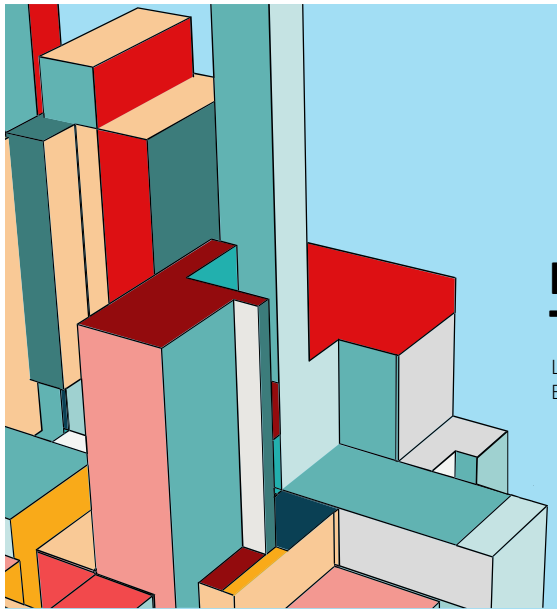

ECONOMICS TOPIC 9

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TOPIC 9: PRICING STRATEGIES

0 INTRODUCTION

Economic theory says that profit maximised when a firm equates marginal cost and marginal revenue, *ie* profit is maximised when *MC = MR*.

In practice, a firm is unlikely to know their exact costs or revenues.
Also, the price a firm charges for a good may vary:

- between customers (price discrimination)
- over the life cycle of the product
- Different aims of the firm, *eg* maximising sales or profits
- The level of competition faced
- The information held on demand and costs.

Price discrimination = where a firm sells the same product at different prices

1.1 PRICING & MARKET STRUCTURE: FIRM'S POWER OVER PRICES

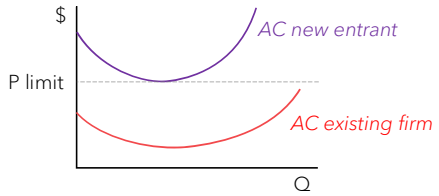
The level of competition faced is one of the factor why the price a firm charge for a good may vary.

- **Perfect competition –** a firm has no control over the price it charges, but must take the market price as determined by demand and supply (price taker).
- **Imperfect competition –** a firm will have a degree of control over the price it charges for its product(s). This control will typically be greater, the fewer rivals the firm has and the greater the difference between its product(s) and those of its rivals.
- **Oligopolistic competition –** pricing will reflect *interaction* between firms. If they compete, then prices are likely to be lower than if they *collude* and set prices and output jointly.
- **Monopoly (and oligopoly) –** pricing will reflect the consideration of the possible entry of new firms into the market. In general, lower prices make entry more difficult for new firms, whereas higher prices may encourage new entrants.

1.2 LIMIT PRICING

Limit pricing is where an existing firm deliberately keeps it prices low so as to deter new entrants to the market. Although the firm's profits may be reduced in the short run, this strategy may lead to greater long-run profits if new entrants are successfully deterred and competition thereby reduced. This approach relies on the existing firm having lower average costs than potential new entrants.

This limit pricing strategy is usually done by **Monopoly** and **Oligopoly.**



What would be the reason why the existing firm could operate at such lower average cost?

2.1 ALTERNATIVE PRICING STRATEGIES: COST-BASED

Firms should set their profit maximizing output where *MR = MC*.
However, costs, revenue, and demand are difficult to predict.
Other pricing and output strategies are therefore needed.

Average-cost or **mark-up pricing –** a price (*P*) is derived by adding a certain percentage (mark-up) for profit on top of average costs (average fixed costs plus average variable costs)

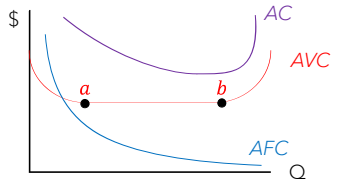
P = AFC + AVC + profit mark-up

SRAC tend to be used for this purpose, as estimates are more reliable than LRAC.

This approach removes the need for the firm to know its marginal costs and revenue curves. However, firms still needs to know its average cost at each output level.

