Monopoly

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Monopoly

- **Monopoly:** A fire that is the sole seller of a product without close substitutes.
- Monopolies arise due to lack of competition and thus have a great deal of market power. In contrast to perfectly competitive firms, monopolies are price makers.
- Fundamental cause: barriers to entry

Monopoly

- Barriers to entry:
  1. Monopoly Resources: A key resource required for production is owned by a single firm.
  2. Government-Created Monopolies: The gov. gives a single firm the exclusive right to produce some good or service.
  3. **Natural Monopolies**: A monopoly that arises because a single firm can supply a good or service to an entire market at a smaller cost than could two or more firms. *Experiences economies of scale over the relevant range of output*.

Monopoly

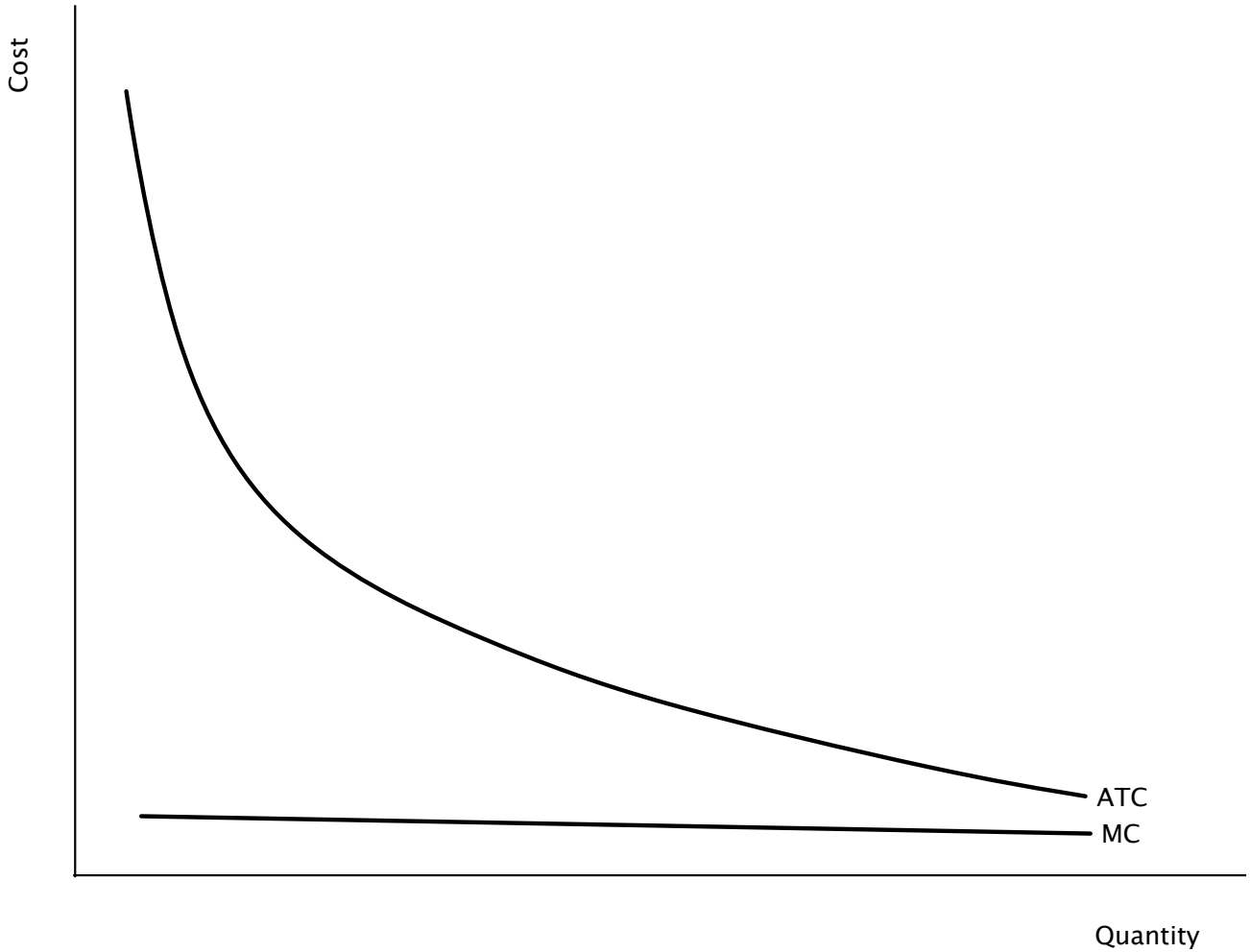


Figure: Natural Monopoly Cost Curves

Production Decisions

- In contrast to firms in perfect competition, which have a horizontal demand due to the goods being perfect substitutes, a monopoly's demand curve is the market demand curve.
- This demand curve is downward sloping – as the price the monopoly charges increases, the quantity demanded of the good decreases.

Production Decisions

