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
  - \( f_1 = CS_1(p_1) \) \( p_1 > c \)
  - \( f_1 < f_2 < CS_2(p_1) \) \( p_2 = c \)
- 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.
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.
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.