The Two-Part Tariff

- Pricing decision is setting the entry fee (T) and the usage fee (P)
- Choosing the trade-off between free-entry and high-use prices or high-entry and zero-use prices
- Single Consumer
  - Assume firm knows consumer demand
  - Firm wants to capture as much consumer surplus as possible
Two-Part Tariff with a Single Consumer

Usage price $P^*$ is set equal to MC. Entry price $T^*$ is equal to the entire consumer surplus. Firm captures all consumer surplus as profit.
Two-Part Tariff with Two Consumers

- Two consumers, but firm can only set one entry fee and one usage fee
- Will no longer set usage fee equal to MC
  - Could make entry fee no larger than CS of consumer with smallest demand
- Firm should set usage fee above MC
- Set entry fee equal to remaining consumer surplus of consumer with smaller demand
- Firm needs to know demand curves
The price, $P^*$, will be greater than MC. Set $T^*$ at the surplus value of $D_2$.

\[ \pi = 2T^* + (P^* - MC)(Q_1 + Q_2) \]

more than twice ABC

$D_1 = \text{consumer 1}$

$D_2 = \text{consumer 2}$
The Two-Part Tariff with Many Consumers

- No exact way to determine $P^*$ and $T^*$
- Must consider the trade-off between the entry fee $T^*$ and the use fee $P^*$
  - Low entry fee: more entrants and more profit from sales of item
  - As entry fee becomes smaller, number of entrants is larger and profit from entry fee will fall
The Two-Part Tariff with Many Consumers

- To find optimum combination, choose several combinations of P and T
- Find combination that maximizes profit
- Firm’s profit is divided into two components
  - Each is a function of entry fee, T assuming a fixed sales price, P
Two-Part Tariff with Many Different Consumers

Total profit is the sum of the profit from the entry fee and the profit from sales. Both depend on $T$. 

\[ \pi = \pi_a + \pi_s = n(T)T + (P - MC)Q(n) \]

$n = entrants$
The Two-Part Tariff

- Rule of Thumb
  - Similar demand: Choose P close to MC and high T
  - Dissimilar demand: Choose high P and low T
  - Ex: Disneyland in California and Disney world in Florida have a strategy of high entry fee and charge nothing for ride
The Two-Part Tariff With a Twist

- Entry price (T) entitles the buyer to a certain number of free units
  - Gillette razors sold with several blades
  - Amusement park admission comes with some tokens
  - On-line fees with free time
- Can set higher entry fee without losing many consumers
  - Higher entry fee captures either surplus without driving them out of the market
  - Captures more surplus of large customers
Polaroid Cameras (Ex. 11.4)

- In 1971, Polaroid introduced the SX-70 camera
- Polaroid was able to use two-part tariff for pricing of camera/film
  - Allowed them greater profits than would have been possible if camera used ordinary film
- Polaroid had a monopoly on cameras and film
Polaroid Cameras (Ex. 11.4)

- Buying camera is like entry fee
- Unlike an amusement park, for example, the marginal cost of providing an additional camera is significantly greater than zero
- It was necessary for Polaroid to have monopoly
  - If ordinary film could be used, the price of film would be close to MC
  - Polaroid needed to gain most of its profits from sale of film
Polaroid Cameras (Ex. 11.4)

- Analytical framework:
  \[ \pi = PQ + nT - C_1(Q) - C_2(n) \]

  \( P \) = price of film

  \( T \) = price of camera

  \( Q \) = quantity of film sold

  \( n \) = number of cameras sold

  \( C_1(Q) \) = cost of producing film

  \( C_2(n) \) = cost of producing cameras
Polaroid Cameras (Ex. 11.4)

- In the end, the film prices were significantly above marginal cost
- There was considerable heterogeneity of consumer demands