- The monopoly thus has to balance two effects on total revenue when it increases or decreases the amount it sells:
  1. The output effect: Increasing (decreasing) output tends to increase (decrease) total revenue.
  2. The price effect: Falling (rising) price increases (decreases) total revenue.

Production Decisions

Example

Suppose a monopolist faces the demand schedule in Table 1. Calculate the total revenue the firm can obtain at each price and the MR for each quantity.

Table: Demand Schedule

Price	*Quantity*	*TR*	*MR*
$21	*0*	*0*	*—*
$20	*1*	*21*	*21*
$19	*2*	*38*	*17*
$18	*3*	*54*	*16*
$17	*4*	*68*	*14*
$16	*5*	*80*	*12*
$15	*6*	*90*	*10*
$14	*7*	*98*	*8*
$13	*8*	*104*	*6*

Profit Maximization

- Just like firms in perfect competition, the monopolist will choose the level of output where $MR = MC$.
- However, in the case of perfectly competitive firms we had that $P = MR$.
- But in the case of monopolies, it is the case that $P > MR$.

Profit Maximization

- After choosing the optimal quantity to produce, the price the monopoly will charge is found by tracing up from this optimal quantity up to the demand curve.
- Importantly, this implies that the price a monopolist charges is greater than the marginal cost at that quantity. This difference is called the mark-up, $\mu = P - MC(Q^*)$.

