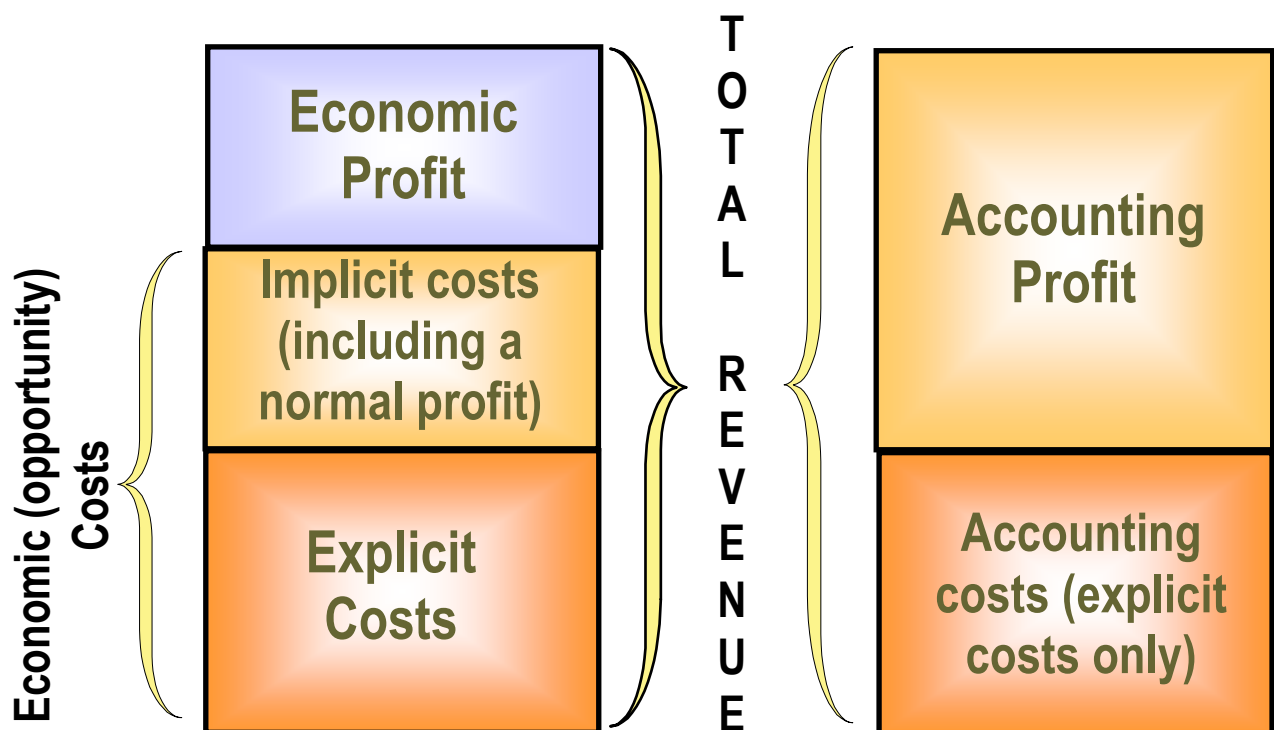


Profits

- * Least expensive source of money for expanding business operations
- * Most firms attempt to maximize profit
- * Ultimately must break-even – cover their costs of production
- * Profits act as an incentive and reward
- * Use to evaluate how well firm is doing by comparing profit with competitors

Types of Profit

- * Accounting profit – excess of revenues over costs (common idea of profit)
- * Economic profit - the difference between the revenue received from the sale of an output and the opportunity cost of the inputs used. This can be used as another name for "economic value added" (EVA).
- * To calculate economic profit, opportunity costs are deducted from revenues earned. Opportunity costs are the alternative returns foregone by using the chosen inputs.
- * Can have a significant accounting profit with little to no economic profit.



