Econ 201: Introduction to Economic Analysis

October 9 Lecture: Monopolistic Competition, Pricing Strategies
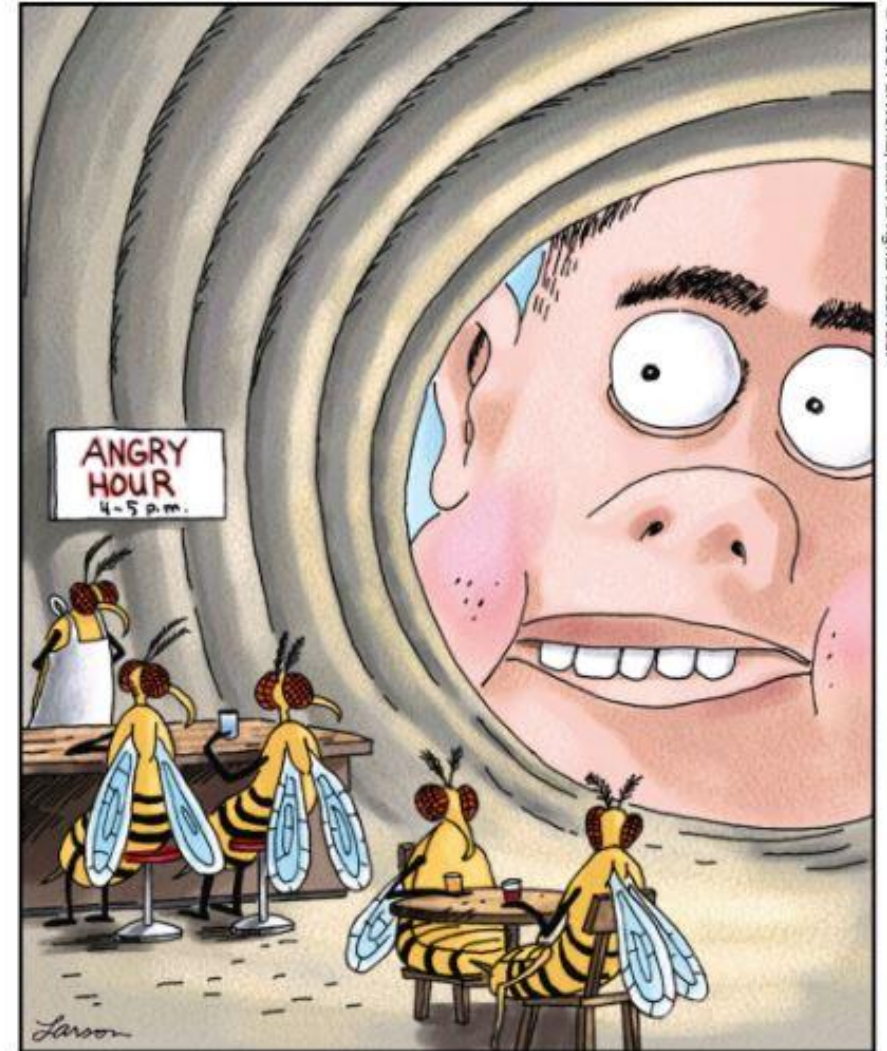
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Daily dose of The Far Side

www.thefarside.com

It was foolish for Russell to approach the hornets' nest in the first place, but his timing was particularly bad.

Preview of this class session

- Monopolistic competition
  - Monopoly power, but free entry
- Price discrimination
  - Not charging same price on every unit sold
  - 1st degree: Different price on every unit
  - 3rd degree: Segmented market among consumers
  - 2nd degree: Different price on successive units by same consumer
- Bundling and two-part tariffs

Monopolistic competition

- Assumptions
  - **Differentiated product**; some monopoly power (but elastic demand)
    - This is the "monopolistic" part
    - Short-run analysis is similar to monopoly
  - **Free entry and exit** in long run
    - This is the "competition" part
    - Economic profit must be driven to zero in long run

