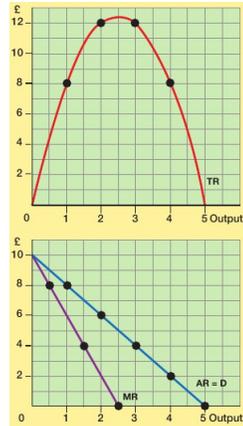


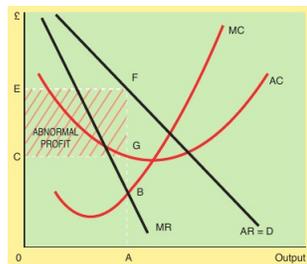
Chapter 50: Monopoly

2016-Nov-4

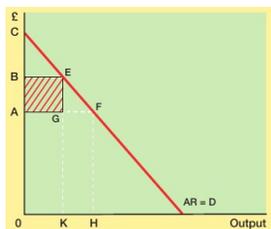
- Assumptions on *monopoly market structure* (in Neo-classical theory)
 - only *one firm* in the industry
 - *barriers to entry* prevent new firms from entering market
 - monopolist is *short run profit maximiser*
- Examples (in UK): gas, electricity, telecommunications, rail transport, water supply
- *Pure monopoly*: only *one* firm (but this is rare)
- In general, we talk of firms which have *monopoly power*: firm *controls the prices* it charges in a market (e.g., monopolistically competitive market, oligopolistic market)
- *Sources* of monopoly power
 - barriers to entry:
 - * monopolists are protected from new entrants by barriers to entry: allows them to *control the market*
 - * Examples of barriers: legal barriers, sunk costs, capital costs, scale economies, natural cost advantages, anti-competitive practices, marketing barriers (see previous chapters for explanation)
 - * Examples in the industry: pharmacies in the UK (and elsewhere) are subject to legal barriers
 - product differentiation and the number of near competitors
 - * some monopolist sell *clearly differentiated* products (w.r.t. rival products)
 - electricity vs. gas/oil/batteries
 - railway vs. airline/road transport (London ↔ Manchester)
 - * high degree of product differentiation ⇒ strong monopoly power
 - * low degree of product differentiation ⇒ large number of competitors faced by monopolist
- Revenue curves
 - monopoly firm is *itself* the industry
 - demand curve is downward sloping: monopolist can *increase sales by reducing price* or *increase price by reducing sales*
 - monopolist can set *either* price or output *but not both*
 - Figure 1 p.284



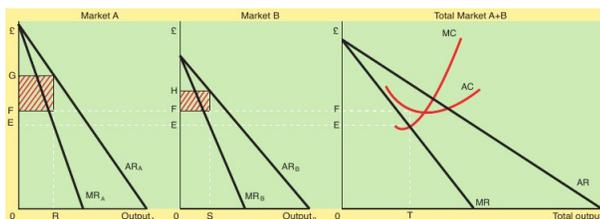
- MR falls twice the rate of AR
- $MR=0$ when TR is maximised
- if AR is falling, MR must be falling too and *at a faster pace* (twice the rate)
- Question 2 p.284: 15min!
- Equilibrium output (in Neo-classical theory)
 - Monopolist is *short run profit maximiser*: $MC = MR$



- *equilibrium profit maximising level of output* is OA (where $MC = MR$)
- *price* will be OE (since the demand curve is given, and therefore we know what buyers are ready to pay!)
- *abnormal profit* is given by $EFGC$ (difference between AR and AC)
- *Discriminating monopoly*
 - Assume that (in Figure 3) OH is the *profit maximising output* \Rightarrow OA is then the *price marginal consumers are prepared to pay*

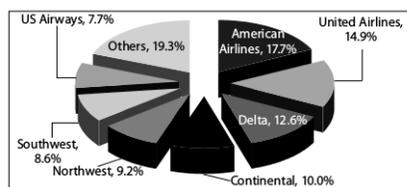


- *consumer surplus* (when price is OA) is given by the area ACF :
= *difference between what consumers are prepared to pay in total for a good and what they actually pay*
- monopolist may be able to *split the market and price discriminate* between buyers
 - * monopolist may be able to charge OB for OK of output, and then ...
 - * ... charge OA for KH of output
- Question: In what ways can a monopolist discriminate?
 - * *Time*: charge different prices at different times (e.g., electricity distributors)
 - * *Place*: charge according to the location of the buyer (e.g., same cars with different prices in different countries)
 - * *Income*: charge higher prices to consumers with higher incomes (e.g., medical doctors, lawyers, hairdressers)
- Question: What conditions have to be fulfilled for a monopolist to discriminate on prices?
 - * monopolist must face *different demand curves* from different buyers (e.g., elasticity of demand of buyers must differ)
 - * monopolist must be able to *split the market into distinct groups of buyers*
 - * monopolist must be able to *keep markets separate* at relatively low costs (e.g., prevent buyers from high priced markets from buying in low priced market)
- Price discrimination can be analysed using the *concepts of MC and MR*