Costs as Opportunity Costs

- * A firm's *cost of production* includes all the opportunity costs of making its output of goods and services.
- * A firm's cost of production include explicit costs and implicit costs.
- * *Explicit costs* are input costs that require a direct outlay of money by the firm.
 - o Examples include wages and payments to the suppliers of factors of production.
- * *Implicit costs* are input costs that do not require an outlay of money by the firm
 - o Does include profit necessary to continue the business (normal profit)

Sunk Costs

- * Sunk costs are costs that have been incurred and cannot be reversed

Revenue, Cost and Profit Structures

Total Revenue

- * Money a firm receives from its sales
- * Revenue = Price x Quantity Sold

Total Costs

- * Depends on the cost of production
- * Total cost of production: money firm spends to purchase the productive resources it needs to produce its good or service
- * Two basic categories: fixed and variable

Fixed vs. Variable Costs

- * Fixed costs remain the same at all levels of output.
 - o Must be paid regardless of whether or not the firm produces
 - o E.g. rent, insurance, property taxes, interest
 - o Difficult to adjust in the short term
 - o Often referred to as overhead
- * Variable costs change with the level of production
 - o As production increases more resources are necessary
 - o Can be adjusted in the short term
 - o E.g. raw materials, labour, fuel, power

Short Run vs. Long Run

- * Short run: period over which the firm's maximum capacity becomes fixed because of a shortage of one resource
- * Long run: period when all costs become variable.
 - o Firm is able adjust fixed costs to increase production – they become variable costs
- * Not measured in fixed number of days, months, etc. as periods are different for various firms

Marginal Revenue and Marginal Cost

- * Marginal Revenue: additional revenue gained from selling one more unit
- * Marginal Cost: cost of producing one more unit
- * Marginal cost (MC) measures the increase in total cost that arises from an extra unit of production.
- * Marginal cost helps answer the following question:
 - o How much does it cost to produce an additional unit of output?
 - o Marginal cost rises with the amount of output produced
- * If a firm wishes to maximize profit, it should produce up to the point where there is no added benefit from producing any more.
- * **Produce to the point where marginal cost = marginal revenue**