- Short-run analysis
  - MR below demand curve, but not too far (highly elastic)
  - **Maximize profit where MC = MR**
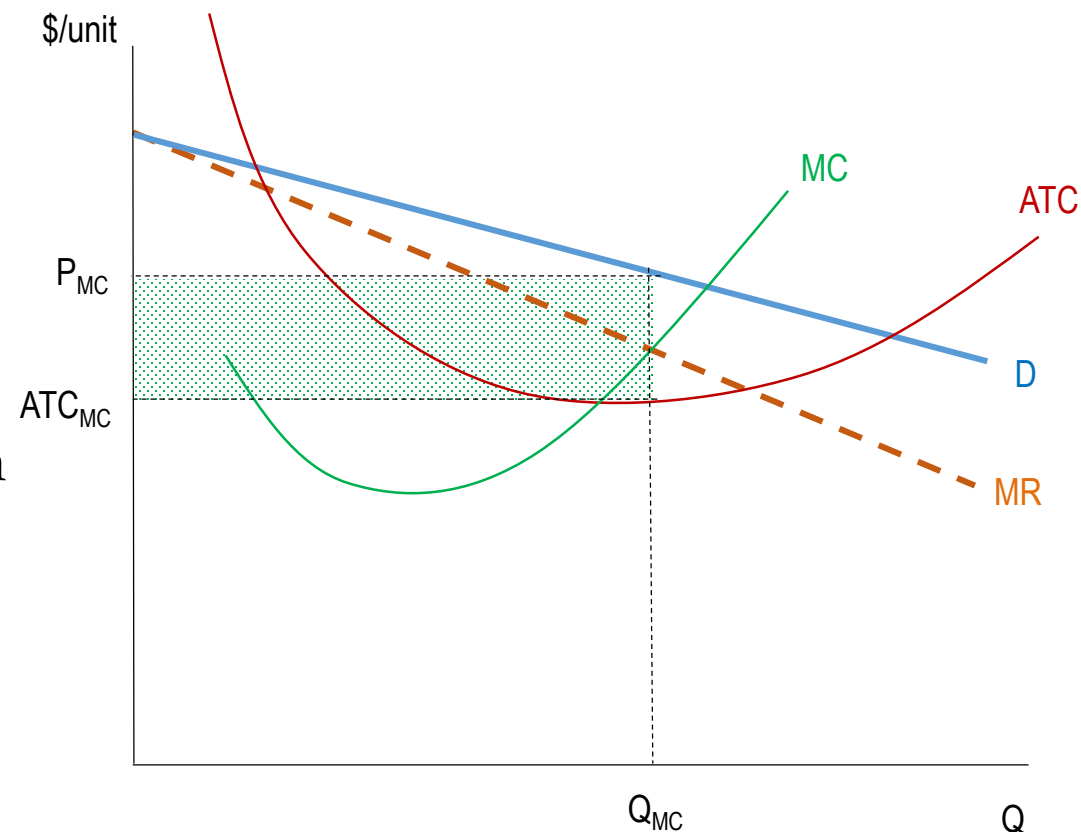
Monopolistic competition in long run

