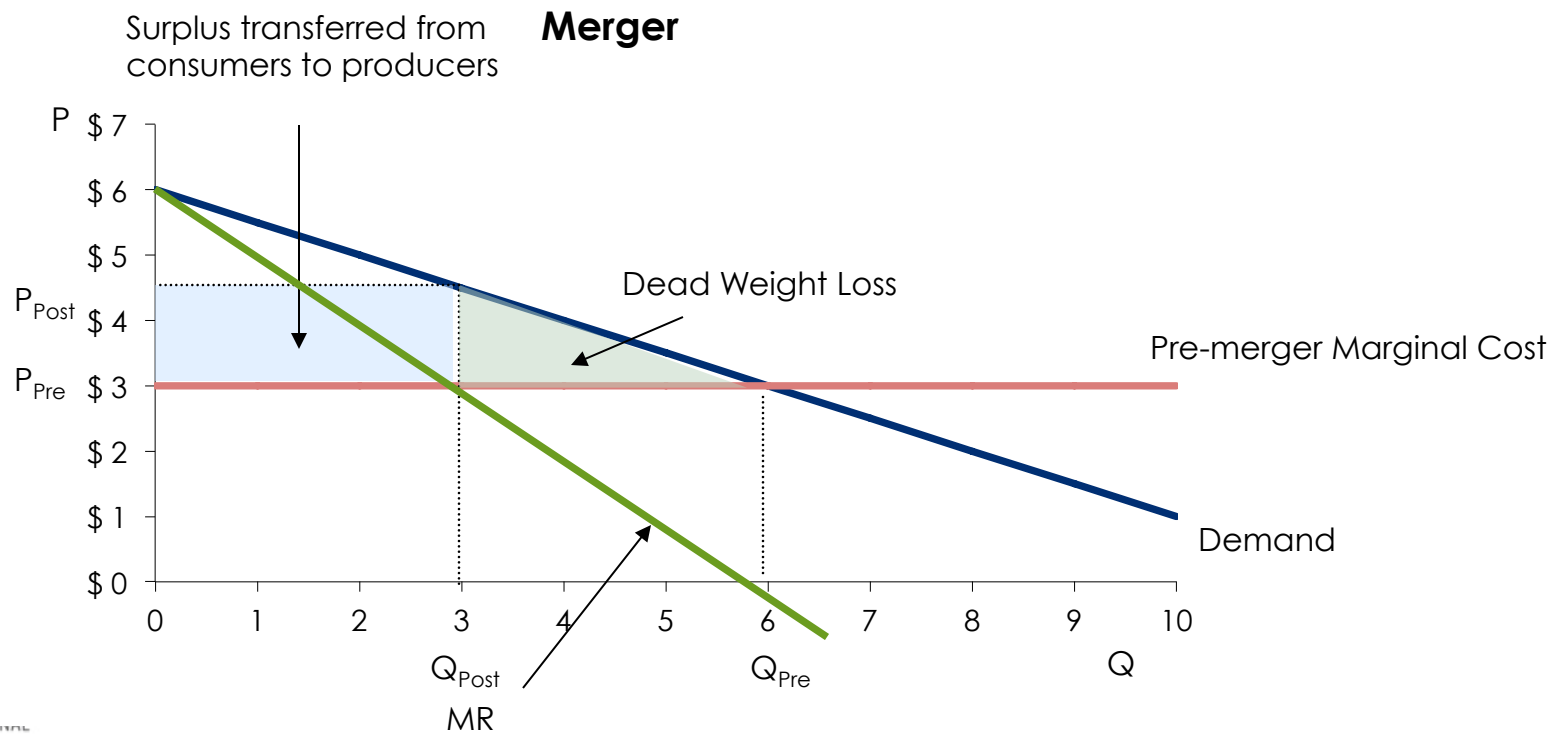
How will merger affect prices and other competitive dimensions?

- Costs may be lowered, quality improved.
- New-found market power could allow merged companies to raise price and lower output for horizontal merger involving products that are substitutes. Maybe for vertical mergers too through exclusionary tactics.
- Effects on welfare are ambiguous as a matter of theory for horizontal mergers. Need to examine facts.