Cost Curves and Their Shapes

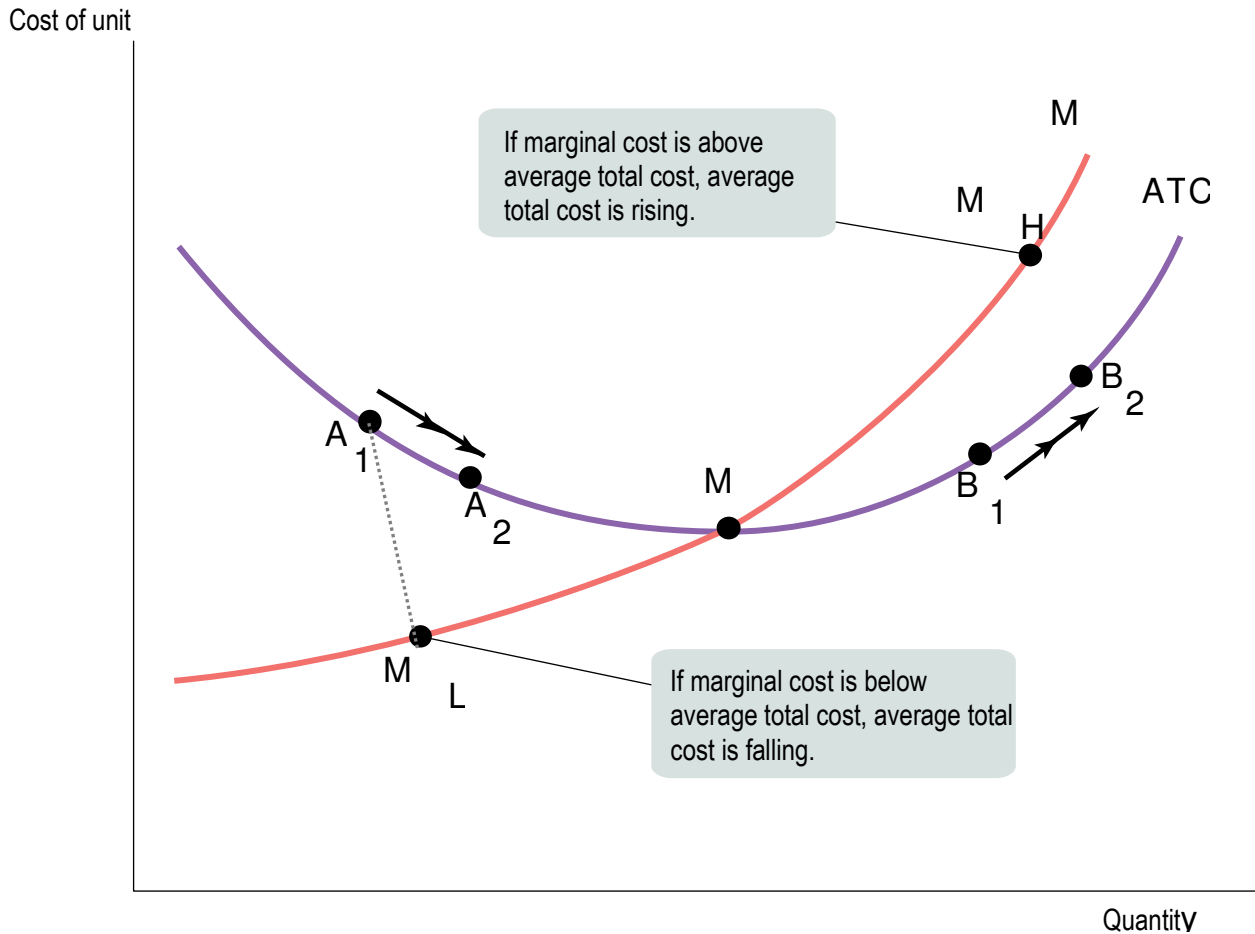
- * The average total-cost curve is U-shaped.
- * At very low levels of output average total cost is high because fixed cost is spread over only a few units.
- * Average total cost declines as output increases.
- * Average total cost starts rising because average variable cost rises substantially.
- * The bottom of the U-shaped ATC curve occurs at the quantity that minimizes average total cost. This quantity is sometimes called the efficient scale of the firm.

Average Total Cost Curve

- * Increasing output has two opposing effects on average total cost:
 - o **The spreading effect:** the larger the output, the greater the quantity of output over which fixed cost is spread, leading to lower the average fixed cost.
 - o **The diminishing returns effect:** the larger the output, the greater the amount of variable input required to produce additional units leading to higher average variable cost.

Relationship between Marginal Cost and Average Total Cost

- * Whenever marginal cost is less than average total cost, average total cost is falling.
- * Whenever marginal cost is greater than average total cost, average total cost is rising.
- * The marginal-cost curve crosses the average-total-cost curve at the efficient scale.
- * Efficient scale is the quantity that minimizes average total cost.