- * Assume that the monopolist can divide the market into two: *Market A* and *Market B*
- * Without *price discrimination*, the equilibrium marginal revenue is higher in *Market A* than in *Market B*
- * Assume that the cost of production are *identical* in both markets
- * Under these assumptions, the firm could *increase TR* by *switching goods* from B to A
- * \Rightarrow marginal revenue in market B will now *rise* (because it can charge a higher price if it sells less)
- * \Rightarrow marginal revenue in market A will *fall* (because it has to lower price to sell more)
- * it will carry on switching from market B to A *until there is no more advantage in doing so* (when $MR_A = MR_B$)
- * In practice,
 1. Draw *demand curves* (or *AR curves*) in markets A and B
 2. Calculate from these demand curves, the *MR curves* in each market
 3. Calculate AR and MR curves for total market by *summing up*
 4. Identify the *production decision* of the monopolist: $MC = MR$ across the *whole* market [OT]
 5. Output OT is split between two markets: OR and OS
 6. *Price* OG can be charged in market A, and price OH in market B
 7. *Average cost* of production is OF
 8. *Abnormal profit* (shaded area): will be higher than the abnormal profit the firm would have made by not discriminating
- Question 3 p.286: 15mins
- Price discrimination: costs & benefits for producers & consumers
 - *Firms*: price discrimination *increases the profit*
 - * what would otherwise be *consumer surplus* becomes *producer surplus* and goes to monopolist
 - *Consumers*: price discrimination increases for some the prices that they would pay (for other this price falls)
 - * what would be *consumer surplus* shrinks infavour of the monopolist

- In some cases (when $AC < AR$) monopolists would not produce because they would be making a loss. But with *price discrimination* the monopolist can *shift* these curves until $AR = AC$
- Remark:
 - degrees of discrimination: there are 3 types of price discrimination
 - * third-degree price discrimination: *see* above
 - * first-degree price discrimination: monopolist is able to charge *each customer* a different price
 - * second-degree price discrimination: monopolist charges customers according to *how much they buy*
 - absence of a supply curve in monopoly
 - * in *perfect competition*: supply curve of firm is its MC (part above the AC) (*see* Figure 4 p.267)
 - * in *monopoly*: there is *no supply curve* that is determined independently of demand (as demand changes, the monopolist will adapt the pricing by $MC = MR$)
 - monopolist will only produce where demand is *elastic* (*see* Figure 1)
 - * monopolist will produce where $MR = 0$: point where *elasticity of demand* is 1
 - * to the *left* of $MR = 0$: elasticity is > 1
 - * to the *right* of $MR = 0$: elasticity is < 1
 - * since the monopolist will only produce to the *left* of $MR = 0$ it must produce where *demand is elastic*
 - * monopolist will not increase sales to the point where demand gets inelastic
- Review questions (pick the right answer and explain in detail!):
 - The following chart shows the percentage market shares of the US Airline Industry in 2006.



Which of the following can be deduced from the above information?

- The four firm concentration ratio is 64.5 per cent

- The US airline industry is monopolistically competitive
 - The US airline industry is highly concentrated
 - The US airline industry is a natural monopoly
 - There are low sunk costs in the US airline industry.
- A profit maximising monopolist facing constant average costs experiences a decrease in demand. Other things being equal, which of the following is likely to happen?
- | | Output | Price | Profit |
|--------------------------|----------------|--------------|----------------|
| <input type="checkbox"/> | Stays constant | Falls | Falls |
| <input type="checkbox"/> | Rises | Rises | Stays constant |
| <input type="checkbox"/> | Stays constant | Rises | Falls |
| <input type="checkbox"/> | Falls | Rises | Falls |
| <input type="checkbox"/> | Falls | Falls | Falls |
- A firm in long run equilibrium under monopolistic competition will be
- allocatively but not productively efficient
 - productively but not allocatively efficient
 - productively and allocatively inefficient
 - making supernormal profits
 - allocatively and productively efficient