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Economics 201

Pricing Strategies for the Monopolist

When firms can set their own price, then there are a variety of strategies that each firm may follow. Naturally, if a firm is profit maximizing, then the strategy chosen will be that which brings in the most (economic) profit. Three of these approaches, linear pricing, price discrimination and the two part tariff, are discussed below.

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1. **One price for all units sold.** In economics circles, this approach is referred to as linear pricing and is the most commonly discussed approach in the microeconomics course. A firm will adjust the quantity of output it supplies until finding a point where the marginal revenue associated with selling that quantity is equal to the marginal cost of producing that quantity. That is, the firm will produce where MR = MC.

When following this approach, the firm will then charge a specific price that applies to each unit sold. If we consider this in the context of a monopolist choosing an output level, then we have the graph below.
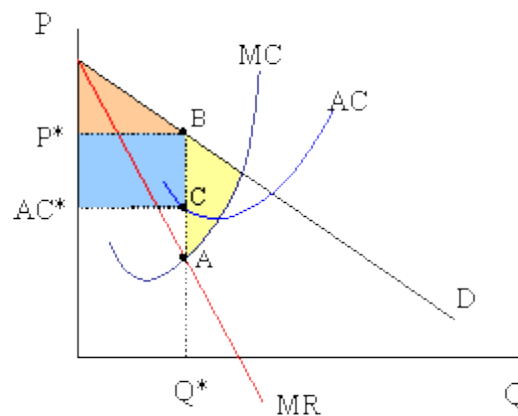
The monopolist finds where MR = MC, which occurs at pt A. Directly below pt A, we see the monopolist's output (Q*). Going up from pt A to pt B, and then left to the Price axis, we get the monopolist's price (P*). Profit (blue area) is the difference between the price and average cost associated with supplying Q* units of this good. AC* represents the monopolist's average cost of supplying Q* units, which comes from where the dotted line (up from Q*) hits the AC curve at pt C.

Just as with profits, we also see that there is some consumer surplus (orange area above the price and below demand) and deadweight loss (yellow area to the right of Q*, between demand and marginal cost). The deadweight loss arises because the firm produces an inefficient amount of output. That is, the firm is not producing where P = MC, which is considered the efficient amount of output.

Here, the firm charges one price (P*) for all units sold. If two consumers purchase the same item, but at a different price, then the difference in price corresponds with what must be the different cost of supplying these two consumers. For example, if consumer A buys one unit of this good at P*, and consumer B buys one unit for P** (where P* > P**), then it must be true that the price of B's unit arose from a shift in the MR or MC curve. It's also possible that there was a transportation cost (e.g. shipping and handling) tacked onto A's price that wasn't reflected in the graph.

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2. **Different prices for different consumers.** This approach is referred to as price discrimination and, unlike the first approach, corresponds with differences in what consumers are willing to pay, not as the result of changes in demand or differences in supply cost.

For example, entertainment providers often charge different prices to students, the general public, seniors, etc., even though the cost of supplying that entertainment to each consumer is identical. Profit maximizing movie theatres, carnivals, etc., realize that some consumers are willing to pay more, or are able to pay more, for entertainment than other consumers. As willingness to pay is not an observable variable, firms must consider other variables that are observable like age, income or time of purchase, which are likely to be correlated with willingness to pay.

Assume that there is only one form of entertainment in town, and that the movie theatre is a monopoly provider of this entertainment. Once the movie theatre manager determines what variables are correlated with willingness to pay, the manager will charge different prices to each of the different identifiable groups. The result is illustrated in the graph (next page).

Rather than charge just P_1 (which corresponds with P* in the one price for all units sold approach), the theatre owner can charge prices P_2 and P_3 to seniors and youth (under 18) respectively. Both of these prices will attract additional sales, which would never have occurred when the theatre charged P*. Because these groups can buy tickets at a price that is above AC, the theatre can exact additional profits (given as the pink and greenish areas to the right of the original blue profit box corresponding with P_1).
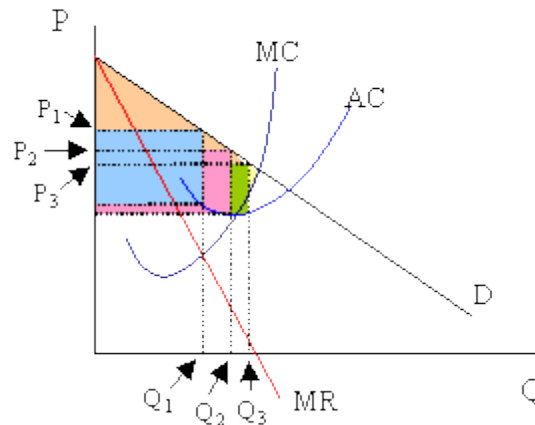
Note that the market (if this theatre is a monopolist) generates additional consumer surplus (orange areas above each price) and dramatically decreases the deadweight loss (still dark green, to the right of Q_3 and between demand and MC) that occurred when only one price was charged for all units sold. Deadweight loss became smaller because more units were sold. Therefore, this approach accomplishes three important objectives: the firm receives additional profits, consumer surplus has increased, and the market output is closer to what we (society) consider an efficient level of output (i.e. where P = MC for the last unit sold).

