Revision Guide to Economics for A Level Year 2

Peter Cramp

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Contents

The first pages you will come to offer advice on using this book. After this, you will find revision notes on A Level Year 2 material as shown below.

It is important to remember also to revise all the material you studied in A Level Year 1, as your A Level papers cover all the content you have learned. This book works in conjunction with the Revision Guide to Economics for AS Level and A Level Year 1 by Peter Cramp (Anforme) and sometimes refers to material in it.

Please note that you will also sit Paper 3 as part of your A Level. Paper 3 is synoptic in nature and can draw upon any content, Micro or Macro, from A Level Year 1 or Year 2.

A Level Paper 1 (Micro)

A Level Paper 2 (Macro)

Using this book

This book provides revision notes for the second year of study in a two year A Level course. It assumes that you already understand the key concepts and theories from AS level/A Level Year 1. Also available from *Anforme* is the Revision Guide to AS level Economics/A Level Year 1 (Peter Cramp)

For each unit, the relevant chapters follow a defined structure. It is important that you understand this structure.

Paper 1 Microeconomics – Structure	
Introductory concepts	Costs and revenues; efficiency and equity; profits and objectives of firm.
Markets generally work well	Price Mechanism: Competitive markets allocate resources efficiently through the forces of supply and demand, setting the relative prices of goods. Contestable markets may function well.
Sometimes markets fail	Market failure occurs when markets fail to produce desirable outcomes, either because the allocation of resources is not efficient or because the outcome is unfair (there is a lack of equity).
This may justify government intervention	Governments may respond to market failure by intervening to improve the resource allocation or produce a more equitable outcome.
Government failure sometimes occurs	Government intervention is not always effective in achieving its aims. The costs of intervention may exceed the benefits, creating a loss of economic welfare. This is government failure.

The Paper 1 (Micro) chapters essentially follow this structure. Each chapter has a bar at the top showing the above structure and highlighting where the particular chapter fits into this structure. For example, Chapter 4 is about Competitive Markets and helps to understand why markets generally work well and allocate resources efficiently. 'Markets generally work well' is therefore highlighted within the structure:

Chapter 4

Paper 1: Introductory concepts → **Markets generally work well** → Sometimes markets fail → This may justify government intervention → Government failure sometimes occurs

Perfect Competition

If a particular chapter crosses over more than one bit of the structure, the relevant parts of the structure are all highlighted.

(continued overleaf)

The notes for Paper 2 (macroeconomics) also follow a defined structure:

Paper 2 Macroeconomics – Structure	
Measuring the macroeconomy	The main four macroeconomic objectives (strong and sustainable growth, low unemployment, low and stable inflation and a satisfactory current account of the balance of payments) and their measurement were covered in Year 1. These Year 2 notes pay particular attention to measurement of living standards, economic development and sustainability.
How the macroeconomy works	The circular flow of income and aggregate supply/aggregate demand analysis were covered in Year 1. Ideas about the working of the economy are extended in this book with a look at different schools of economic thought such as the Keynesian, Classical and Austrian schools.
Macroeconomic performance	Understanding the demand and supply-side factors that influence performance with regard to the four main economic objectives. The difference between factors that affect the short run performance of the economy and the fundamental supply-side determinants of long run performance. The link between the financial markets and real economic performance.
Macroeconomic policy tools	Fiscal and monetary policies as ways of influencing aggregate demand and stabilising the economy. The role of central banks. Supply-side policy as a tool to influence trend growth and long-term economic performance.
International economics	The economics of international trade, protectionism, exchange rates, globalisation, trading blocs, monetary union, economic development and sustainability.

The chapter headings also work in the same way for Unit 4 as they did in the first section of the book. For example, the chapter on Living Standards, Development and Sustainability is about 'Measuring the macroeconomy' so this is highlighted:

Chapter 16

Paper 2: Measuring the macroeconomy → How the macroeconomy works → Macroeconomic performance → Macroeconomic policy tools → International Economics

Living Standards, Development and Sustainability

It may be helpful for you to have the specification (syllabus) for your exam board with you when you revise. I have tried to ensure that the relevant concepts and theories on your specification are included in the book.