2.1 ALTERNATIVE PRICING STRATEGIES: COST-BASED

The average total cost (*AC*) curve often varies with a *U-shape*. However, the average variable cost (*AVC*) curve can be *saucer-shaped* if the firm has **reserve capacity**, ie spare capacity leading to a range of output (between *a* and *b*) over which *AVC* are relatively constant. If this is the case, mark-up pricing will normally be based on the flat part of the *AVC* curve.

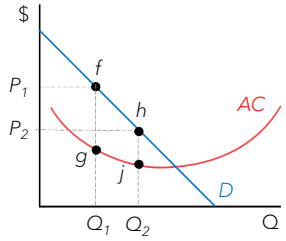


Overhead = Ongoing business expenses that cannot be directly attributed to a specific activity, eg rent, utilities, admin costs, and insurance.

2.1 ALTERNATIVE PRICING STRATEGIES: COST-BASED

The level of profit mark-up on top of AC is influenced by a range of possible considerations, such as sales (and profit) targets, the (possible) response of rival firms, and how the firm wish to spread overheads across different products. However, the most significant consideration is likely to be the **implication of price for the level of market demand**.

Example: If a firm could estimate its demand curve, it could then set its output and profit mark-up at levels to avoid a shortage or surplus (ie along the demand curve).



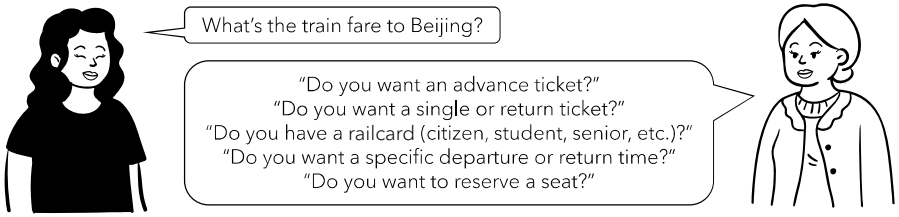
Option 1: Choose a lower output (Q_1) with higher mark-up (*fg*)
Option 2: Choose a higher output (Q_2) with lower mark-up (*hj*)

Firms will usually base their assumptions about next year's sales on this year's figures, add a certain percentage to allow for growth in demand and then finally adjust price up or down.

3 PRICE DISCRIMINATION

Up until this point, we have discussed about *uniform pricing* under the assumption that a firm sells each unit of its output at the same price. This is not always the case.

Example: Sam would like to take a rail ticket to Beijing.

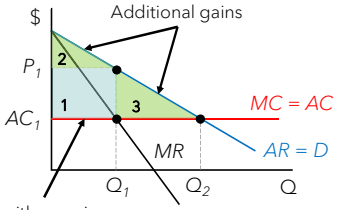


How Sam response to the above questions will determine the price she pay; a price can vary greatly from the lowest to the highest possible fare. This is an example of **price discrimination**. Price discrimination is often split into three broad categories: first, second and third degree.

3.1 FIRST-DEGREE PRICE DISCRIMINATION (FDPD)

The firm charges each consumer the *maximum* price that he/she is prepared to pay for a good or service. However, the firm wouldn't usually be able to determine this maximum price.

FDPD enables the firm to increase its profits to the entire area below the demand curve and above the marginal cost (*MC*) curve, which assumes that *MC* is constant and fixed costs are zero, so the *AC* = *MC*.



Profits with no price discriminate *(MR = MC)*

At Q_1,

Profits @ Q_1 = Area 1 + Area 2 = TCS @ Q_1

If the firm charge each customer a different price, then the MR increases and no longer below AR curve. Instead ***MR = AR***.

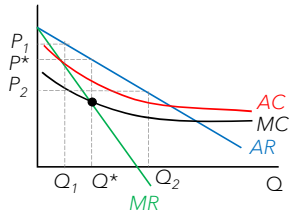
The new profit-maximising level of output is now at Q_2.
This further increase its total profit by Area 3.

Profits @ Q_2 = Area 1 + Area 2 + Area 3 = TCS @ Q_2

3.2 SECOND-DEGREE PRICE DISCRIMINATION (SDPD)

The firm charges a different price to consumers depending on the number of units purchased. Typically, the average price paid falls with the number of units purchased. For example, buy-one-get-one-free and "3 for the price of 2"

SDPD may encourage consumers to buy more units than they would otherwise and so is useful when the firm's average costs decrease with output.