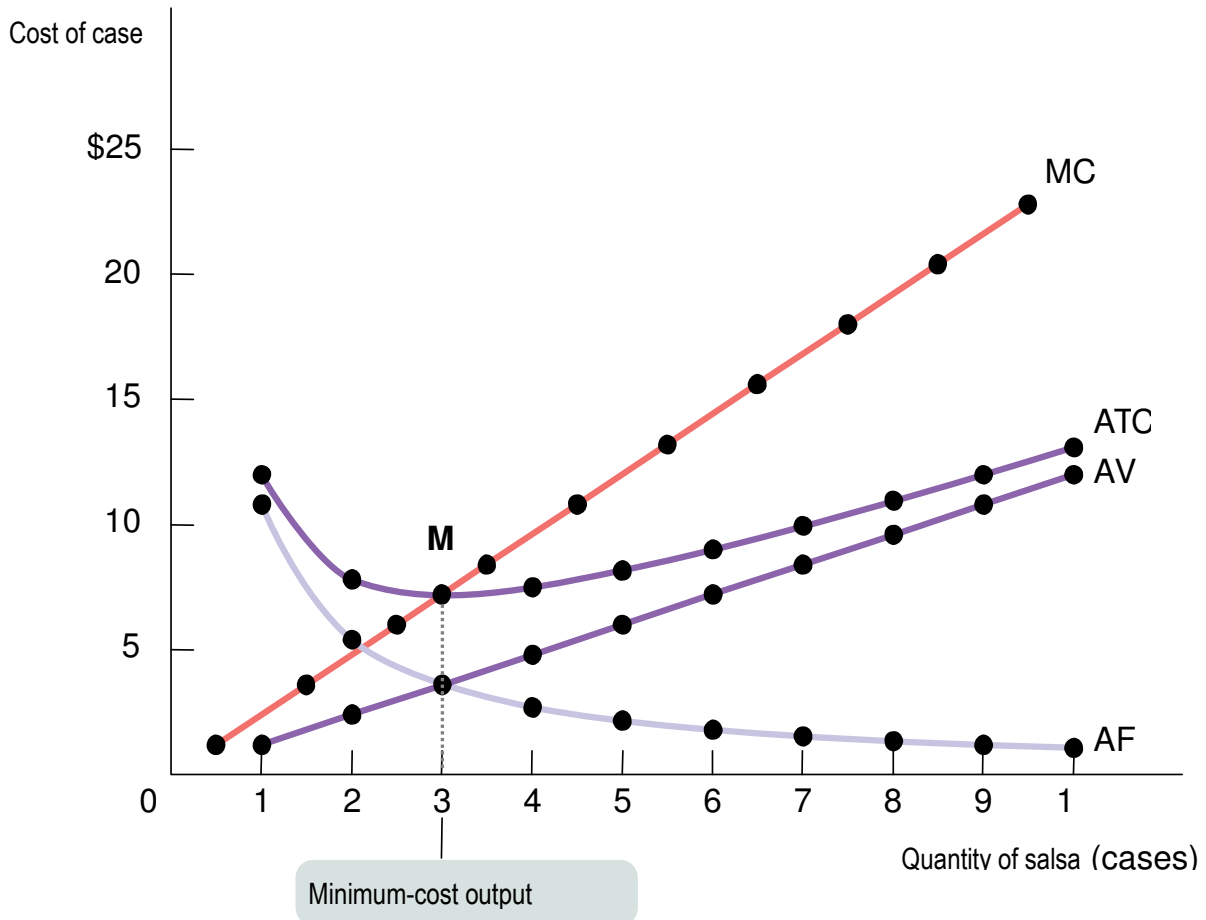
The Relationship Between the Average Total Cost and the Marginal Cost Curves

To see why the marginal cost curve (MC) must cut through the average total cost curve at the minimum average total cost (point M), corresponding to the minimum-cost output, we look at what happens if marginal cost is different from average total cost. If marginal cost is less than average total cost, an increase in output must reduce average total cost, as in the movement from A1 to A2. If marginal cost is greater than average total cost, an increase in output must increase average total cost, as in the movement from B1 to B2.

