Price Discrimination

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Today's Game plan: Price Discrimination

1. Motivation
2. Perfect Price Discrimination (PPD)
3. Extensions

Motivational Example

- Tesla Models
- Colleges (especially in US) got better at price discrimination (815/1078) –¿ use Financial Literacy class as an example as it helped marginalized groups to enter college
- we know Higher Ed market has imperfect competition because Prices for college education differ (P at EBS different than in other universities)

Poll

This is a poll

1. 1
2. adsf
3. adsf
4. adsf

Perfect Price Discrimination (PPD)

Up until now, we only considered uniform pricing where each firm charges customers the same price

$\Longrightarrow$ Relax this assumption!

Key characteristics PPD

1. Non-uniform pricing: Charge different customers different prices
   - PPD commonly referred to as 1st degree PD
2. Consumers' preferences known
3. Optimality requires: P = MB
   - Extensive margin: Make every possible sale
   - Intensive margin: Charge each customer reservation price
4. Conditions for PD
   - Need market power (i.e. D downward-sloping)
   - Prevent resales (e.g. Sony games), otherwise end up selling large Q at low P to resellers (otherwise they will undercut you)
   - Target right customers with right P (–¿ transition to 2nd & 3rd degree)

PPD: Graphical illustration

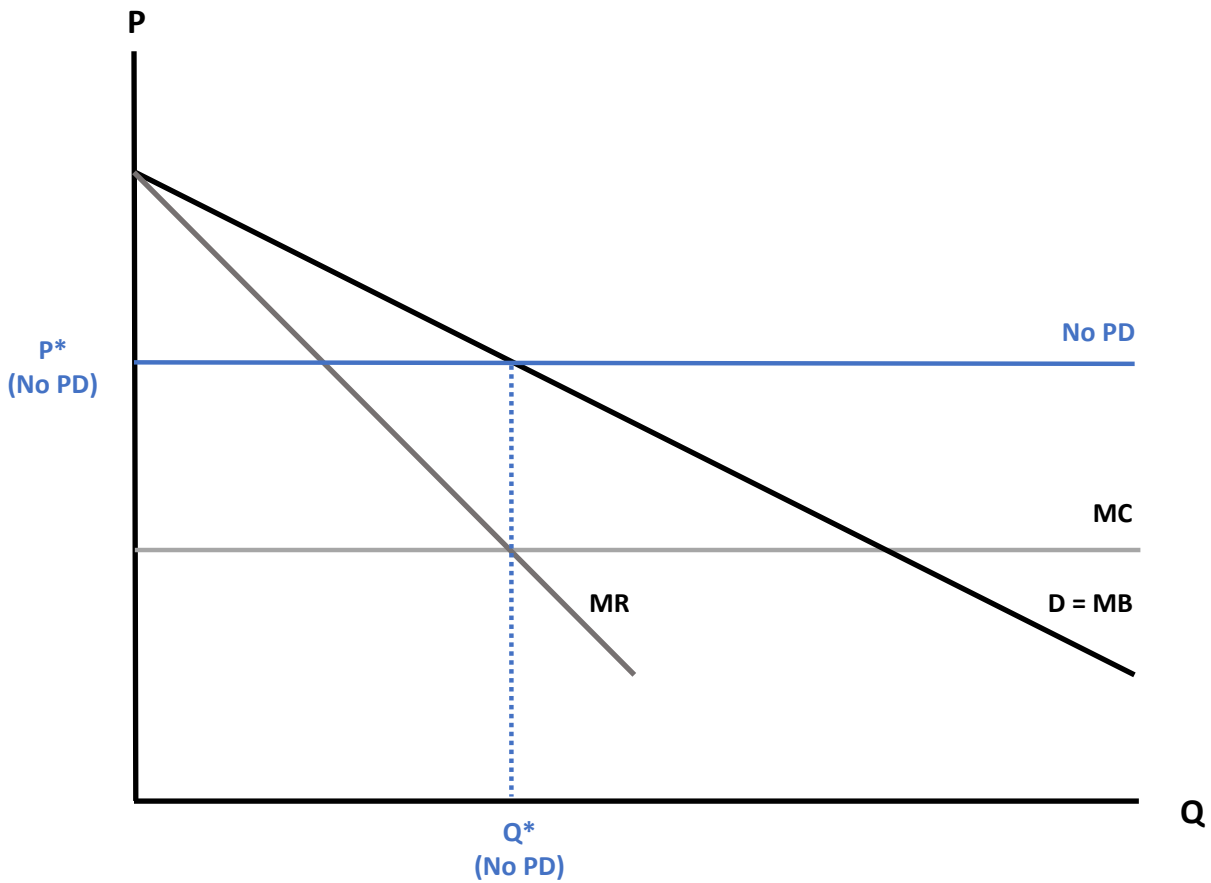

Figure 1: Monopolist: No Price Discrimination

- Optimality: MR = MC

PPD: Graphical illustration

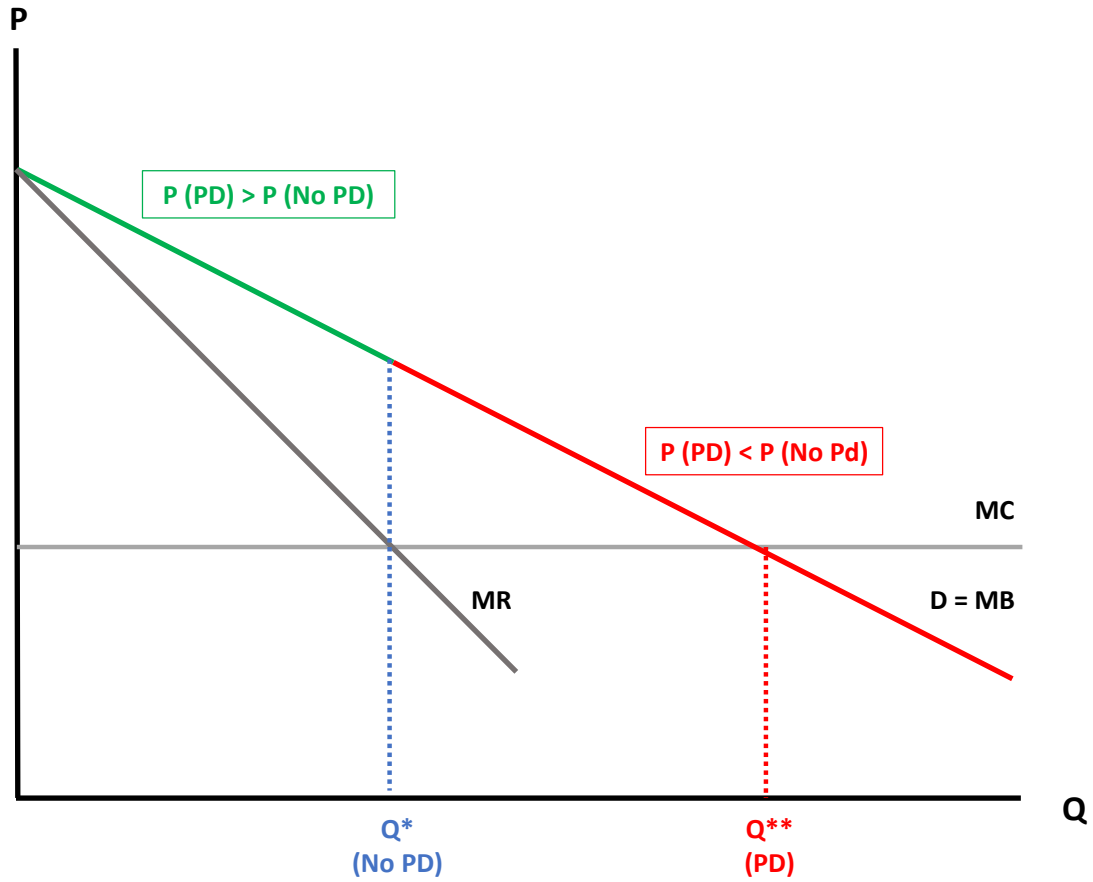

Figure 2: Monopolist: PPD

- Optimality: P = MB

Poll

What are the welfare implications of PPD?