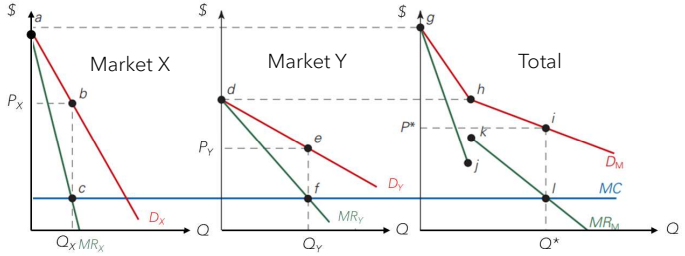
With no SDPD, the firm would charge P^* at output Q^* where *(MC = MR)*.

With SDPD, the firm might charge P_1, P^* and P_1 and so benefit from economies of scale and more revenue.

3.3 THIRD-DEGREE PRICE DISCRIMINATION (TDPD)

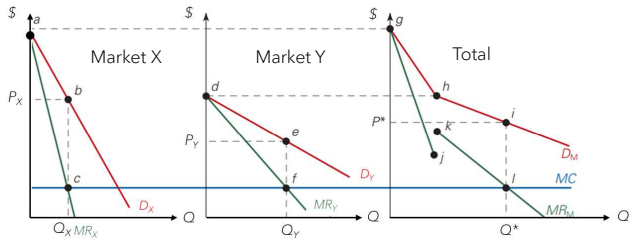
The firm divides consumers into different groups and charge a different price to each group of consumers, though all the consumers within a particular group pay the same price. For example, cinema tickets that charges different price for adults, children, students, etc.

Example: Suppose a firm is selling an identical product in two separate markets, Market X (income > $40k) and Market Y (income ≤ $40k) . Total profit is maximised when *MR* = *MC* in the "Total" market. *MR* must be the same in both markets and the price in each market is then set from its respective demand curve.



The price is higher in Market X where the demand curve is less elastic.

3.3 THIRD-DEGREE PRICE DISCRIMINATION (TDPD)



- Assume that the firm marginal cost is constant and that it has no fixed costs. Thus, $AC = MC$.
- D_M is the same as D_X from g to h, as no one in Market Y are willing to pay above d.
- As the price falls below d, consumers in both markets are willing to buy; therefore, creates a kink in D_M at point h.
- This kink also creates a discontinuity in the MR curve between point j and k.
- To maximise profit, the firm would produce at output Q^* and sell at the same price P^*.
- Since the market is divided, the firm should charge P_X for Q_X units for Market X and P_Y for Q_Y units in Market Y, ie

$$Q^* = Q_X + Q_Y$$

3.4 CONDITIONS

Price discrimination can occur only if:

1. The firm has a degree of market power, ie it faces a downward-sloping demand curve
2. It is not possible to resell the product for a higher price
3. (for TDPD) the elasticity of demand differs between different markets.

3.5 PRICE DISCRIMINATION AND THE CONSUMER

Price discrimination is

- good for those consumers who are able to purchase a good that they would otherwise not be able to buy, or who pay a lower price than would otherwise be the case.
- bad for those consumers who have to pay more than would otherwise be the case.

Predatory pricing is where a firm sets its price below its average cost in order to drive other firms out of business. It may do this by cross-subsidizing losses in one market with profits elsewhere, *ie* by price discrimination. Predatory pricing is illegal in many countries.

However, the profits from price discrimination might also enable a firm to invest in new products, enter new markets and fight price wars, so increasing competition.

3.6 OTHER PRICING STRATEGIES INVOLVING PRICE DISCRIMINATION

Peak-load pricing is where consumers are charged more for a service at peak times than at off-peak times, *eg* rail ticket and electricity. The higher price at peak times may reflect both the higher demand at those times and also the higher costs of supply due to capacity constraints.

Inter-temporal pricing occurs where different groups of consumers have different price elasticities of demand at different points in time, and so are charged different prices at different points in time, *eg* on the launch of a new mobile phone. The price charged may often fall through time as both demand changes and average costs fall.

Two-part tariff is a pricing system where the consumer pays a fixed fee for access to the service and then a separate charge for usage, *eg* fixed rental fee for a telephone line and then an additional charge for each call made. The fixed fee may be useful where there is a high fixed cost of supply.