Costs at Selena's Gourmet Salsas

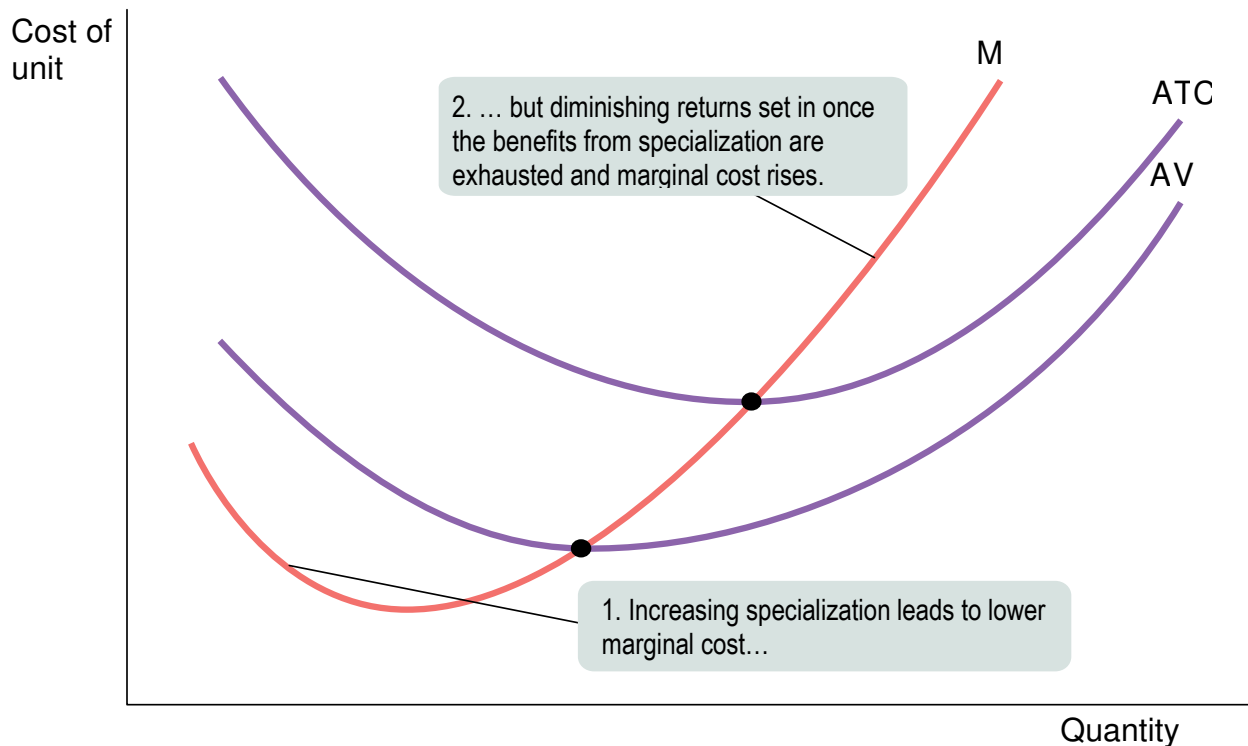
Quantity of salsa Q (cases)	Fixed cost FC	Variable cost VC	Total cost $TC = FC + VC$	Marginal cost of case $MC = \Delta TC / \Delta Q$
0	\$108	\$0	\$108	
1	108	12	120	\$12
2	108	48	156	36
3	108	108	216	60
4	108	192	300	84
5	108	300	408	108
6	108	432	540	132
7	108	588	696	156
8	108	768	876	180
9	108	972	1,080	204
10	108	1,200	1,308	228

Quantity of salsa Q (cases)	Total cost TC	Average total cost of case $ATC = TC/Q$	Average fixed cost of case $AFC = FC/Q$	Average variable cost of case $AVC = VC/Q$
1	\$120	\$120.00	\$108.00	\$12.00
2	156	78.00	54.00	24.00
3	216	72.00	36.00	36.00
4	300	75.00	27.00	48.00
5	408	81.60	21.60	60.00
6	540	90.00	18.00	72.00
7	696	99.43	15.43	84.00
8	876	109.50	13.50	96.00
9	1,080	120.00	12.00	108.00
10	1,308	130.80	10.80	120.00



Here we have the family of cost curves for Selena's Gourmet Salsas: the marginal cost curve (MC), the average total cost curve (ATC), the average variable cost curve (AVC), and the average fixed cost curve (AFC). Note that the average total cost curve is U-shaped and the marginal cost curve crosses the average total cost curve at the bottom of the U, point M, corresponding to the minimum average total cost

More Realistic Cost Curves



A realistic marginal cost curve has a “swoosh” shape. Starting from a very low output level, marginal cost often falls as the firm increases output. That’s because hiring additional workers allows greater specialization of their tasks and leads to increasing returns. Once specialization is achieved, however, diminishing returns to additional workers set in and marginal cost rises. The corresponding average variable cost curve is now U-shaped, like the average total cost curve.