Horizontal merger with no efficiencies

Before the merger the firms are price takers (P = MC)

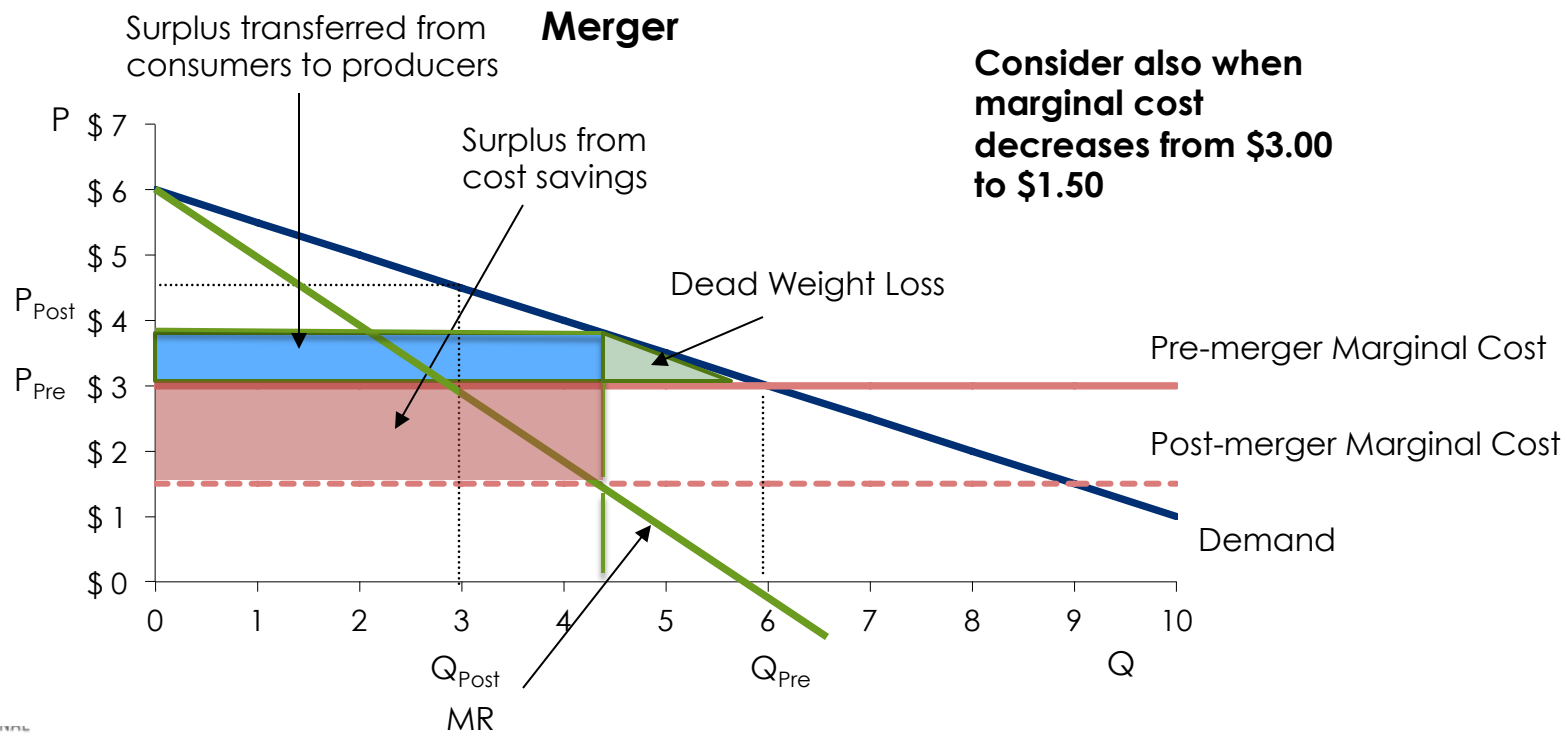
After the merger, the firm faces a downward sloping demand curve (P>MC)



Horizontal merger with efficiencies

Before the merger the firms are price takers (P = MC)

After the merger, the firm faces a downward sloping demand curve (P>MC)



Whose welfare is it anyhow?

Consumer Surplus:

- Consumer welfare is valued
- The welfare of firms is not valued

Total Surplus:

- Takes all resources into account including efficiencies that result in profits.
- Recognizes that many firms are widely held by consumers through pension funds, shareholding, mutual funds, etc.