Only one problem remains for price discriminating firms like this theatre owner. If general admission consumers are able to buy tickets at youth prices, then the whole pricing strategy could fall apart. That is, the theatre owner could possibly become worse off by attempting price discrimination instead of charging one price for all units sold. To make price discrimination successful then, the movie theatre must prevent the resale of movie tickets between the different consumer groups. One way to do this might be to color-code the tickets, so that adults couldn't have their kids buy tickets for the whole family to get adults and kids in at youth prices.

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3. **Set up a "club" and charge one price for all units.** This approach is referred to as a two-part tariff. Consumers first pay a flat (fixed) fee which effectively gives them the "right" to buy as many units of a good as they want at a given price. The flat fee has many names. Sometimes it's called a membership fee, at other times it's a hookup fee, and in some situations the fee is called an entry fee. In each case, however, all consumers will pay the same fee regardless of whether they end up buying anything (thereafter) or not. Once the fee is paid and the consumer is effectively *inside the store*, each consumer can purchase varying amounts of the good being sold.

This pricing strategy has many examples. The State Fair charges an entry fee, and then specific prices for each ride. Some discount stores (e.g. Sam's Club) ask shoppers to first pay a membership fee, before going inside the store to purchase various products at their discounted prices.

If the individual prices of each good exceed the good's average cost, the firm will make profit. Additional profits can also be brought in, however, with the fixed fee. The amount of fixed fee revenue collected depends on the available consumer surplus. As the firm sets a lower price for the units supplied, the consumer surplus becomes larger. Larger consumer surplus makes it possible for the firm to collect more revenue by either charging a larger membership fee or by adding members.

How might this approach work if the theatre manager decided to use this pricing approach instead of either of the previous two approaches? Again, we can see this with the use of another graph.
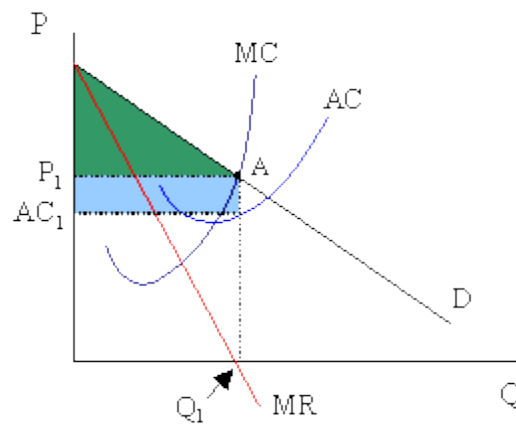
The manager could charge an entry fee, something that allows movie-goers to enter the theatre and buy their tickets. Because consumers are willing to pay an entry fee that is no greater than their potential consumer surplus, the movie theatre realizes that it is possible to collect up to the amount of the aggregate consumer surplus from this market (the dark green area above the price P_1). The lower the price, the greater the market consumer surplus and the higher the (potential) entry fee revenues. Therefore, we should expect the movie theatre to set low ticket prices as an inducement to get consumers to pay the entry fee. While lower prices would not bring monopoly-like profits, the entry fee revenues could potentially raise profits above those attained by the other monopoly's one price for all units sold strategy.

In the graph, the movie theatre sets a price that is equal to marginal cost (to do so requires setting the price where MC cross the demand curve at pt. A). This price brings forth profits that are

represented by the blue profit box. If the entry fee is set high enough, the movie theatre can add the entire green consumer surplus area to total profits also.

Similar to the price discrimination approach, we see that the two-part tariff pricing strategy may lead to a big reduction in deadweight loss and concurrent increase in output. Consequently, we can see that the monopolist may not be as inefficient as first believed with the one price for all units sold approach. We should concede as well, however, that consumer surplus may potentially disappear with the deadweight loss if the firm can successfully set prices that are equal to each consumer's maximum willingness to pay (in the case of price discrimination) or set a fixed fee that allows the firm to secure all of each consumer's consumer surplus.