Where it is useful to do so, I have included specific guidance about the relevance of material to particular specifications. However, one approach is simply to work through all the material, whether or not it is explicitly required for your exam: You can never know too much Economics!

I wish you good luck with your revision programme and your exams.

Peter Cramp

Chapter 1

Paper 1: Introductory concepts → Markets generally work well → Sometimes markets fail → This may justify government intervention → Government failure sometimes occurs

Costs and Revenues

The activity of firms

Firms combine **factors of production** (land, labour, capital and enterprise) into **output** (goods and services). The production of output results in costs for the firm, but the sale of output generates revenue. Costs relate to the supply-side of a market while revenue relates to demand.

Costs of production

An economist measures the firm's production costs as the **opportunity cost** of the factors of production used (the revenue the factor could have generated in its next best use).

Short and long run

The short run is the period of time in which at least one factor of production is fixed (usually capital), while in the long run all factors of production are variable and it is possible for the firm to move to a new scale of production.

It is impossible to put an actual length of time on the short run. A market trader may be able to buy a new stall and hire a new pitch in a day; a firm producing nuclear power could take a decade to build a new power station.

Marginal and average product of labour

The marginal product of labour is the additional output produced by adding one extra worker (a variable factor) to a given stock of fixed factors.

The average product of labour is simply the total output divided by the number of workers.

Diminishing returns

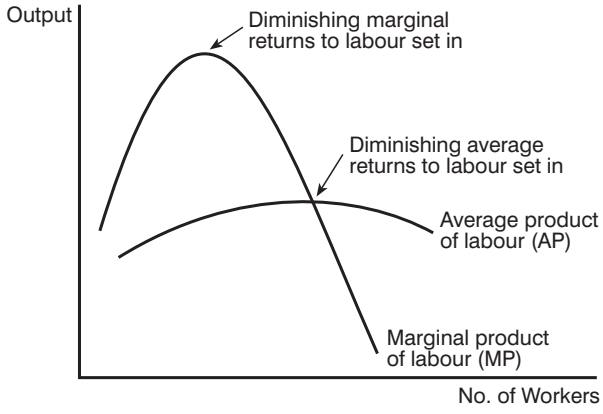
In the **short run**, firms can only increase output by adding more of a variable factor of production such as labour to a given stock of a fixed factor. At first, the marginal product of labour tends to rise with each successive worker added due to **gains from specialisation** (extra workers more fully utilise capital and **make the division of labour possible**, allowing workers to be assigned to tasks to which they are well suited, to 'learn by doing' and to save time through production line methods).

Eventually gains from specialisation are exhausted and, at some point, the additional output from employing extra workers begins to diminish.

The **law of diminishing returns** states: "As more workers are added to a given stock of fixed factors, first the marginal product and then the average product will eventually decline."

In Figure 1.1 gains from specialisation shape the rising sections of the average and marginal product curves before diminishing returns set in.

Figure 1.1: Average and marginal product curves



The shape of short run average cost curves

It is assumed that you are familiar with the calculation of total, average and marginal costs and with the idea that total costs consist of fixed and variable costs. Please see Chapter 4 of the Revision Guide to Economics for AS Level and A Level Year 1 for further details.

Marginal cost

Marginal cost (MC) is the additional cost of making one extra unit of output.

The shape of short run cost curves

An extra unit of output can only be produced in the short run by adding more of a variable factor, typically labour. The marginal cost of producing an extra unit of output rises when the marginal product of labour falls: the marginal cost curve is the mirror image of the marginal product of labour curve. Marginal cost reaches its bottom point as marginal product peaks.

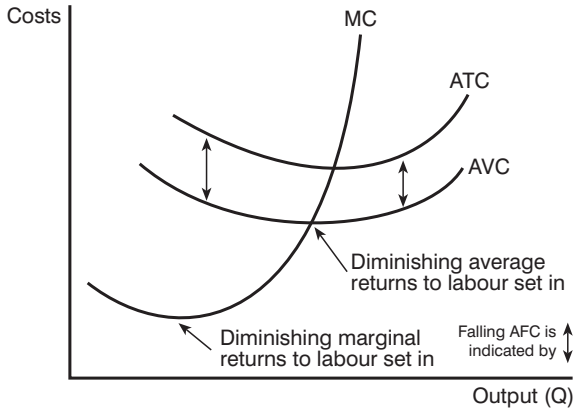
Similarly, the average variable cost curve is the mirror image of the average product of labour.