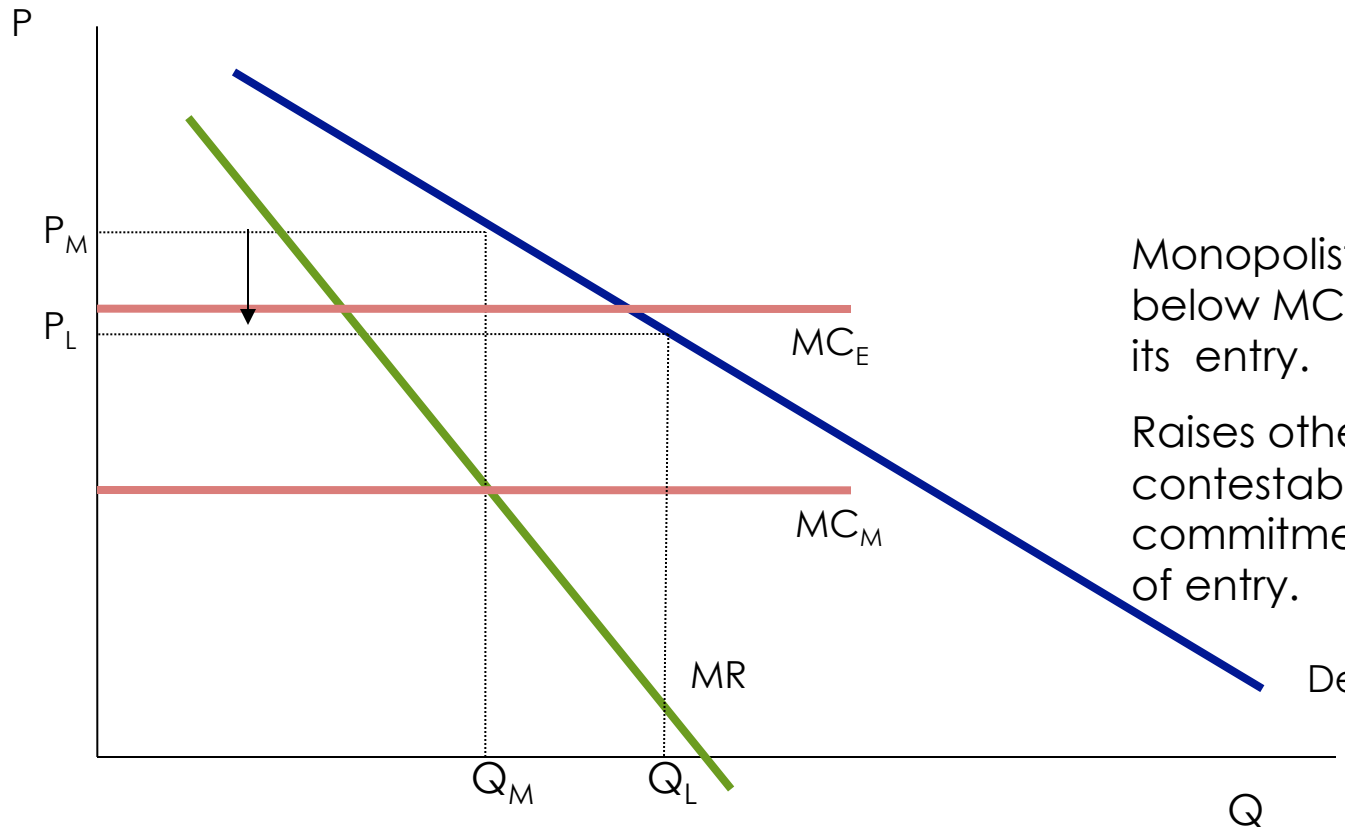
Whose welfare is it anyhow?

…And the correct standard to use…

- From a purely economic perspective, we would argue that the total surplus is the correct standard.
- But, competition policy is only interested in consumer surplus. Why?

Modified Models of Monopoly

Limit pricing to Keep Entry Out



Monopolist drops price just below MC of entrant to "limit" its entry.

Raises other advanced issues: contestability, credible commitments, and sunk costs of entry.

