# Price Discrimination

- So in general a monopolists optimal tariff is to set a positive fixed fee and a variable fee that is lower than the monopoly price.
- So total surplus is greater then under uniform pricing.
- This basic idea can be extended to the case where there is more than one type of consumer.
- Suppose there are two types of consumers.
- And the type 2 users are such that $CS_2(p) > CS_1(p)$ for all values of $p$.
- Therefore the seller would want to set different two part tariffs for each type.

# Price Discrimination

- If the seller could determine each consumer's type he would set $p = c$ and $f = CS_i(p)$.
- But this usually is not feasible and sometimes illegal.
- However, the seller can offer consumers the choice of different two part tariffs.
- This isn't so easy- for example offering the choice of $p = c$ and $f = CS_i(p)$ wouldn't work.
- That's because both types of consumers would prefer the two part tariff where $f = CS_1(p)$.
- The seller must make sure the type 2 consumers have no incentive to adopt the first two-price tariff, as well as consume a positive amount.

# Price Discrimination

- The seller must take into account the incentive compatibility and participation constraints.
- It can be shown that the optimal tariffs for the firm to set is
- $f_1 = CS_1(p_1) \quad p_1 > c$
- $f_1 < f_2 < CS_2(p_1) \quad p_2 = c$
- So the type 1's pay a lower fixed fee but a higher variable fee.
- The key here is that each consumer type chooses the two part tariff designed for them because they want to.

- The seller does not need to identify the group each consumer belongs to.
- Consumers are sorted by self selection.
- This solution differs from the one type case in two ways.
- Type 1 pays a price exceeding marginal cost, so the solution is not efficient.
- Type 2 consumers pay a fee that is less than their WTP.
- So the seller's profits are lower than would be if it could differentiate consumers directly.

# Price Discrimination

- This is just one example of direct identification of consumer group being impossible but the seller attempting to indirectly sort consumers.
- Versioning is the practice of offering a number of packages of price and quality level to sort consumers according to their willingness to pay.
- One extreme example of versioning is when firms reduce the quality of some of their existing products in order to price discriminate.
- These are referred to as damaged goods.
- Examples include restricted fares and student versions of some software packages.
- In these cases in which production costs are the same for the different quality products.

# Price Discrimination

- These are examples where price discrimination can lead to a strict Pareto improvement.
- The firm, the high valuation customer and the low valuation customer are all better off.
- An alternative strategy for sorting consumers and price discriminating between them is bundling , a.k.a. tie in sales.
- Leading examples include movie distribution and software packages such as Office.
- The latter is an example of a package of applications the costs considerably less than the sum of purchasing the individual components.
- This is a setting where the seller can indirectly discriminate by mixed bundling- that is offering the choice between purchasing the bundle of one of the separate components.

# Price Discrimination

- Another potential opportunity for price discrimination occurs with durable goods.
- Nondurable goods are defined by demand flows.
- The decision to buy a durable good has everything to do with timing.
- Thus pricing of durable products offers an additional dimension of price discrimination-time.
- By setting a high price today, high valuation buyers will take it.
- And in the future, set a low price that will attract additional sales from low valuation buyers who have not yet made a purchase.

# Price Discrimination

- This could turn out to be a curse if high valuation customers decide to wait and purchase at the lower price.
- One way for the seller to avoid this is for the seller to commit to non-price discrimination over time.
- All these examples of price discrimination bring up the interesting, "philisophical" issue of the legality of price discrimination.
- Is it legal to price discriminate? Should it be?
- We saw in the monopolist example the trade-offs that can occur with price discrimination.
- Specifically, the tradeoff between efficiency and consumer welfare and
- the tradeoff between fairness and the objective of making the good available to as many consumers as possible.

# Price Discrimination

- If distribution concerns are not very important, then a case can be made in favor of price discrimination.
- However, if they are a case can be made for disallowing it.
- Another issue governing public policy decisions is that price discrimination can be anticompetitive, such as stated in the Robinson-Patman Act.
- An example of this is the Supreme Court ruling against Budweiser which concluded it violated the R.-B act by lowering the price it charged in St. Louis.
- A similar case was settled after a class action suit was brought against pharmaceutical companies.
- The suit alleged the companies offered lower prices to big managed care companies and HMOs and higher prices to drugstores and big pharmacy chains.
- At issue in both examples was whether the two tiered pricing stemmed from market forces or from a price fixing conspiracy