This in turn means that short run cost curves are shaped by initial gains from specialisation as more labour is added to a given stock of fixed factors, and then by the onset of diminishing returns to labour.

Average fixed costs fall continuously as more output is added because a constant total fixed cost is spread over more units of output.

Average cost, like average variable cost, initially falls due to gains from specialisation but later rises under the influence of diminishing returns. However, it takes longer to rise than average variable cost. This is because AC = AFC + AVC and the continuously falling average fixed costs exert some downward pressure on AC even after diminishing returns set in.

Figure 1.2: Average and marginal cost curves



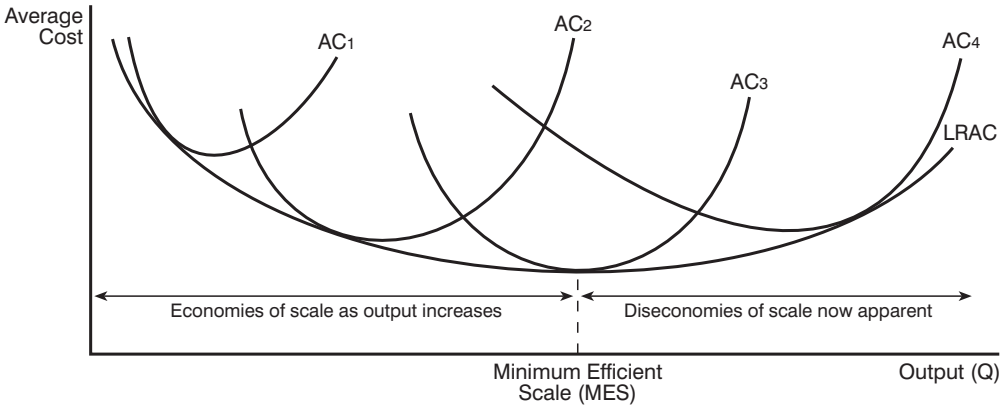
It is important to note in Figures 1.1 and 1.2 that the marginal curves go through the average curves at the highest or lowest points of the average curves. Mathematically, if the marginal is above the average, then the average must rise, but the average will fall if the marginal is below the average. Consider, for example, a cricketer's batting average. If a batman's average is 50 and he scores 60 in his next (marginal) innings his average will rise. If he scored only forty in his next (marginal) innings then his average would fall.

Long run average costs

In the long run, the scale of production can be increased, or reduced, as all factors are variable. This allows the firm to move on to new average cost curves. For each scale of production there is an equivalent short run average cost curve. As the firm expands its output it moves on to different short run average cost curves. In this example, it would move from AC_1 to AC_2 to AC_3. If expanding the scale of output leads to a lower average cost for each level of output, then the firm is said to be experiencing economies of scale. This is illustrated in Figure 1.3.

The points of tangency on the long run average cost (LRAC) curve do not occur at the minimum points of the SRAC curves except at the point where the **minimum efficient scale** (MES) is achieved. This is the minimum level of output required to exploit fully economies of scale.

Figure 1.3: Long run average costs



Economies and diseconomies of scale

Economies of scale are lower average (unit) costs enjoyed by firms as output increases in the long run.

Internal economies arise from the growth of a firm and can be subdivided into types such as technical, marketing, managerial, financial and risk bearing economies. Internal economies of scale result in movements along a firm's LRAC curve. **External economies** of scale arise from the growth of the industry of which a firm is part and can shift a firm's entire LRAC curve downwards.

Diseconomies of scale occur when unit costs increase as output increases. They can occur because of problems in control, co-ordination and co-operation.

Much more detail on the above ideas is included in the Revision Guide to Economics for AS Level and A Level Year 1 and you should ensure you are familiar with this material.

