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Fundamentals of welfare economics and implications for energy regulation

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**NARUC/ERRA Training in Energy Regulation and Tariff Development
November 5 - 8, 2007, Prishtina, UNMIK/Kosovo**



Focus of the lecture

- ❑ Welfare economics
- ❑ Welfare economics and monopolies
- ❑ Monopolies vs. perfect competition
- ❑ Regulating monopolies
- ❑ Consumer surplus and producer surplus



Welfare economics

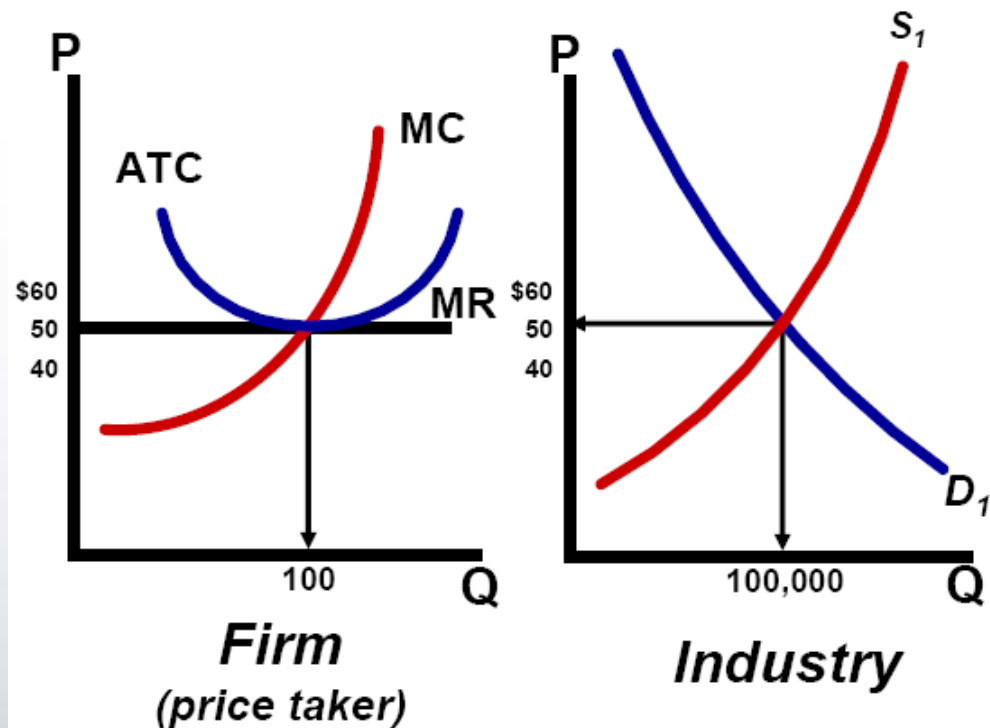
- ❑ Market outcome and government intervention
- ❑ Efficiency vs. Equity
- ❑ Positive vs. Normative criterion
- ❑ When should government intervene?
 - ❑ Externalities - Taxes
 - ❑ Imperfect competition (Monopolies: natural or artificial)
 - ❑ Nationalization
 - ❑ Regulation



Types of monopolies

- ❑ Artificial monopolies – Mergers or artificial barriers to entry
- ❑ Natural monopolies - existence of substantial economies of scale (examples are several public utilities)
 - ❑ Trade-off
 - ❑ More firms and no productive efficiency
 - ❑ Less firms and monopoly pricing (no allocative efficiency)
 - ❑ Benchmark is perfect competition