Marginal cost curves do not always slope upward. The benefits of specialization of labor can lead to increasing returns at first represented by a downward-sloping marginal cost curve. Once there are enough workers to permit specialization, however, diminishing returns set in.

Factors Affecting Costs

Returns to Scale

- * Economies of scale: The increase in efficiency of production as the number of goods being produced increases.
- * Constant returns to scale: The cost for successive units remains constant
- * Diseconomies of scale: Firms see an increase in marginal cost when output is increased.

Making Production Choices

- * Productivity: maximizing the output from the resources used
- * Efficiency: producing at the lowest cost
 - o Measured in cost per unit and unit labour cost
 - o Most efficient when average cost per unit is at its lowest point
- * Firms are at a competitive disadvantage if their productivity/efficiency decreases or their competitors productivity/efficiency increases

Labour vs. Capital Intensive Production

- * Labour-intensive: industries/methods where labour, rather than machinery, dominates the production process
 - o Good when labour is plentiful and cheap
 - o Low fixed costs
 - o Variable costs adjusted to meet demand
- * Capital-intensive: industries/methods where machinery, rather than labour, dominates the production process
 - o Good for economies of scale - larger potential for profit
 - o High fixed costs
 - o Difficult to increase production in short-run or decrease costs

Market Structure

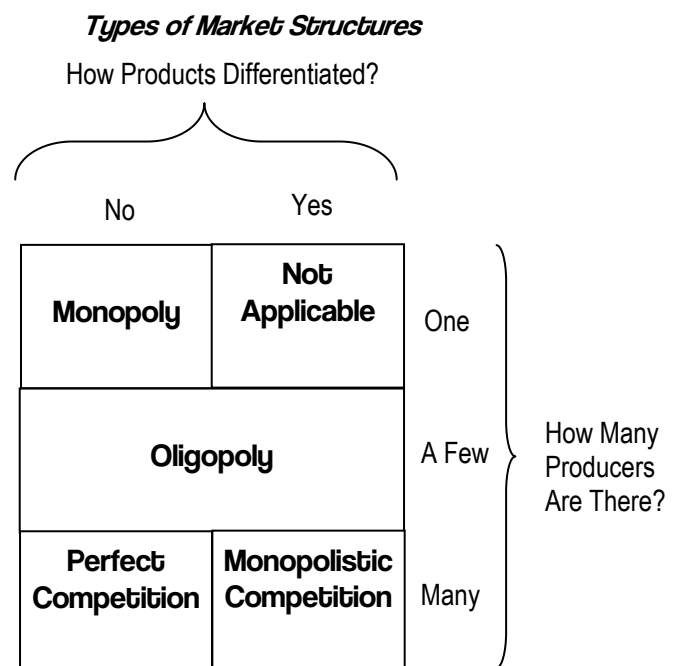
- * Market structure – identifies how a market is made up in terms of:
 - o The number of firms in the industry
 - o The nature of the product produced
 - o The degree of monopoly power each firm has
 - o The degree to which the firm can influence price
 - o Profit levels
 - o Firms’ behaviour – pricing strategies, non-price competition, output levels
 - o The extent of barriers to entry
 - o The impact on efficiency

Models – a word of warning!