Total, average and marginal revenue

Revenue is the income generated from the sale of a good or service. The revenue earned by a firm depends on the willingness of consumers to buy the product at any given price and therefore relates to demand.

Total revenue (TR) = P x Q where P is Price and Q the quantity sold.

Marginal revenue (MR) is change to TR from selling one more unit.

Average revenue (AR) = TR/Q = (P x Q)/Q = P.

Revenue is the income generated from the sale of a good or service.

Revenue curves

In Figure 1.4 the demand curve (AR curve) facing the firm is **perfectly elastic**. As the firm sells each additional unit at a constant price, AR must equal MR. The total revenue curve is a straight line because marginal revenue is both positive and constant. This situation applies to firms that are **price takers**, operating in highly competitive markets (see Chapter 4).

In Figure 1.5, the firm faces a downward sloping demand curve. This situation applies to a firm with some degree of monopoly (**price making**) power (see Chapter 5). To sell an extra unit of the good, the firm must reduce the price, including the units that it would have sold at the existing price. This means that marginal revenue from the sale of the extra unit is less than the price (which is equal to average revenue) for which it is sold. Thus the MR curve lies below the AR curve.

It can be mathematically proven that the MR curve is always twice as steep the AR curve. Total revenue is maximised when MR is zero and the elasticity of demand is equal to 1. This is the exact mid-point of a straight line demand curve extending from one axis to the other (mathematically, elasticity is infinity where the demand curve touches the vertical axis and zero where it cuts the horizontal axis). Up to point A, MR is positive so any increases in output result in a rise in total revenue. Beyond this point MR is negative and any rise in output causes a fall in total revenue.

Figure 1.4: Price takers

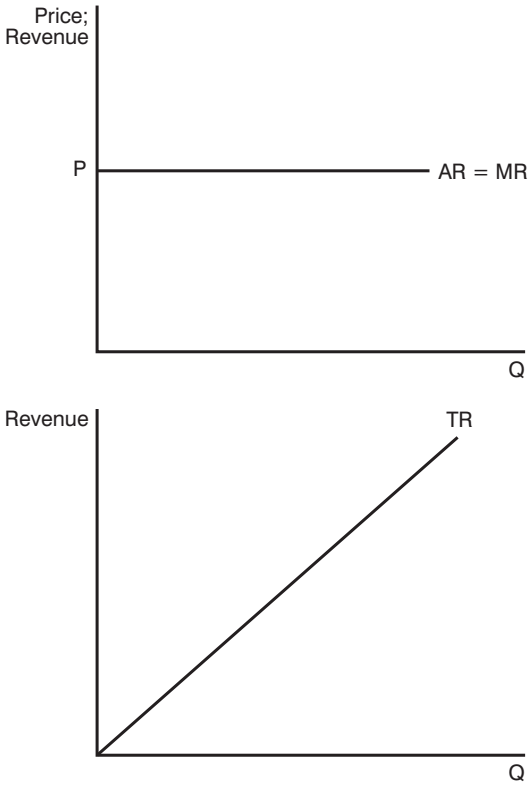
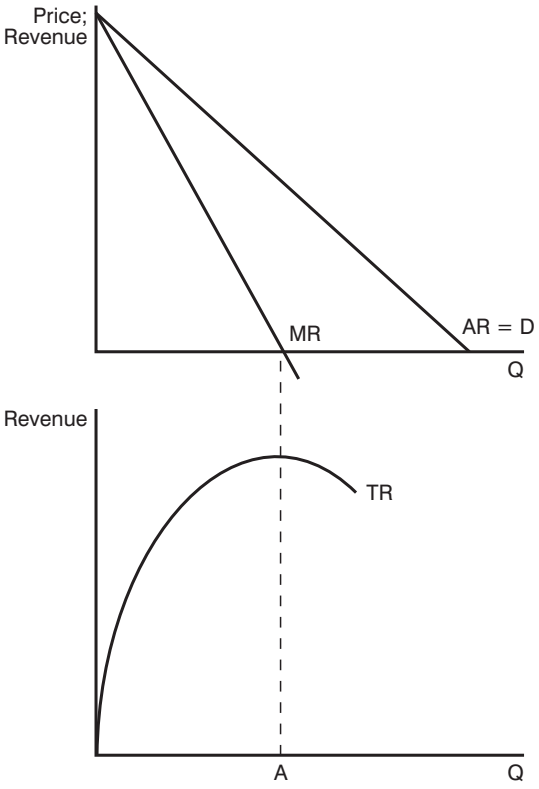


Figure 1.5: Price makers



Chapter 2

Efficiency and Equity

Economic efficiency

Economic efficiency concerns the relationship between the **inputs** to the production process (land, labour, capital and enterprise) and the **output** they produce.

