Lecture 19: Imperfect Competition and Monopoly

Clicker Question
Perfect and Imperfect Competition

- Perfect Competition
  - a) One homogeneous product
  - b) Many buyers and sellers
  - c) Voluntary exchange
  - d) Perfect information
  - e) Rational self-interested agents

- Competition is imperfect when one or more of these features doesn’t apply.

- Various forms/degrees of imperfect competition can be defined as a) to e) are modified in different ways.

Imperfect competition from a small number of sellers or from product differences.

- Monopoly (one dominant firm)
  - De Beers diamonds

- Duopoly (two dominant firms)
  - Soft drinks: Coke and Pepsi
  - Credit Cards: Mastercard
  - Visa
Oligopoly (a few firms)

- Automobile market – a few firms:
  Honda, Toyota, Chrysler, Ford, GM, etc..

Monopolistic Competition
(many firms with differentiated products)

- restaurants
- hair stylists
- hardware stores

These firms can raise prices above the competitive equilibrium.
Imperfect Competition from Limited Information

- **Adverse Selection**: bad products or bad customers that cannot be identified.

- **Moral Hazard**: customers who can’t be supervised buy too much (or behave badly) when others are paying.

- **Example**: Used cars
  - Used cars often have *hidden* problems [*adverse selection*].
  - So worried buyers have low WTP.
  - Equilibrium market prices are low.
  - Owners won’t sell good cars.
  - Vicious circle—market works poorly.
Example: Health Insurance

- Buyers of health insurance tend to be less healthy than average. [*adverse selection*].

- Insured people may see the doctor too often and get too many medical tests [*moral hazard*].

- Insurance companies respond with high prices.

- Healthy people don’t want to buy insurance.

- Vicious circle—private market works poorly.

Imperfect competition in markets with less-than-voluntary exchange:

- college textbooks

- healthcare
Imperfect competition in markets with irrational consumers:
- wishful thinking
- temptation
- stupidity

These imperfections can lead to high prices or inefficiency or both.

Market Power

- A firm has market power if it can raise its prices without losing all of its customers.
- This happens when no other firm is producing the same (or very similar) product.
Differences in products (real or apparent) that create market power often come from:
- minor product characteristics
- location
- customer service
- marketing

Most real-world firms obtain some degree of market power through a deliberate strategy of *product differentiation*.

Firms with market power can raise prices and increase profits.

**Clicker Question**
Monopoly

- A firm is a **monopoly** when it is the only firm producing a given product.
  - i.e. when no other firm produces a good substitute for its product.
- Monopolies have market power. *Why?*
  - Because the monopoly is the only firm in the market,…
  - …the monopoly faces the entire market demand curve.
- The monopoly can create an **artificial scarcity** and obtain **economic rents** by restricting production.
- Then, the monopoly can move up the demand curve and charge a higher price *(as we shall see).*

What factors allow monopolies to exist?

- **Patents and Copyrights** (Intellectual Property Rights)
  - Product Patents: New products
    —Post-it notes, medicines
  - Process Patents: Production processes that lower costs—e.g. Kevlar
  - Copyrights: Protects the expression of an idea—novels, works of art
Control over important inputs
- De Beers

Government Licenses and Franchises
- Yosemite Concession Services Corporation

Decreasing Costs (Natural Monopolies)
- Cost per unit keeps dropping as more output is produced up to the quantity demanded.
  - Electricity, Amtrak

Network economies
- Microsoft Windows Operating System
- Apple OS X

Monopoly: Restricting Production
- The monopoly faces the market demand curve,
- and its MC curve is the market MC curve.
- Social surplus would be maximized by producing $Q^*$ and setting price $P^*$.
- But by restricting production,
- the monopoly can sell at a higher price,
- and obtain *monopoly rents* (taken from $CS$).

- The monopoly loses some $PS$ because of reduced production,
- but at $P_M$ and $Q_M$, monopoly rents are larger than the lost $PS$.
- Consumers lose even more.
Monopoly and Social Surplus

- When monopolies raise price and restrict production,…
  - consumer surplus is transferred to the monopoly in the form of monopoly rents,…
  - but the output reduction decreases total social surplus.

- Monopoly behavior also affects surplus in other more important ways.

- These behaviors will be analyzed in the next lecture.

Clicker Question
Marginal Revenue and Market Power

**Total Revenue (TR)** is the money a firm obtains by selling its output.

**Marginal revenue (MR)** is the additional revenue obtained from selling another unit of output.

In a perfectly competitive market,

- a firm’s output does not affect the price,…
- so a competitive firm obtains the same added revenue (the price) for each additional unit sold.

Therefore, **MR = P**.

But any firm with market power (including a monopoly), faces a downward-sloping demand curve.

Suppose the firm cannot price-discriminate *charge different prices to different consumers*.

- Then, if it lowers the price of an additional unit in order to sell it,
- it must lower its price for **ALL** units that it sells.
- To find the marginal revenue, you start with the *price* it receives for the additional unit…
- and then *subtract* the *revenue loss* on its other units caused by the price drop.

Therefore, **MR < P**.
Marginal Revenue

- Suppose a firm facing demand $D$ produces $q-1$ units.
- If the firm produces one more unit...
- it cannot sell it for more than price $p$,...
- so revenue increases by $p \times 1 = p$.
- But the price on the other $q-1$ units drops by $\Delta p$,
- so revenue drops back by $(q-1)\Delta p$.
- Therefore, $MR = p - (q-1)\Delta p$.

[For those who like calculus:]
If goods are perfectly divisible, increase production by $\Delta q$ and take the limit as $\Delta q$ goes to 0.

$$MR = p - q \left. \frac{dp}{dq} \right|_{\Delta q}$$

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