- * Market structure deals with a number of economic ‘models’
- * These models are a representation of reality to help us to understand what may be happening in real life
- * There are extremes to the model that are unlikely to occur in reality
- * They still have value as they enable us to draw comparisons and contrasts with what is observed in reality
- * Models help therefore in analysing and evaluating – they offer a benchmark

Characteristics of each model:

- * Number and size of firms that make up the industry
- * Control over price or output
- * Freedom of entry and exit from the industry
- * Nature of the product – degree of homogeneity (similarity) of the products in the industry (extent to which products can be regarded as substitutes for each other)
- * Diagrammatic representation – the shape of the demand curve, etc.



Perfect Competition

- * One extreme of the market structure spectrum
- * **Characteristics:**
 - Large number of firms
 - Products are homogenous (identical) – consumer has no reason to express a preference for any firm
 - Freedom of entry and exit into and out of the industry
 - Firms are price takers – have no control over the price they charge for their product
 - Each producer supplies a very small proportion of total industry output
 - Consumers and producers have perfect knowledge about the market

Monopolistic or Imperfect Competition

- * Where the conditions of perfect competition do not hold, 'imperfect competition' will exist
- * Varying degrees of imperfection give rise to varying market structures
- * Monopolistic competition is one of these – **not** to be confused with monopoly!
- * **Characteristics:**
 - Large number of firms in the industry
 - May have some element of control over price due to the fact that they are able to differentiate their product in some way from their rivals – products are therefore close, but not perfect, substitutes
 - Entry and exit from the industry is relatively easy – few barriers to entry and exit
 - Consumers and producers do not have perfect knowledge of the market – the market may indeed be relatively localised.

Oligopoly

- * Competition between the few
- * May be a large number of firms in the industry but the industry is dominated by a small number of very large producers
- * **Concentration Ratio** – the proportion of total market sales (share) held by the top 3,4,5, etc firms:
- * A 4 firm concentration ratio of 75% means the top 4 firms account for 75% of all the sales in the industry
- * Features of an oligopolistic market structure:
 - Price may be relatively stable across the industry
 - Potential for collusion
 - Behaviour of firms affected by what they believe their rivals might do – interdependence of firms
 - Goods could be homogenous or highly differentiated
 - Branding and brand loyalty may be a potent source of competitive advantage
 - Non-price competition may be prevalent
 - Game theory can be used to explain some behaviour
 - High barriers to entry

Duopoly

- * Market structure where the industry is dominated by two large producers
- * Collusion may be a possible feature
- * Price leadership by the larger of the two firms may exist – the smaller firm follows the price lead of the larger one
- * Highly interdependent
- * High barriers to entry
- * In reality, local duopolies may exist

Monopoly

- * Pure monopoly – where only one producer exists in the industry
- * In reality, rarely exists – always some form of substitute available!
- * Monopoly exists, therefore, where one firm dominates the market
- * Firms may be investigated for examples of monopoly power when market share exceeds 25%
- * Monopoly power – refers to cases where firms influence the market in some way through their behaviour – determined by the degree of concentration in the industry
 - o Influencing prices
 - o Influencing output
 - o Erecting barriers to entry
 - o Pricing strategies to prevent or stifle competition
 - o May not pursue profit maximisation – encourages unwanted entrants to the market
 - o Sometimes seen as a case of market failure

Origins of monopoly:

- * Through growth of the firm
- * Through amalgamation, merger or takeover
- * Through acquiring patent or license
- * Through legal means – Royal charter, nationalisation, wholly owned plc

Why Do Monopolies Exist?

- * A **monopolist** has *market power* and as a result will charge higher prices and produce less output than a competitive industry.
- * This generates profit for the monopolist in the short run and long run.
- * Profits will not persist in the long run unless there is a **barrier to entry**.

Economies of Scale and Natural Monopoly

- * A **natural monopoly** exists when increasing returns to scale provide a large cost advantage to a single firm that produces all of an industry's output.
- * It arises when increasing returns to scale provide a large cost advantage to having all of an industry's output produced by a single firm.
- * Under such circumstances, average total cost is declining over the output range relevant for the industry.
- * This creates a barrier to entry because an established monopolist has lower average total cost than any smaller firm.