This concept is at the heart of economics, which is about the basic problem of resources that are **scarce** in relation to infinite needs and wants. The central purpose of economic activity is the creation of utility (benefit) by the satisfaction of wants and needs. Society must make choices about how best to use its scarce resources. This implies a need to produce at the lowest possible cost and to allocate resources to the uses in which they produce most utility.

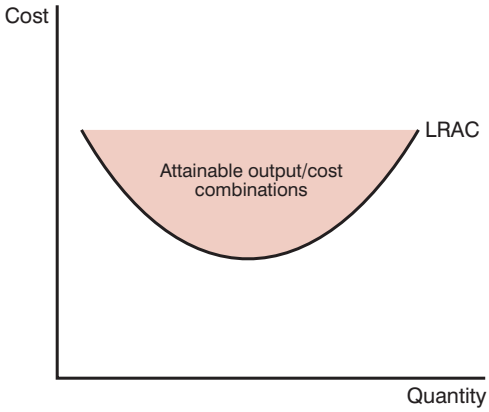
Efficiency is a concept that belongs to the field of **positive economics** (the economics of fact and testable hypotheses).

Technical efficiency

Technical efficiency involves producing a given quantity at the lowest possible average cost.

All points on the long run average cost curve (LRAC) are technically efficient. The LRAC represents a boundary between those output/cost combinations which are attainable and those which are not.

Figure 2.1: Long run average cost



Technical inefficiency (x-inefficiency)

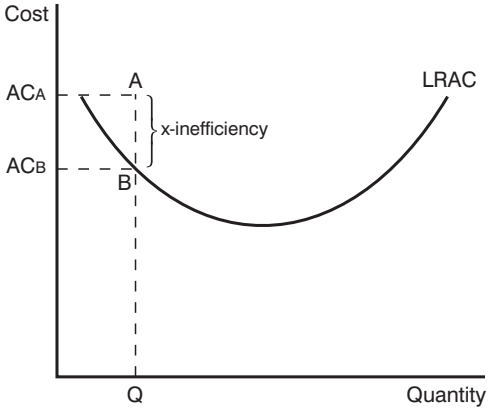
Technical inefficiency is more commonly known as **x-inefficiency**. It occurs when there is waste in the production process, so that the average cost for producing a given level of output is higher than it need be. All points above the LRAC exhibit x-inefficiency.

There are many reasons why x-inefficiency might occur. Possible explanations include:

- Weaknesses in the organisation of production and management.
- Lack of competition, allowing firms to survive without striving to reduce costs.
- A lack of a **profit motive**. It is often argued that state owned firms tend to be inefficient for this reason, while private firms have an incentive to bear down on costs.
- A **divorce of ownership and control** (see Chapter 3 for more detail). Unless the owners of a firm (typically the shareholders) are able to hold the management of a firm effectively to account, the firm may fail to minimise costs. Managers may adopt **satisficing** behaviour and only work to reduce costs to the level necessary to produce enough profit to satisfy shareholders.

X-inefficiency is illustrated in Figure 2.2, where output Q is produced at average cost AC_A when it could be produced at a cost as low as AC_B.

Figure 2.2: X-inefficiency



Productive efficiency

Productive efficiency entails producing goods and services at the lowest possible average cost for *any* level of output.