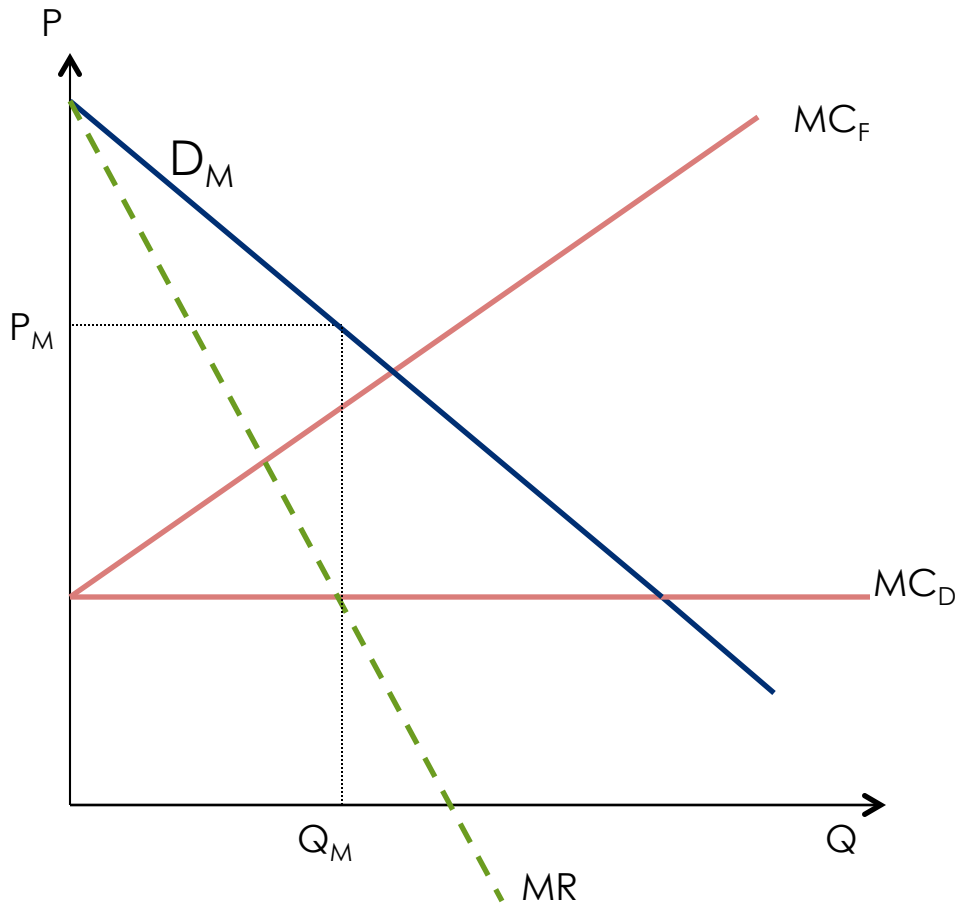
Dominant firm with a competitive fringe

Suppose there is a large group of small competitors. They sell output at a price set by the monopolist and take part of the market.

The dominant firm's objective is to maximize profit subject to this fringe supply.

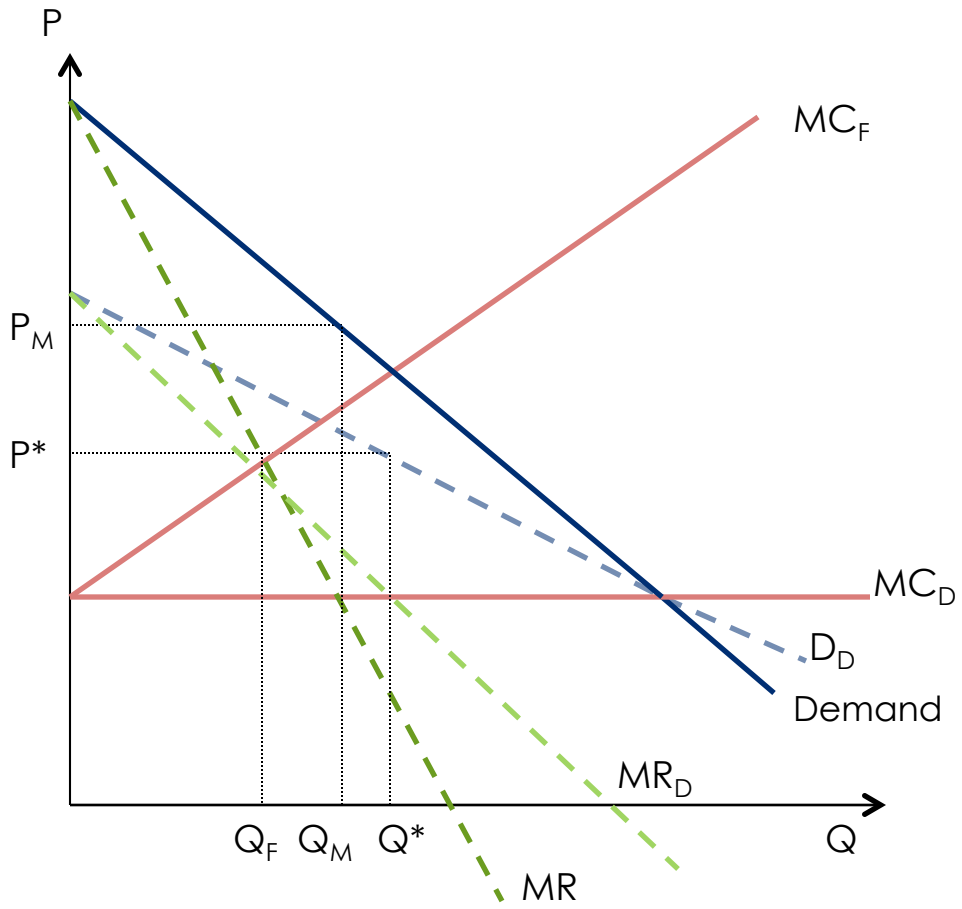
Solution: Lower the price from a monopoly level to balance the trade off between lowering prices on all sales and giving up some sales to the fringe.

