Intellectual Property, Competition and Innovation

Some Partially-Baked Ideas

Hal R. Varian

UC Berkeley

http://www.sims.berkeley.edu/~hal

Textbook analysis

- Typical analysis starts with monoply
  - What are losses?
    - Prices are too high, output is too low
  - Where did monopoly come from?
    - Government
    - Returns to scale
    - Bad behavior
  - How to remedy?
    - Deregulate
    - Regulate
    - Adjudicate

Problems

- In many (most?) cases firms compete to acquire monopoly
  - Patent races
  - Lock-in
  - Network effects (demand-side economies)
  - Supply-side economies of scale
  - Competing proprietary standards
- If competition is intense, profits may be competed away
  - Of course, still have deadweight loss!

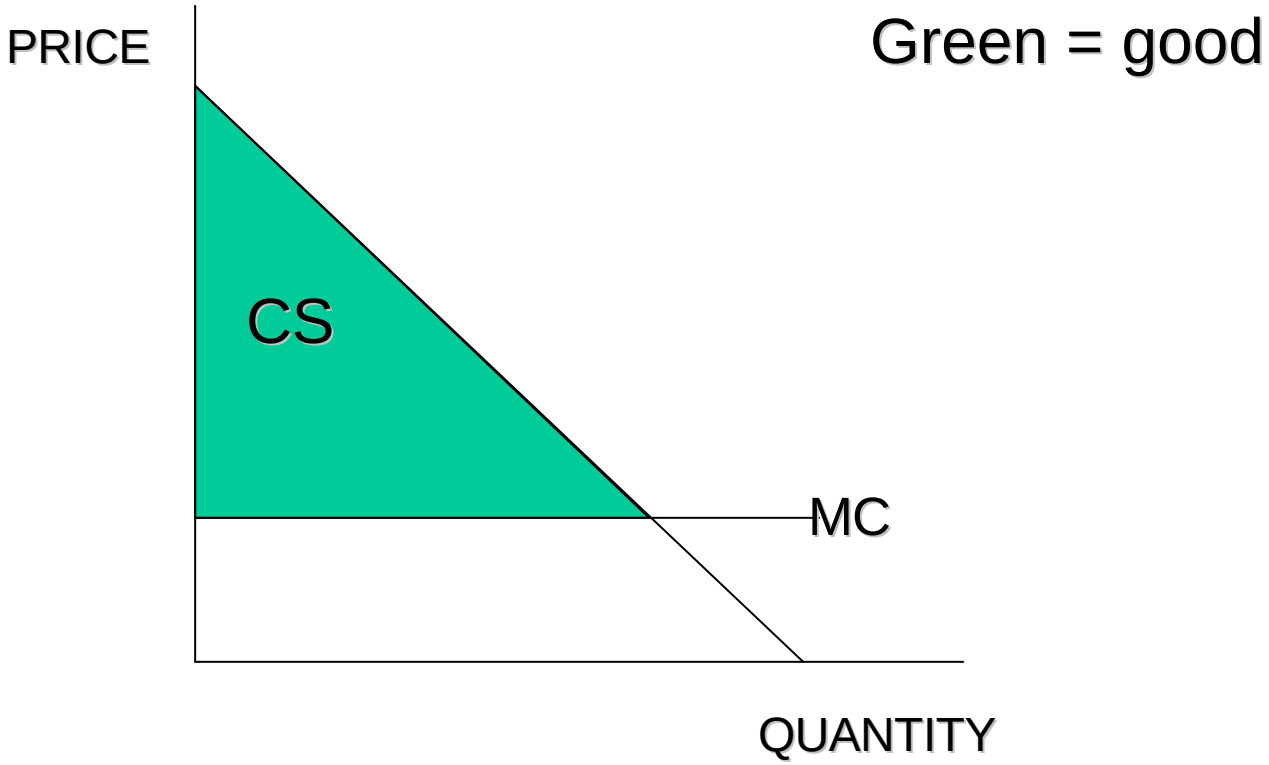
Deadweight loss

- Deadweight loss of monopoly is the lost output resulting from price greater than MC
- Unsatisfactory today for several reasons
  - A (flat) price *has to be* greater than MC when there are returns to scale
  - It is common to engage in price discrimination
    - Efficiency requires *marginal* price = marginal cost
    - Often efficiency loss is due to self-selection constraints
  - There can be many other costs of monopolies
- These factors have always been present, but are of growing importance…