- **Free entry** means positive profit brings in new firms

- Existing firm's demand curve falls to D_{LR}: tangent to ATC curve

- At $Q_{MC,LR}$ and $P_{MC,LR}$ firm is making zero profit, so entry stops

- **No profit**, but P is still > MC, so **inefficient resource allocation**

- Firms are (slightly) above min ATC, so producing less than minimum-cost output

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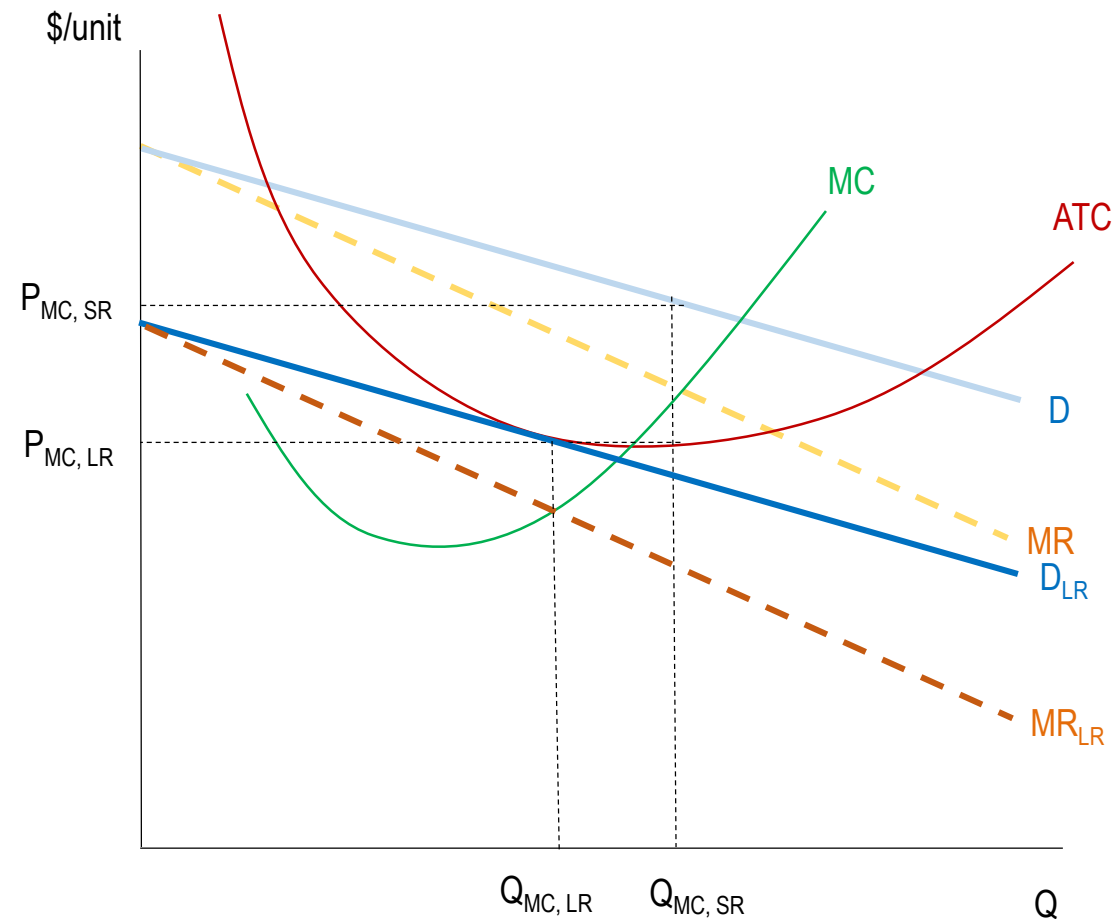
Pricing strategies for monopolies

- **First-degree price discrimination**
  - Charge each buyer/unit exactly its willingness to pay
- **Third-degree price discrimination**
  - Segment market into more- and less-elastic buyers
- **Second-degree price discrimination**
  - Charge different prices depending on amount bought
- **Bundling**
  - Sell package with multiple goods
- **Two-part tariff pricing**
  - Charge for "entry fee," then again for ongoing service

First-degree price discrimination

- Different price on each unit sold
  - Charge every buyer's willingness to pay or "reservation price" on every unit
- Now MR = P for firm because it doesn't have to lower price on earlier units in order to sell more
- Produces where P = MC, so efficient amount is produced
- Seller gets all of the surplus; no consumer surplus at all!
- Firm rarely knows everyone's reservation price, so first-order price discrimination is rarely feasible, but it's very profitable