Dominant firm with a competitive fringe



- MC_F: Marginal Cost Competitive Fringe.
- MC_D: Marginal Costs Dominant Firm.
- D_D: Demand faced by Dominant Firm.
- MR_D: Marginal Revenue of Dominant Firm.
- D_M : Market demand.
- MR: Market Marginal Revenue.
- P_M and Q_M: Market Equilibrium if the dominant firm were a monopoly.
- P* and Q*: Market Equilibrium in the Dominant Firm with Competitive Fringe Model.
- Q_F: Quantities offered by the Competitive Fringe in the model

Dominant firm with a competitive fringe



- MC_F: Marginal Cost Competitive Fringe.
- MC_D: Marginal Costs Dominant Firm.
- D_D: Demand faced by Dominant Firm.
- MR_D: Marginal Revenue of Dominant Firm.
- Demand: Market demand.
- MR: Market Marginal Revenue.
- P_M and Q_M: Market Equilibrium if the dominant firm were a monopoly.
- P* and Q*: Market Equilibrium in the Dominant Firm with Competitive Fringe Model.
- Q_F: Quantities offered by the Competitive Fringe in the model

Monopoly and Competition in Practice

Branded vs. Generic Drug competition in the U.S.

- Branded companies obtain patents but must get Food and Drug Administration (FDA) approval in the U.S.
- Under recent legislation generics get expedited FDA approval.
- Patent protection is relatively short because of long development and approval process.
- Rapid entry by generics after patent expiration.

Branded vs. Generic Drug competition in the U.S.

- Generics enter the market at a significantly lower price than their branded (pioneer) counterparts.
- Generics tend to decline in price from time of entry.
- Branded (pioneer) drugs tend to increase in price after entry of the generic.

TABLE I

SUMMARY OF GENERIC DRUG FINDINGS

	At Date of Entry	One Year after Entry	Two Years after Entry
Average market price index	1.0	.89	.79
		(.10)	(.12)
Average pioneer price index	1.0	1.07	1.11
		(.07)	(.10)
Average generic price index	1.0	.78	.65
		(.15)	(.16)
Average ratio of generic price to pioneer price	.61	.46	.37
	(.11)	(.14)	(.13)
Average generic market share in units	.09	.35	.49
	(.09)	(.12)	(.11)
Average number of generic suppliers	N.A.	17.2	25.1
		(3.8)	(6.8)

NOTE.—Each value is an unweighted average of the values for the eighteen drug categories. The price indexes take the date-of-entry price as unity. Hence, for example, the average category price two years postentry is 79 percent of its value at the date of entry. The market price equals total dollars of sales for the leader and generics divided by total units. No attempt has been made to deflate prices for inflation. Average generic market share in units at date of entry is the share during the first month of generic marketing. Population standard deviations are given in parentheses; N. A. = not applicable.

Source: Grabowski, Henry, John Vernon, (1992), "Brand Loyalty, Entry and Price Competition in Pharmaceuticals After the 1984 Drug Act", *Journal of Law and Economics*, 35, 331-350.

End of Part 2, Next Class Topic 4