SECTION 12: Market Structures: Imperfect Competition
Need to Know:

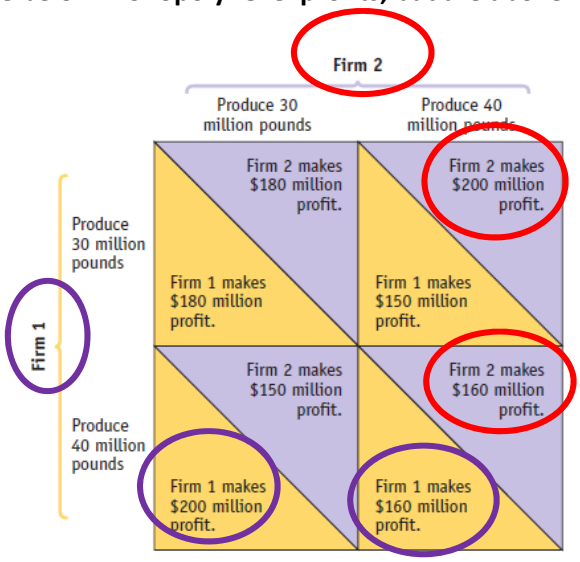
Oligopoly: market structure with a few large producers that are interdependent and engage in strategic behavior

Strategies between duopolists:

- **Bertrand showed when selling an identical product, oligopolists will repeatedly lower price to undercut the competition (P=MC)**
- **Cournot focused on quantity competition, rather than price competition. Duopoly firms choose output to maximize profit, given the output of the rival firm. There exists an equilibrium level of output that allows each firm to earn profits that are below monopoly-level profits, but are above normal profits.**

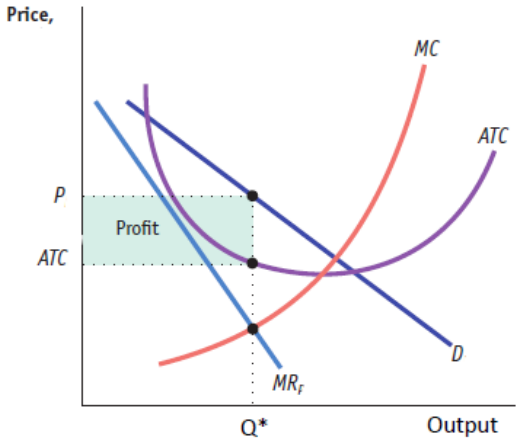
Game Theory

The payoff matrix is a diagram showing how the payoffs to each player in a game depend on the actions of both.
A dominant strategy is an action that is a player's best action regardless of what the other player does.
A Nash equilibrium occurs when the game ends, and each player is happy with the outcome, given the choice made by the rival.



Strategic Behavior:

- **Tacit Collusion: cooperation among producers, without a formal agreement, to limit production and raise prices so as to raise profits.**
- **"tit for tat": The firm begins by cooperating today. Then every day from this point forward, the firm will do today, whatever the other firm did yesterday.**
- **Product differentiation is the attempt by firms to convince buyers that their products are different from those of other firms in the industry (either by making them different or just convincing buyers that they are). If firms can convince buyers, they can charge a higher price.**
- **A price leader is a firm that sets a price and the rival firms follow it. By following the leader, a tacit agreement is created.**
- **Non-Price competition occurs when firms compete without lowering prices; non-price competition. For example: Offer a warranty or better service than their rivals, offer longer hours, a charge card with rewards program, personal shoppers, or amenities like a café in the store.**



Monopolistic Competition:
Characteristics in common with perfect competition:

- **Many firms exist in the market, but not as many as perfect competition.**
- **There are no barriers to entry or exit.**

Characteristics in common with monopoly:

- **Differentiated product**

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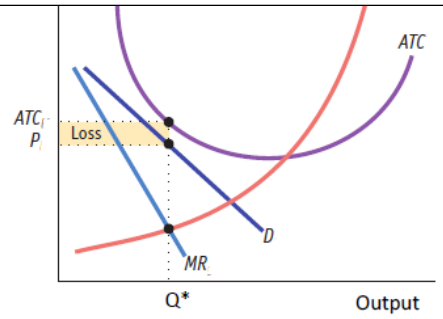
- **Each firm has some ability to set the price of their product**

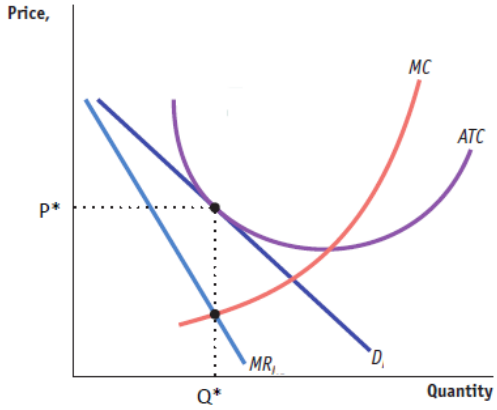
The firm maximizes profit Q* where MR=MC.
Price P* is found by going vertically to the demand curve. The rectangle of profit is found by locating ATC at the output Q*.

π = (P-ATC) Q



The firm here is incurring economic losses because P*<ATC

In the short run the firm will continue to produce as long as P*<AVC



Comparing Monopolistic Competition with Perfect Competition

- **Economic profit = 0 (normal profit), so ATC=P in both due to entry and exit**
- **MR = MC in both (profit maximization rule)**
- **In perfect competition, ATC = P = MR = MC**
- **In monopolistic competition ATC = P > MR = MC**
- **Perfect competition achieves productive efficiency by producing at the minimum ATC**
- **Monopolistic competition results in excess capacity (MC<ATC)**

In the Long-Run
Short-run profits attract entry into the market Demand and marginal revenue for existing firms' products declines (shifts to the left), as there are more similar products available to the same number of consumers.
Weaker demand causes prices to fall. Lower prices cause economic profits to fall (the profit rectangle is getting smaller).
Entry stops when normal profits are made

Short-run losses prompt exit from the market. Demand and marginal revenue for remaining firms' products rises (shifts to the right), as there are fewer similar products available to the same number of consumers.
A stronger demand causes prices to rise.
Higher prices cause economic losses to fall (the rectangle of losses is getting smaller).
Entry stops when normal profits are made
The only way for firms to break even (earn a normal profit) is for P*=ATC so there is no profit or loss rectangle.

Since price comes from the demand curve, the only way for P*=ATC is for the demand curve to touch ATC at the output Q*, where MR=MC.

Because there are only normal profits being made, firms will neither enter nor exit this market and long-run equilibrium is achieved.