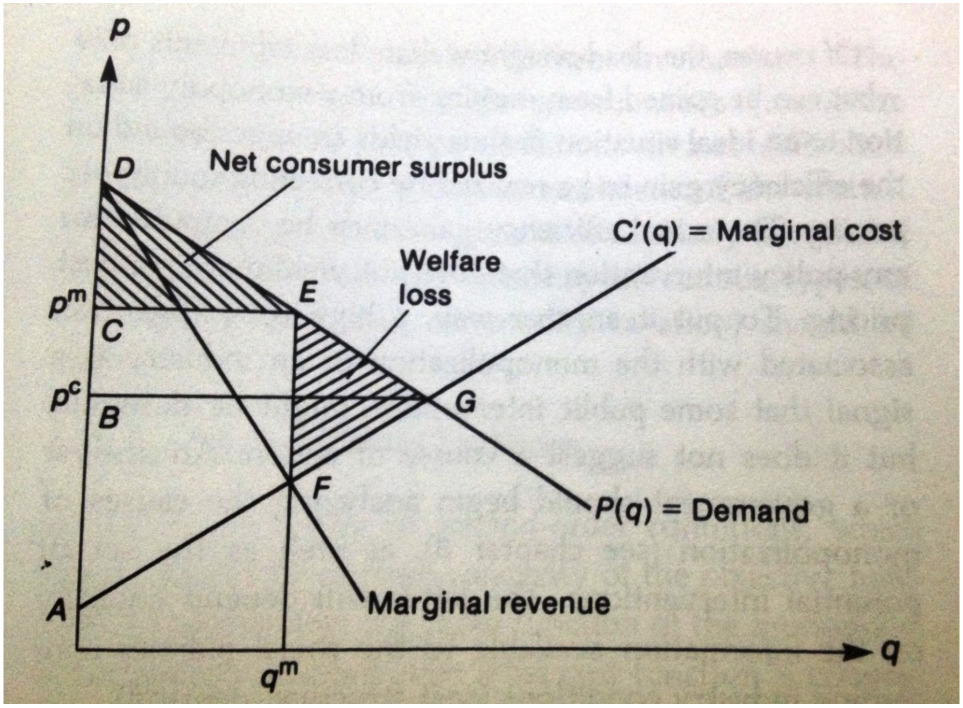
Module 2: Monopoly & Welfare Loss

Market Organization & Public Policy (Ec 731) · George Georgiadis

- So far, we have seen that monopoly leads to higher prices (and hence lower quantities), and higher profits.
- But is the total social welfare higher or lower in a monopoly?
  - Total surplus = (firms' profits) + (consumer surplus); or = (total consumer utility) - (production costs).
  - In a monopoly, consumer surplus is always lower (relative to perfect competition).
  - But it could be that the increase in the firm's profit more than offsets the decrease in consumer surplus.
- Lower! Illustrate graphically. (Example with linear demand and marginal cost functions.)

- Under monopoly pricing:
  - The firm sets p_m, which corresponds to demand $q_m = P^{-1}(p_m)$.
  - Net consumer surplus is the area DECD.
  - Firm's profit = $p_m q_m$ - (integral of the marginal cost) = area CEFAC.
  - Total surplus = area DEFAD.
- Under marginal-cost pricing:
  - The firm sets p_c, which corresponds to demand $q_c = P^{-1}(p_c)$.
  - Net consumer surplus is the area DGBD. (Explain)
  - Firm's profit = $p_c q_c$ - cost = area BGAB.



- Total surplus = area DGAD.

- The dead-weight welfare loss is equal to the area EGFE (difference between DEFAD and DGAD).

- Can monopoly ever be welfare enhancing?
  - Yes, if there are significant economies of scale in production (*i.e.*, $c'(q)$ is decreasing).

Two types of monopolies:

1. Natural (or *inevitable*) monopolies
   - Occur when the cost structure deters entry.
     - Large entry costs or significant economies of scale.
     - If large firms are always more efficient, then it doesn't make sense to have more than one.
   - Some examples?
     - Electric utility companies

    - Telephone networks
    - Public transportation (in many settings)

2. Unnatural monopolies

    - Price fixing (cartels) and tacit collusion
        - Firms agree explicitly or implicitly to keep prices above competitive levels.
        - Illegal in the US and most developed countries.
    - Intellectual property
        - Either private trade secrets or government protection (*e.g.*, patents).
        - We will talk about it later in the quarter.
    - Lobbying and protection
        - Very harmful, both from static and dynamic perspective.
        - Try to stop by restrictions on lobbying.
        - *e.g.*, "Anti-Tesla" dealer laws: in many states in the US, vehicles must be sold through an independent dealer.
    - Temporary advantage / first-to-market
        - Resolves itself over time.
        - Transparency and low bureaucracy helps aid entry.

References

Whinston M.D., (2008), *Lectures on Antitrust Economics* (Cairoli Lectures), MIT Press.