**Costs, Revenue and Profits: Concepts and Curves**

**(Please read pp25-45 of your textbooks for more of an in-depth read and visit a workshop this week or next if you need 1-2-1 clarification)**

**The Principle of Costs**

**How much does it cost to run a car?**

Your 17th birthday is approaching and your parents have promised you a car. They want to know how much it will cost you.

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| **COSTS FOR RUNNING THE CAR FOR ONE YEAR**   * Car (one off payment) = £1000 * Insurance for one year (one off payment) = £1000 * Road tax for one year (one off payment) = £150 * MOT cost for one year (one off payment) = £50 * Depreciation cost of car per mile = £0.02p * Fuel prices = £1.10 per litre (your car holds 50 litres and a full tank will last you 500 miles) * Estimated number of miles driven in a year = 10000 miles per year as you commute to college and drive it at the weekend. | *How much will you need to ask your parents for to run the car for one year?*  *How much would it cost per mile to run a car?*  *How much would it cost you to drive an extra mile once you had paid fpr the car, insurance, road tax and MOT?* |

**Applying Economics to these Ideas**

*Using your figures from above, work out a number that might fit into each box below.*

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| FIXED COST (FC) | VARIABLE COST (VC) | TOTAL COST (FC+VC=TC) | AVERAGE COST (TC/Q) | MARGINAL COST |
| **A cost that does not change regardless of the amount of production or use of a good/service** | **A cost that varies with the amount of production or use of a product good/service** | **The cost of all the units of production. So the fixed cost and variable cost added together.** | **The cost per unit of production (or use).** | **The cost of an extra unit or ‘the next unit’ of production (or use)** |
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**N.B. Short run variable costs and marginal costs are the same thing but in the long run all costs can be varied (even fixed) – more on this later**

**Case Study: The Costs of a Business?**

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| These concepts of costs can easily be transferred from running a car to running a business. A business has many costs, some of which can vary in the short run – variable costs (often labour and raw materials) – and others that are fixed in the short run (capital) – fixed costs. Lets say there is a guy called Pedro who starts up a window cleaning business….   |  |  |  |  | | --- | --- | --- | --- | | *Identify 4 variable costs of Pedro’s window cleaning business:* | | *Identify 4 fixed costs of Pedro’s window cleaning business:* | | |  |  |  |  | |  |  |  |  | | This table represents the output and costs for Pedro’s business. *Complete table 47.4* |

**Average and Marginal Cost Curves in the Short Run and the Long Run**

Production in economics is split into the short run and long run. This is because in the short run the assumption is that only labour is variable but capital stays fixed whereas in the long run both inputs can vary. (Are you able to explain why???)

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| **RELATIONSHIP BETWEEN ‘RETURNS’ AND ‘COSTS’ IN THE SHORT RUN** | | **AC CURVE IN THE SHORT AND LONG RUN** | **MC AND AC IN THE SHORT RUN** |
|  | Remember that increasing marginal returns mean that the addition of an additional worker in the short run means BOTH workers become more efficient and overall productivity rises. Therefore even though both workers are being paid the SAME wage, the average cost of the two workers is lower than if there was one worker (because you are dividing the total cost by the quantity produced). Therefore output is rising proportionally more than the extra cost of the input (or worker)  Equally if there are diminishing marginal returns in the short run this is because the marginal worker is not just damaging the efficiency or productivity of themselves but every other worker as well (they are getting in each others way). |  |  |
| *Why are the SRAC and LRAC both U-shaped?* | *Why does the MC curve look like the Nike tick?* |
| Therefore production (or ‘the returns’) slow but costs rise because you have employed another worker (therefore the AC increases). In other words, the costs of the ‘input’ are rising proportionately more than the resulting production.  Finally remember that if the marginal unit is higher than the average, then mathematically the average should be rising and the opposite happens when the marginal is lower than the average at any given quantity. Think of people coming in and out of the classroom! | | *What might cause the LRAC curve to shift lower?* | *Why does the MC curve always cut the AC curve at the lowest point?* |

**Concepts of Revenue**

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| We have already looked at the different costs that are important to firms. If firms are concerned about the money that goes out, due to the costs of production, then clearly they’re going to be concerned about the money coming in also – their revenue. Once we have these two pieces of information, we can then see how much money has been made, once costs have been taken into account – in other words, the profit! |

**Total, Average and Marginal Revenue**

A firm’s revenue is the receipts from the sale of goods or services over a time period such as a week, month or year. The link between Total, Average and Marginal revenue is similar to that of Total, Average and Marginal cost.

*Calculate average revenue when:*

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| (i) TR=£75,000 and Q=1,000 | (ii) TR=£195,000 and Q=3000 | (iii) TR=£302,500 and Q=5,500 | (iv) TR=£472,500 and Q=10,500 |
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You may like to relate these concepts to a brewery? The average revenue is the price per barrel sold, the total revenue is the total amount of money coming in from all the barrels of beer sold, and the marginal revenue is the increase in total revenue from selling one more barrel.

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| Picture3 | *Calculate the Total and Average revenues for the 4 different prices shown on the graph:* | | *What can we say the demand curve ALSO represents in terms of revenue?* | *If there was perfect competition, what might the demand curve (or AR curve) look like?* |
| **70** |  |
| **60** |  |
| **50** |  |
| **40** |  |

**Average and Marginal Revenue Curves**

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|  | The diagram to the left tends to represent the demand curve and average revenue curve for a WHOLE market or industry. Draw an AR and MR curve for a firm in a perfectly competitive market and then comment on | |
| *What might an AR and MR curve look like for a firm in a ‘Perfectly Competitive Market’? (HINT: Draw the AR curve first)* | *What might an AR and MR curve look like for a firm in a market dominated by one firm – a ‘pure monopoly’?* |

**Concept of Profit**

The profits and individual or a firm makes is important since it is of great significance to shareholders and can say quite a lot about a company. Once a firm knows its costs and revenue, then it can work out its profit. Profit is given by subtracting TOTAL COST from TOTAL REVENUE.

Economists have two different terms for profit, NORMAL and ABNORMAL (or supernormal) profit:

**NORMAL PROFIT –** the opportunity of cost of using scarce resources in the production of a particular good. It is the equivalent to the break-even position of a firm. If a firm is earning less than normal profit then in the long run it would cease to produce.

**ABNORMAL PROFIT –** is the money, over and above the opportunity cost of the resources. In other words the amount of money made once costs have been met.

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| Pedro has given up on the window cleaning business and now sets up Cabbage Firm Ltd. Pedro is producing and selling cabbages! Pedro’s accounts for the first four years of his business are in the table on the right. *Calculate the profit in each year and state whether the profit is a loss, abnormal or normal.* | |  |  |  |  |  | | --- | --- | --- | --- | --- | | **£ pounds** | **Year 1** | **Year 2** | **Year 3** | **Year 4** | | **Total Revenue** | 70k | 75k | 85k | 100k | | **Total Costs** | 75k | 75k | 80k | 85k | | **PROFIT** |  |  |  |  | | **TYPE OF PROFIT?** |  |  |  |  | |

**Shutdown Positions**

The number of breweries producing “real ale” has increased significantly in recent years. This increased competition, let us assume, forces breweries to reduce their prices. This results in the following monthly accounts for a brewery: **INCOME FROM THE BUSINESS – (Total Revenue):** £600,000 **FIXED COSTS:**£200,000 **VARIABLE COSTS:**£500,000

The business now has to decide what to do**.** *What would you advise….?*

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| **Should they shut down their operations in the short run?** | **Should they shut down their operations in the long run if this position continues?** |
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