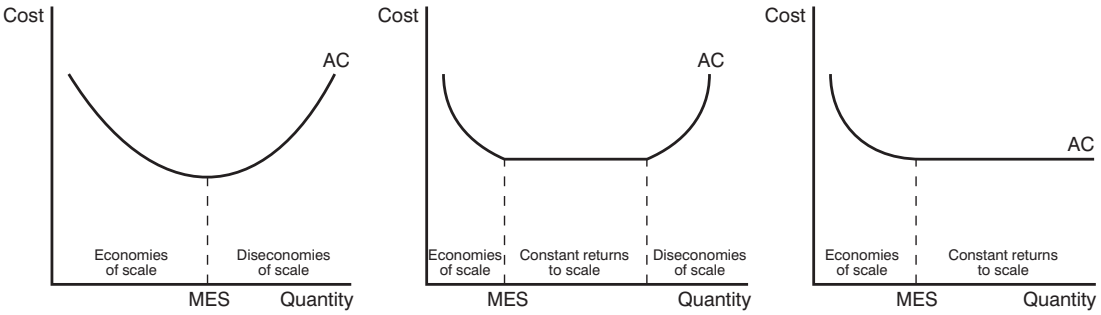
It is achieved when the average cost curve is at its bottom point and implies that all available internal economies of scale are being exploited.

Although the LRAC curve is traditionally drawn as u-shaped, so that there is only one level of output for which minimum average cost is achieved, there are other possible shapes for the curve. It is likely that many real world firms could achieve the lowest possible average cost at a range of different output levels before diseconomies of scale set in. This would imply a curve like the in the middle in Figure 2.3.

Minimum efficient scale

The minimum efficient scale (MES) of production is the smallest scale of production that allows the exploitation of all internal economies of scale and hence production at the lowest possible average cost. The MES varies from industry to industry. It may be quite small in service industries which have little capital equipment, such as cleaning firms. However, it is likely to be quite large in capital intensive sectors where there are many technical economies of scale available, such as car manufacturing.

Figure 2.3: Possible shapes for the long run average cost curve



Allocative efficiency

Allocative efficiency is achieved when society derives the most possible utility from its scarce resources.

The concepts of **technical** and **productive efficiency** are *not* related to whether people gain utility from the goods and services produced. It would be possible to produce video recorders with no waste and at the lowest possible average cost, but this would be irrelevant if no consumers wanted video recorders. It would be more efficient to allocate those resources to making other products where there is a greater demand.

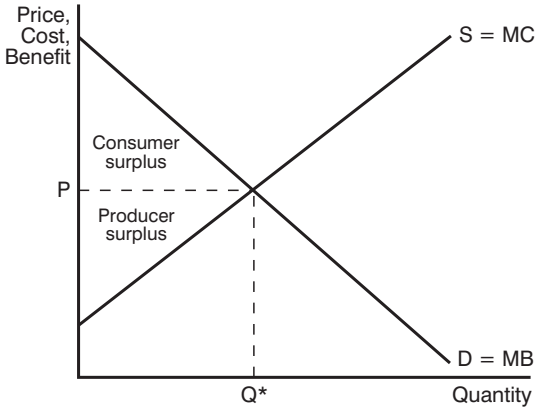
Allocative efficiency and the cost-benefit principle

The concept of allocative efficiency is best understood using the cost-benefit principle. It is worthwhile allocating resources to producing an extra unit of a good if the marginal benefit (utility) of doing so exceeds the marginal cost.

The price that a consumer is willing to pay for a good is a measure of the benefit or utility that they receive from it. In Figure 2.4, all consumers receive a **consumer surplus** (they would have been willing to pay more for the good than they actually pay), except the last (marginal) consumer who was willing to pay exactly price P. Thus the demand curve, by telling us the price associated with any given quantity, also tells us the marginal benefit (MB) derived by the last consumer.

The price that a firm is willing to supply a good for is an indication of the cost of producing it. In Figure 2.4, all units supplied except the last (marginal) unit carried a **producer surplus** (producers would have been willing to supply these units for less than the price they actually received). The last unit is supplied at exactly the price that producers needed to encourage them to supply it. Thus by showing us the price necessary to encourage any given level of supply, the supply curve also shows us the marginal cost (MC) of producing an extra unit.