Profit Maximization

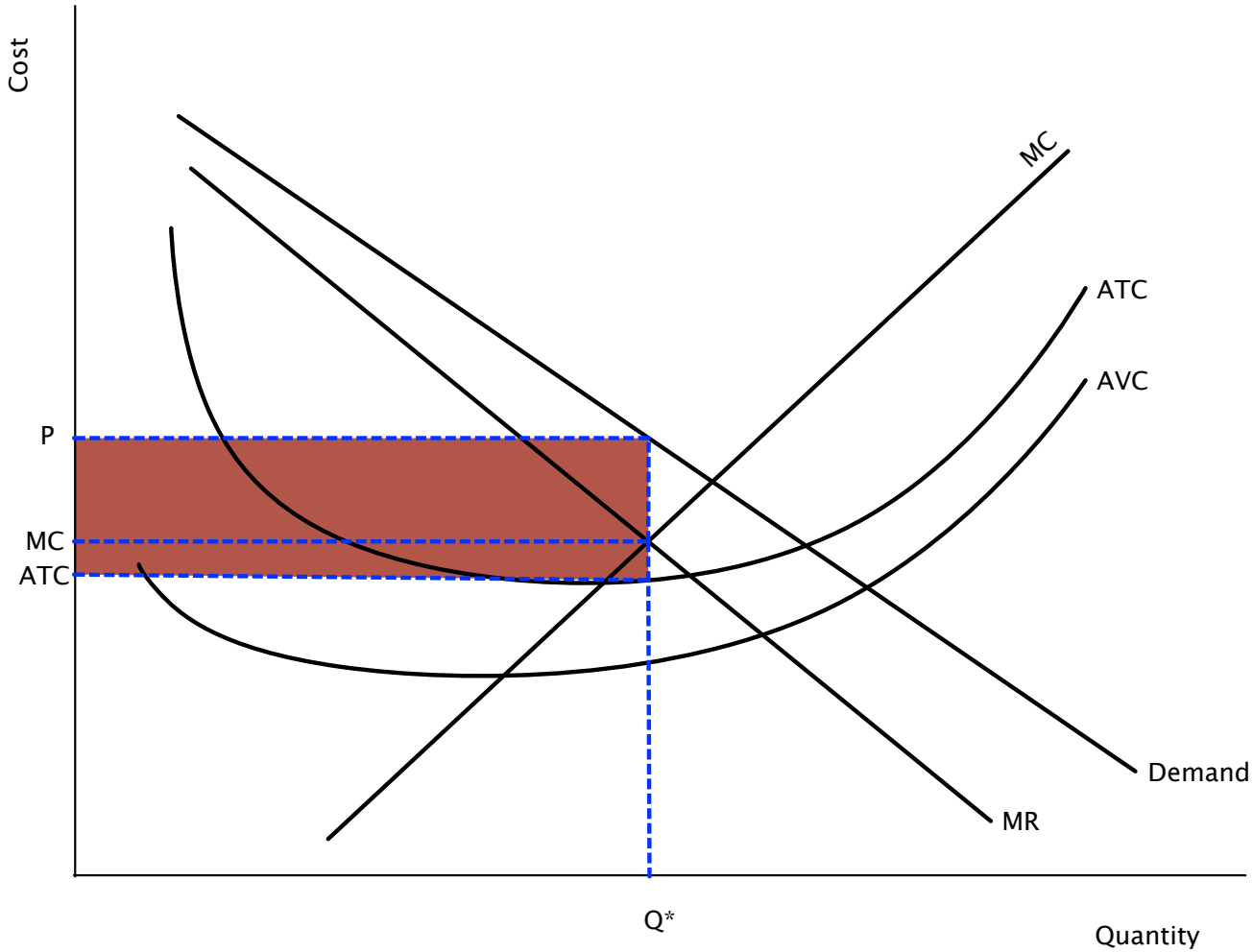


Figure: Monopolist Environment

Profit Maximization

Example

Suppose the monopolist in Example 11.1 has constant $MC = \$10/unit$ *and* $FC = \$20$. *What is the optimal quantity for the monopolist to produce? What price will the monopolist charge? What is the mark-up? What will its profit be?*

Profit Maximization

Example

Suppose the monopolist in Example 11.1 has constant $MC = \$10/unit$ and $FC = \$20$. What is the optimal quantity for the monopolist to produce? What price will the monopolist charge? What is the mark-up? What will its profit be?

If MC=\$10, monopolist will produce 6 units and charge a price of \$15.

The mark-up over the marginal cost is \$5.

VC of producing 6 units = \$60 since MC is constant \$10.

$\Pi = 90 - (60 + 20) = \$10.$

Welfare Considerations

- A monopolist charges a price above marginal cost. For consumers, this higher price diminishes their surplus.
- But the firm itself gains surplus by being able to charge this higher price. From a social efficiency stand point, is the quantity that monopolies sell at the one that maximizes total surplus?
- Since the marginal cost curve of the monopolist reflects the costs of production, we see that the socially optimal quantity to produce is where MC equals demand.