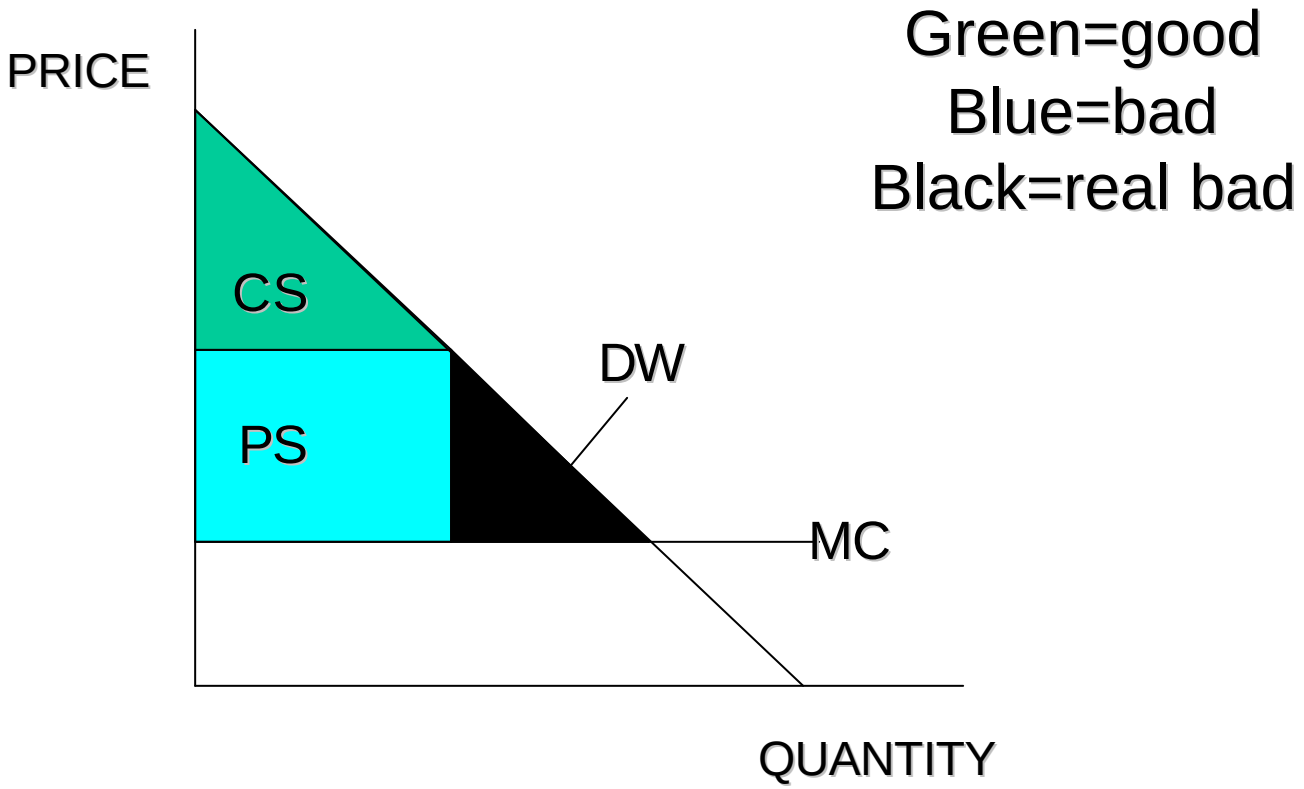
Price discrimination

- Price/quality discrimination is facilitated by
  - Improved monitoring technology
    - Computer mediated transactions
    - Purchase history
    - Loyalty clubs, etc.
    - Licensing as opposed to sales for both info goods *and* physical goods
    - More and more price will depend on conditions of use
  - Attempts to avoid head-to-head competition in industries with returns to scale