Perfect competition vs. natural monopoly



- $P=MC$
- $P = \text{minimum ATC}$

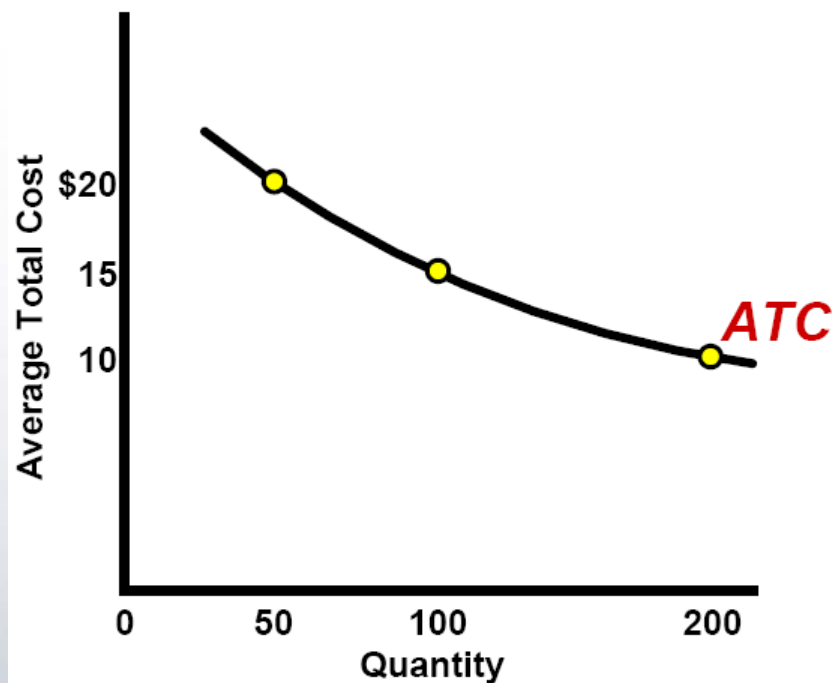


Perfect competition vs. natural monopoly

- ❑ Pure monopoly:
- ❑ Single seller
- ❑ No close substitutes
- ❑ Very difficult entry
- ❑ Non price competition

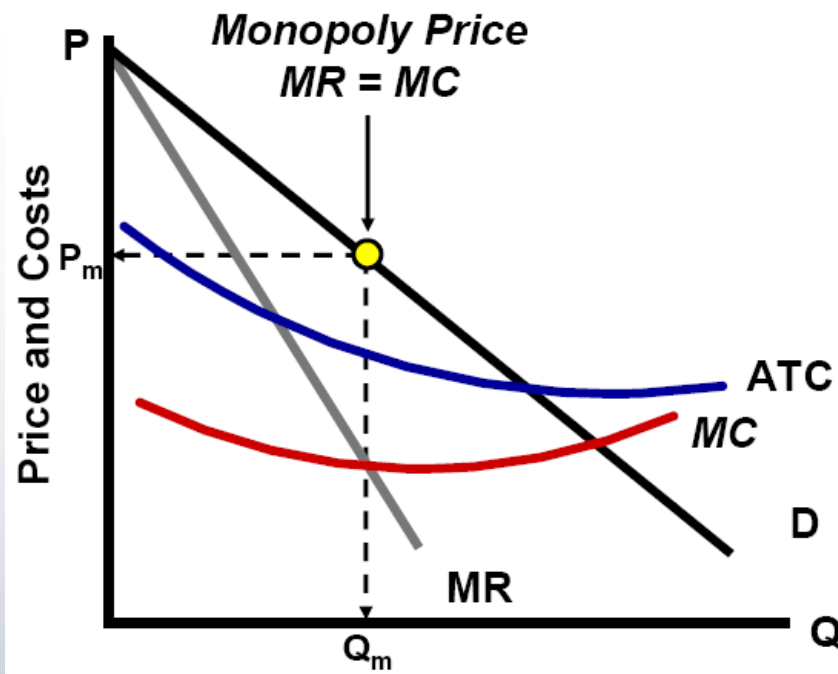
Perfect competition vs. natural monopoly