A. Welfare-enhancing
B. Welfare-reducing
C. Welfare unchanged, surplus simply reduced

PPD: Welfare

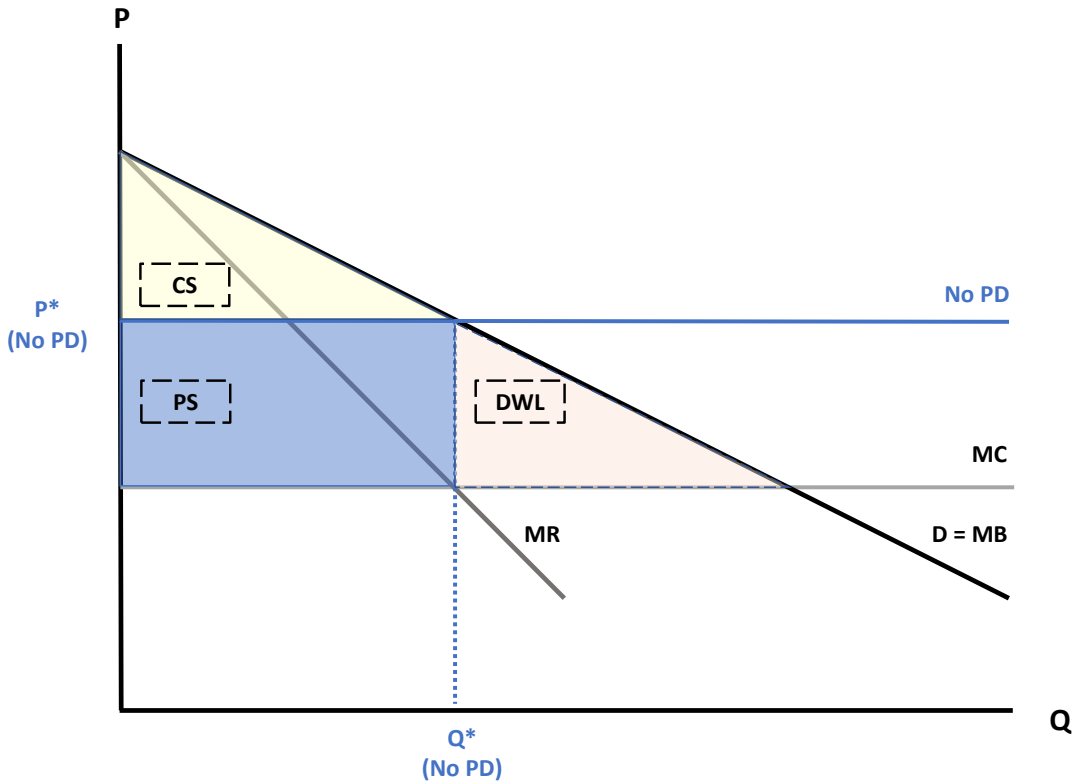

Figure 3: Monopolist: PPD

- Welfare: $\int_0^{Q*}(D-C)\,dQ = \underbrace{\int_0^{Q*}(D-P(Q))\,dQ}_{\text{CS}} + \underbrace{\int_0^{Q*}(P(Q)-C)\,dQ}_{\text{PS}}$

PPD: Welfare

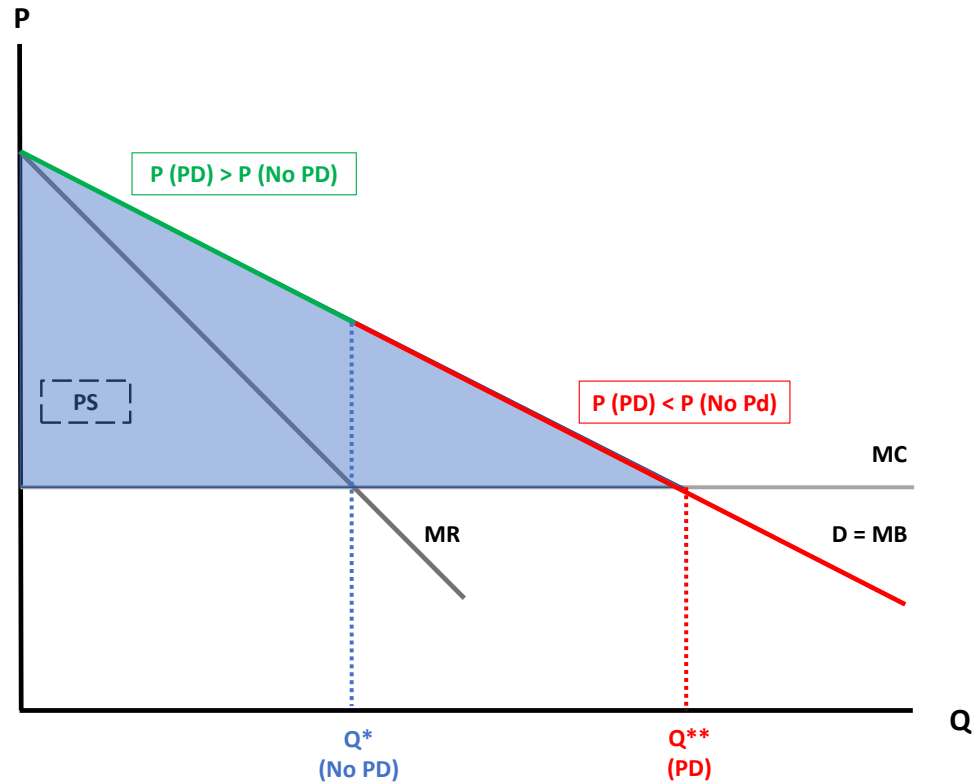

Figure 4: Monopolist: PPD

- Welfare: $\int_0^{Q**}(D-C)\,dQ = \underbrace{\int_0^{Q**}(P(Q)-C)\,dQ}_{\text{PS}}$

Notes - Price Discrimination

- **TO DO:** for preparation take a closer look at adjustments compared to more standard cases (also Ch. 14 in which firms exploit market power)
- check out basics on PC, Monopoly, Oligopoly (e.g. why intuitively does monopolist not discrimiate and go beyond mr=mc (see figure 1)), **I think b/c then, w/o PD, would have to offer lower P to each customer and the price effect would lead to sub-optimal decision**

Notes - Extensions

General Problem: Incomplete Information (don't typically know customer's reservation price) - that's why in reality we observe non-perfect discrimination (include somewhere that new technologies make that easier)

- 2nd degree, non-linear pricing
  - hurdle method (rely on self-selection)
  - quality differences (flying, car models)
  - non-linear pricing
  - Profit max. subject to (i) individual rationality constraints and (ii) incentive-compatibility constraints
- 3rd degree (group-specific, i.e. market segmentation, most common type)
  - $MR_1 = MR_2 = MC$
  - welfare: may improve due to higher output, yet, depends on degree of divergence between P & MC