Welfare Considerations

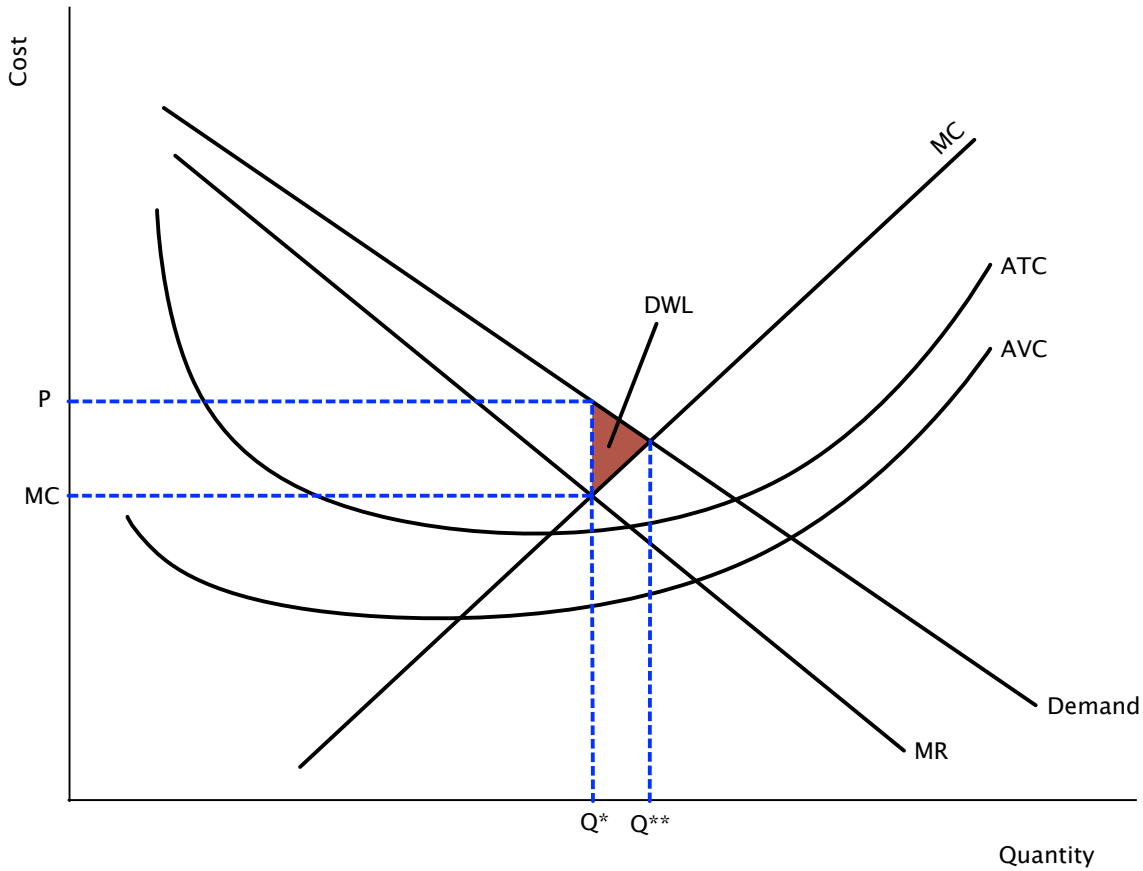


Figure: Monopolists and Welfare

Welfare Considerations

- This is efficient because at quantities below Q^{**}, the value to buyers is greater than the cost to the monopolist.
- At quantities above Q^{**}, the value to buyers is less than the cost to the monopolist.
- Therefore, to achieve the efficient outcome the price that should be charged is where the demand curve and the marginal cost curve intersect.

Welfare Considerations

- That is, just like in the case of perfect competition, the socially efficient quantity is given by where $P = MC$.
- However, a monopolist will produce less than the socially efficient quantity due to the mark up over marginal cost.

Price Discrimination

- **Price Discrimination:** The practice of selling the same good at different prices to different customers.
  1. A price-discriminating monopolist can charge each consumer a price closer to their willingness to pay.
  2. This, in turn, allows the monopolist to increase its profits.
  3. In order to price discriminate, the monopolist has to be able to separate consumers by their willingness to pay (e.g., age, geographic region, etc.).
  4. By bringing more consumers into the market, price discrimination potentially increases economic welfare.
- In the situation where the monopolist can perfectly price discriminate, then the monopolist will charge each person exactly their willingness to pay and the monopolist gets the entire surplus.