Third-degree price discrimination

- **Separable market** segments with differing demand elasticities
  - Must be able to prevent resale between markets
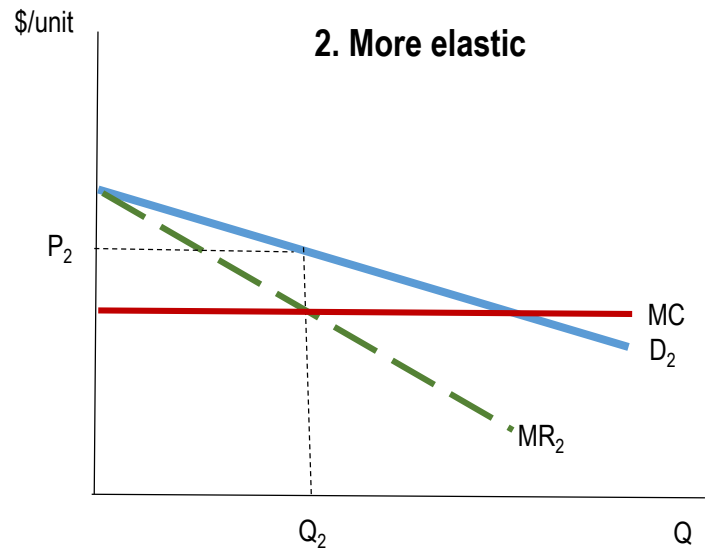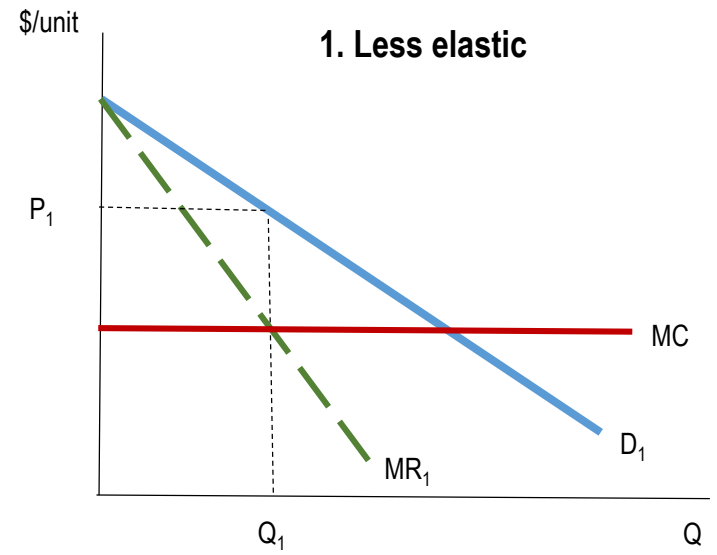- Set price and quantity in each market so that $MR_i = MC$
  - For two markets, $MR_1 = MR_2 = MC$
- Using markup formula,

$$MC = MR_i = P_i\left(1 + \frac{1}{E_i^D}\right) \Rightarrow \frac{P_1}{P_2} = \frac{1 + 1/E_2^D}{1 + 1/E_1^D} = \frac{E_1^D/\left(1 + E_1^D\right)}{E_2^D/\left(1 + E_2^D\right)}$$

- Charge higher price in market with lower demand elasticity
  - Those buyers are willing to pay more

$/unit

1. Less elastic

P_1

MC

D_1

MR_1

Q_1

Q

$/unit

2. More elastic

P_2

MC

D_2

MR_2

Q_2

Q

Third-degree price discrimination examples

- Coupons, rebates, advance-purchase discounts on airlines
  - Customers with more elastic demand will cut coupons and look for special rebate offers or discounts and are given lower price
  - Those who care less about prices will not and are charged high price
- Senior discounts
  - Many seniors are on tight budget and will be attracted by discount
- Drugs are cheaper for pets than for humans
  - Pets rarely have insurance, making demand more elastic
- Price declines over time
  - Charge more to eager customers at time product is released, less to others who are willing to wait

Second-degree price discrimination

- **Discriminate according to quantity** a customer purchases
- Offer alternative versions with different prices
  - Customers sort themselves by willingness to pay for fancy versions
- Not necessary for monopoly to identify customer willingness to pay or separate markets
- Quantity discounts
  - Charge less for second good, third, etc.
  - Buy one get one half off
  - Season tickets often cost less per ticket
  - "Case pricing"

Bundling and two-part tariffs

- If demand for two goods/features is slightly negatively correlated
  - Can get customers to buy both by **bundling** them together
  - Optional accessories on new cars are often packaged together at a discount over all features added separately

- **Two-part tariff**: Good consumed in two parts

- Low price on first, then high price on second
  - Demand elasticity is lower once you have signed up, so pay more
  - Game systems and games
    - Sell game system at low price, then charge a lot for games
  - Printers and ink cartridges
    - Sell printer cheap (lots of choices), charge a lot for ink cartridges (few choices)
  - First-month free offers that automatically renew

Review

- Monopolies can make more money by using pricing strategies that charge differently for different units/goods

- Price discrimination is charging different prices for same good to different customers or markets

- Bundling involves selling different goods together to get customers to buy both

- Two-part tariffs attract customers to a cheap introductory good, then charge high prices for later use

Daily diversion

Another bad economist joke … or is it a joke?

Q: What do economists use for birth control?

A: Their personalities.

--Taken from Jeff Thredgold, *On the One Hand: The Economist's Joke Book*

What comes next?

- Next class discusses **oligopoly**: markets with few producers

- Case study examines a famous case of collusion in the market for lysine

- Problem Set #5 is due on Wednesday, October 14