THE NATURAL MONOPOLY CASE



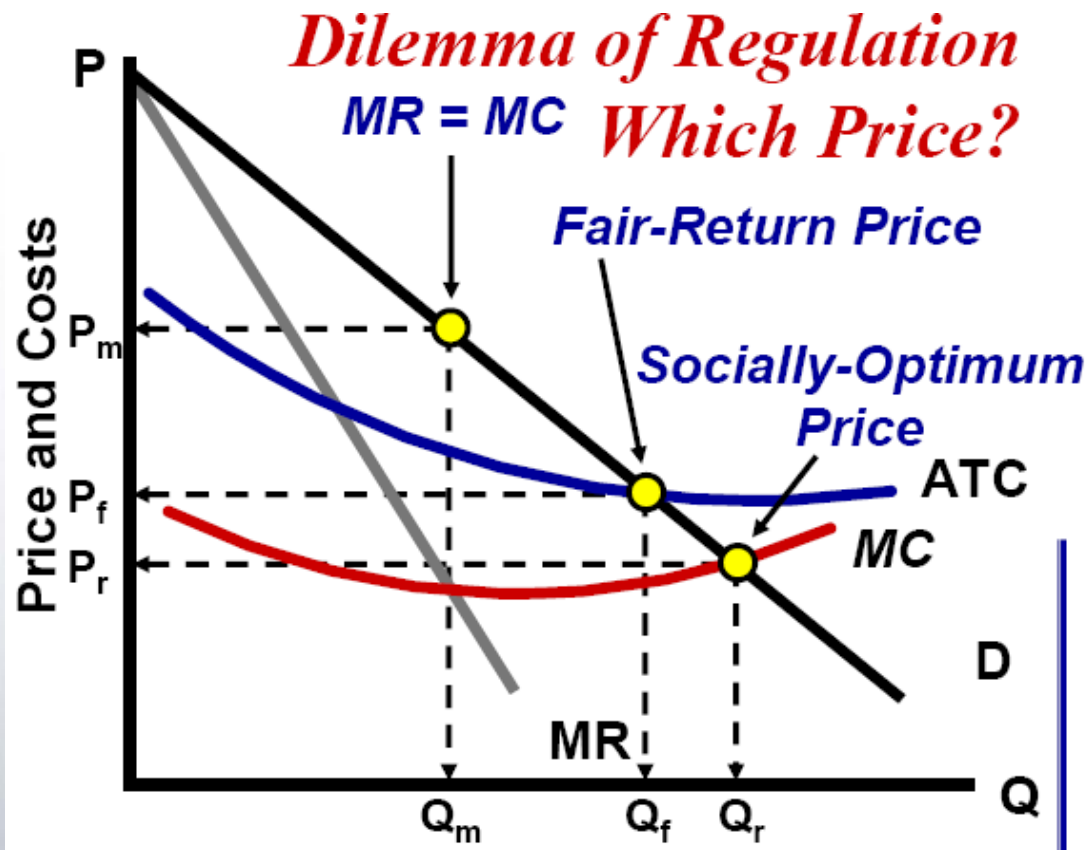
- Average total cost decreases continually and reaches its minimum at a very high output (this could satisfy the total market demand for a given product. Since ATC is decreasing, MC would lie below the ATC.

Pricing under natural monopolies

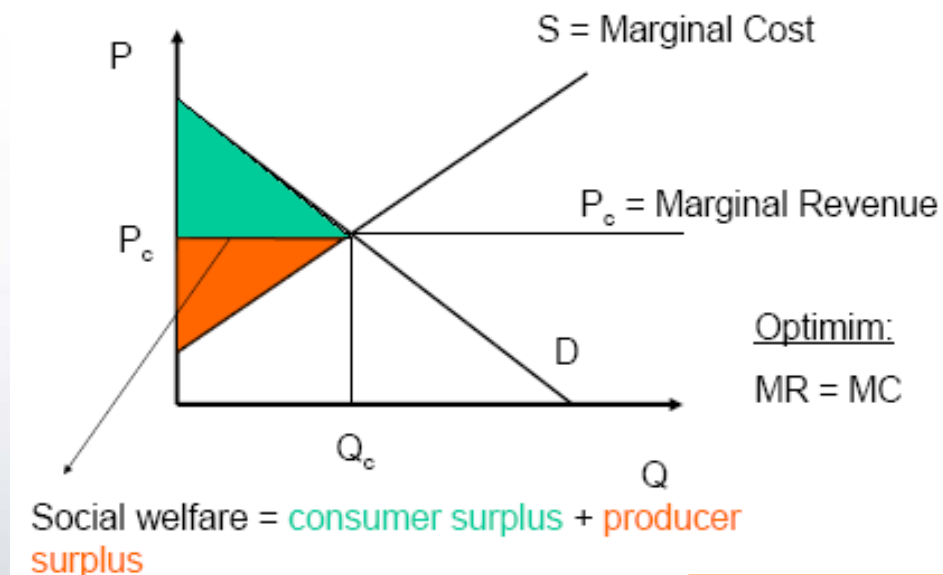


- Monopoly would produce less than socially optimal and charge a higher price. In conflict with the social welfare goal. What government intervention is necessary?

Regulation – Fair price vs. socially optimal price



Consumer surplus vs. producer surplus





Regulators involve some risks

- ❑ Asymmetric information about true costs
- ❑ Capture of regulators from monopolies

If costs are overestimated then consumer surplus would be reduced and monopoly profits would increase