Price Discrimination

- If we simplify our graph so that $MC = ATC$ and is constant (i.e., constant per unit costs), we can easily see how this increases total surplus:

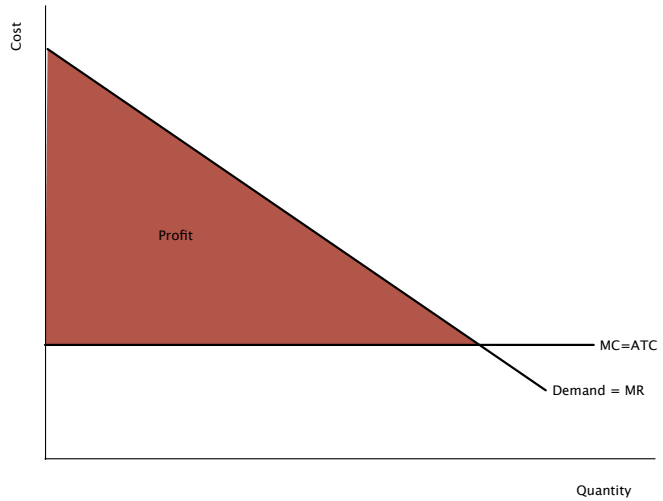


Figure: Perfect Price Discrimination

- When price discrimination is imperfect, as it usually is, the general effect on total welfare is ambiguous. However, it is always true that price discrimination allows a monopolist to increase its profits.

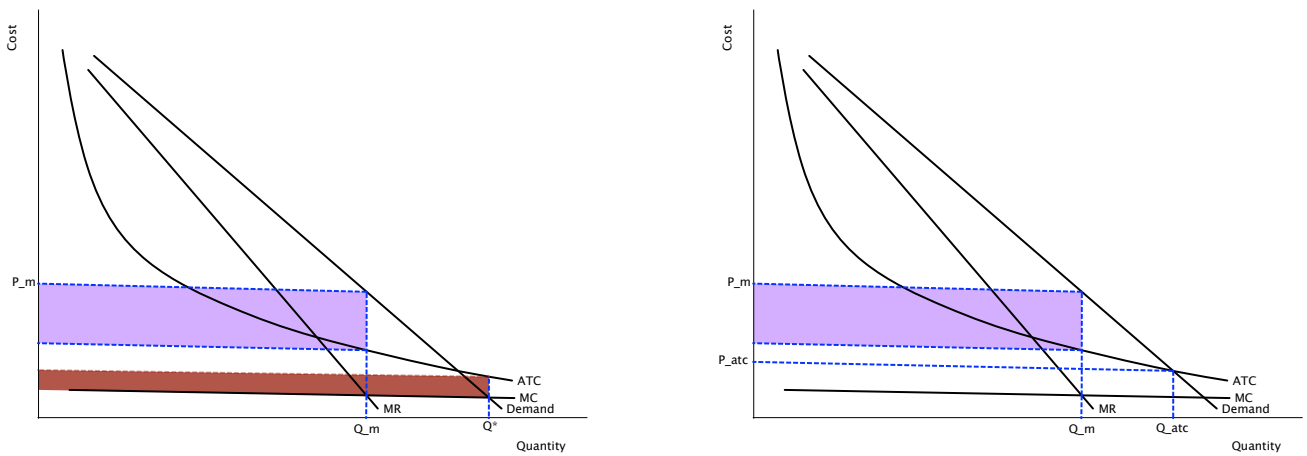
Price Discrimination

- Because monopolies do not produce the socially efficient quantity, policymakers attempt to respond to this issue in several ways.
  1. Increasing competition (e.g., antitrust laws)
  2. Public ownership (i.e., government runs monopoly itself)
  3. Doing nothing

Price Discrimination

4. Regulation

Figure: Price Regulation



(a) MC Pricing (b) ATC Pricing

Readings and Assignments

- Today: Mankiw Ch. 15
- Next time: Mankiw Ch. 16 & 17
- Problem Set 3, section 3
- Homework 3 due on 6/5