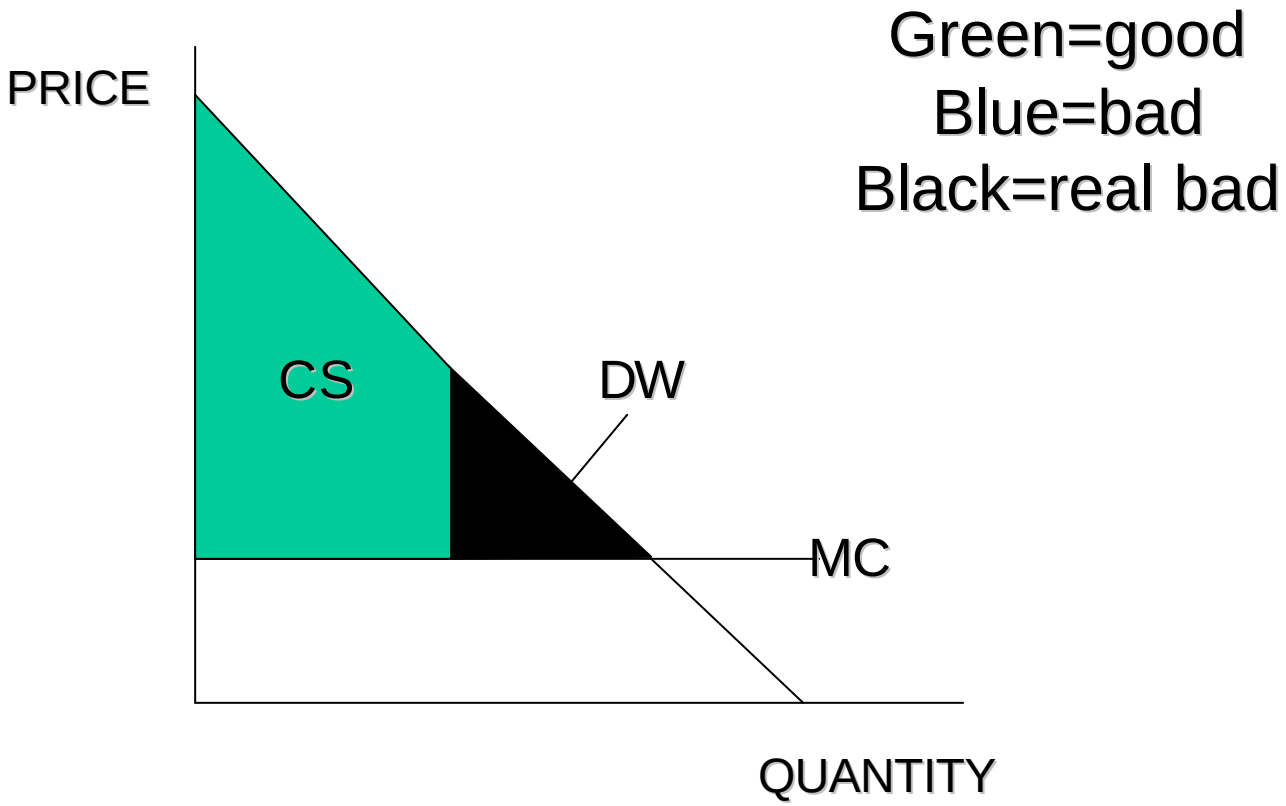
Econ 1: perfect competition



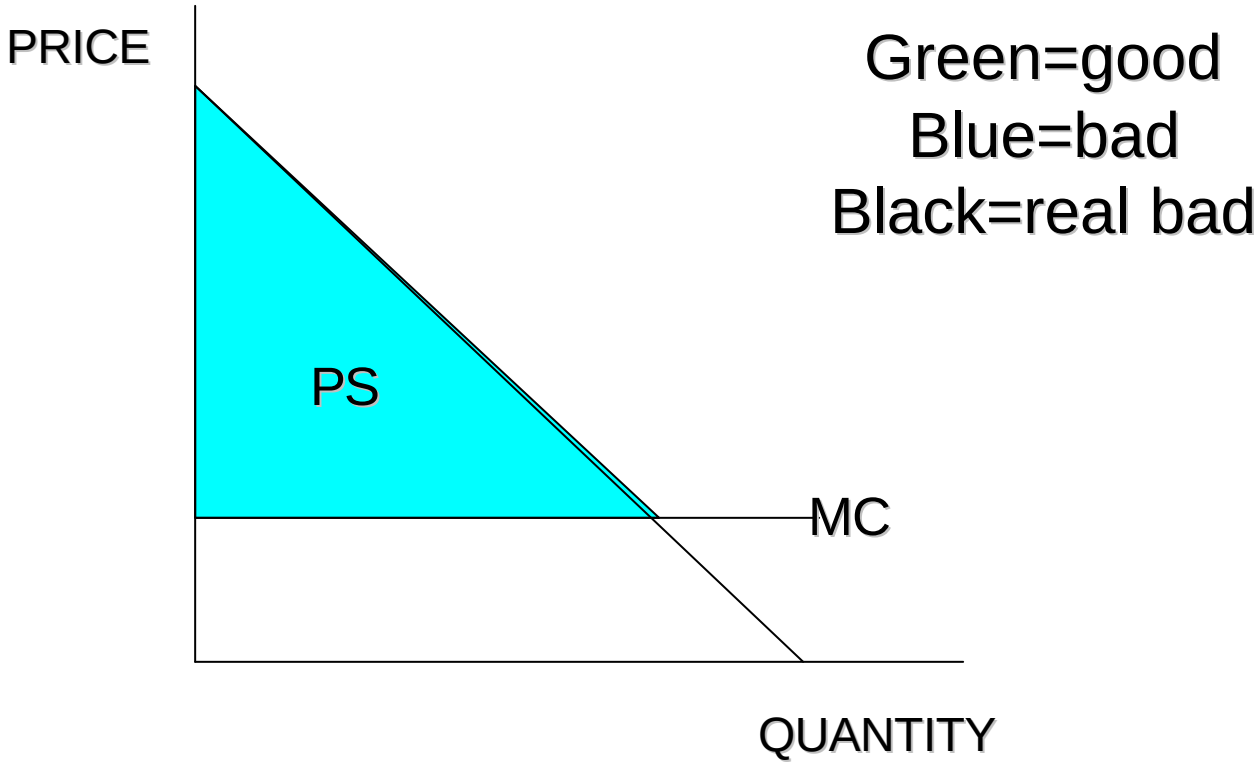
Econ 1: Perfect monopoly



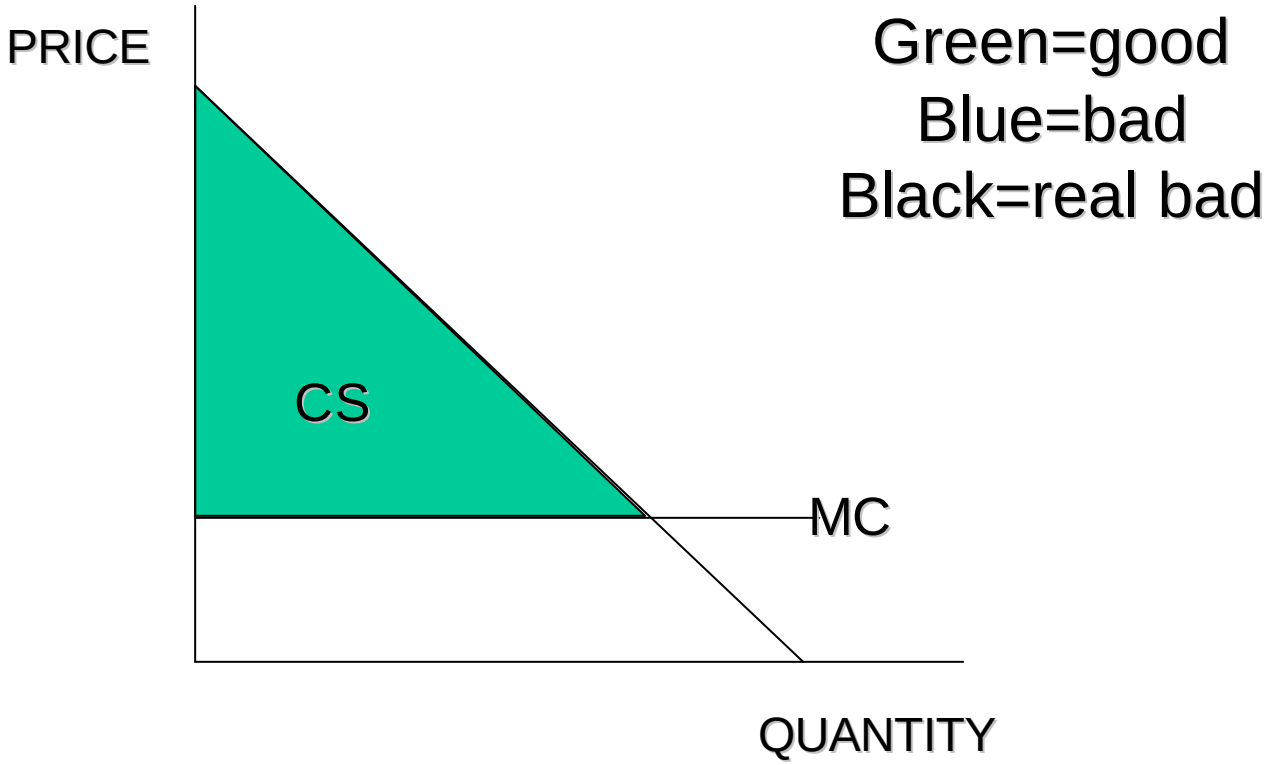
Econ 1: Perfect competition for monopoly



Econ 1: Perfectly price discriminating monopolist



Compete to be (price discriminating) monopolist



What's to worry?

- **3rd Theorem of Welfare Economics:** *If firms compete to become a price discriminating monopolist, then we get efficient outcome*
  - True, this is extreme case, but so are perfect competition and perfect monopoly
  - We have to take it seriously, particularly in presence of increasing returns, lock-in, network effects
  - Policy implications: look at entire history, evaluate impact of price discrimination appropriately (law v economics)

What's *wrong* with this case?