Figure 2.4: Allocative efficiency



Applying the cost-benefit principle, we can see that all units produced up to Q* improved resource allocation because they carried a greater marginal benefit than cost. The opposite would be true of any units produced beyond Q*: they would create a net loss of welfare.

It is worth remembering the economist's definition of production costs here: the **opportunity cost** of all factors of production used is measured as the revenue that they would have generated in their next best use. When marginal benefit is greater than marginal cost this means that making a unit of the good in question is the most productive use (in terms of utility) for the resources required to make that extra unit.

At Q*, MB = MC. Since the demand curve tells us both the price and the marginal benefit associated with any given quantity, the condition for allocative efficiency can be restated as: **P = MC**.

Q* can also be referred to as **socially optimal**.

This analysis assumes that there are no positive or negative externalities associated with production and consumption. Properly speaking, the marginal benefit should perhaps be referred to as the marginal private benefit (MPB) and the marginal cost as the marginal private cost (MPC).

When externalities are associated with the production or consumption of a good, we should remember that:

Social benefit = Private benefit + external benefit

Social cost = Private cost + external cost

The condition for allocative efficiency then becomes that social optimum which is achieved when **MSB = MSC**.

Static vs. dynamic efficiency

Allocative, technical and productive efficiency are **static** concepts, concerned with efficiency at a point in time. Dynamic efficiency is concerned with allocating resources in a way that meets society's changing wants and needs over time.

Technological change

Technological change is one way in which society's changing wants and needs are met over time. Putting resources into research and development (R&D) of new technologies involves the sacrifice of current consumption and is not necessarily statically efficient, but may deliver long term gains in living standards. Governments often grant **patents** to firms to protect their **intellectual property rights** over an invention in order to encourage firms to devote resources to R&D. Patents grant a time-limited monopoly, allowing firms to gain a return on their investment which would not be possible without such protection because the knowledge gained through R&D would then effectively be a **public good**.

Types of technological change

Innovation	Invention	Sustaining	Disruptive
Small subtle changes to existing processes and technologies.	Discovering new technologies.	Adapting existing products or making small changes to them.	Technological break-throughs which disrupt the status quo – closely linked to creative destruction.

Technological change is closely associated with **creative destruction** by which unprofitable firms and industries close, releasing resources to be used elsewhere. For example, the advance of digital photography led to the closure or selling off of large parts of Kodak, once dominant in the photographic film market. Technological change can remove existing monopoly power.

Technological change may act to lower the costs of firms at each and every level of output thus shifting the entire LRAC curve vertically downwards. It may reduce **barriers to entry to markets** (as the internet has made entry to retail markets easier) but can also increase them (in markets where investment in new expensive technologies becomes a necessary condition for entry, or where new technology is patented by incumbent firms). In a similar way, technological change can either increase or decrease the **minimum efficient scale** of production and while some markets have become both more **contestable** and **competitive**, in other markets those who have gained a **first mover advantage** or who exploit new technology more effectively than others have gained **monopoly power**.

Equity

Equity can be understood to mean fairness. In contrast to efficiency, it is a concept that belongs to normative economics (it involves value judgements or opinions). Market performance is typically evaluated both from a **positive** perspective of efficiency and a **normative** perspective of equity.

Horizontal equity is concerned with the fair treatment of people whose circumstances are the same (e.g. those with the same level of income). For example, the idea that people with a similar ability to pay taxes should pay the same or similar amounts. **Vertical equity** relates to the fair treatment of people whose circumstances differ (e.g. those with different incomes). For example, the idea that people with a greater ability to pay taxes should pay more.

The equity-efficiency trade off

It is important to note that **equity** is *not* the same thing as **equality**, although market systems do produce great inequality of income and many people find the degree of inequality created to be unfair.

Such inequality can be useful in creating **incentives**. For example, the incentive to work relies on the fact that those in work have higher incomes than those not in work. The high incomes of those with high skill levels create an incentive for people to acquire skills. The incentive of high levels of profit is necessary to encourage entrepreneurs to accept risk. Thus it is possible that measures that reduce inequality may enhance equity but also blunt economic incentives and cause inefficiency. The equity-efficiency trade off can be a useful evaluative concept for A Level students.