- Other social costs to monopoly
  - Quality choice: can go either way
    - Too high: AT&T (regulation, entry barriers)
    - Too low: [your favorite example]
  - Innovation: incentives can go either way
    - Invent: monopoly has the money
    - Deploy: incentive to save costs, but not destroy revenue

What's wrong, continued…

- Competition to acquire monopoly doesn't always benefit consumers
  - Rent dissipation
    - Lock-in: all expenditures to acquire monopoly benefit consumers
    - Rent seeking: all expenditures to acquire monopoly are social costs
  - Path dependence, luck, strategy, mistakes
  - Races, preemption and duplication of effort

What's wrong, continued

- Time consistency: when monopoly phase arises will consumer be willing to pay?
- Big difference between:
  - 1 year cell phone contract
  - 3 year ink jet printer life
  - "You should pay a higher price for Excel because your father got a great deal in 1985."

What's wrong, continued

- Tactics to acquire, maintain, extend a monopoly
  - Monopolist may try to prevent socially beneficial entry
  - Monopolist may be able to extend monopoly in socially detrimental ways
  - Want fair competition in future challenges, so best player wins, not always an incumbent

Summary

- Textbook case is less and less relevant to real world (mea culpa)
- P>MC is inevitable sometimes
  - Price discrimination is critically important
  - What's important for efficiency is *marginal price*=MC
- Competition to acquire monopoly needs unified, systematic treatment
- Impact of monopoly on innovation, quality, future competition are critical issues