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Content Guidance

Economic methodology and the economic problem

Economic methodology

Economics as a social science

Like other social scientists in subjects such as psychology, economists start off by observing some aspect of human behaviour and then try to develop a theory from what they have observed. In the case of production theory, the starting point is observations of how firms react to changes in the prices of the goods and services they sell. Production theory then develops from establishing a tentative description, known as a **hypothesis**, of what has been observed. Predictions about human behaviour are deduced from the hypothesis, such as that the owner of a firm will always respond to the price of a good rising by supplying more of the good in question. This prediction is then tested against collected evidence about how firms behave in the market place. At this stage, the hypothesis becomes a **theory**. (A hypothesis is a proposed explanation for something, whereas a theory is when a hypothesis is tested and survives the test.) Nevertheless, a theory may not be true in all circumstances. All it says is that the hypothesis has survived the test or tests to which it has been exposed; it might not survive stronger tests, which may not yet have been devised. Scientific method is based on the possibility of falsification or refutation of a hypothesis.

Hypothesis A proposed explanation for something.

Theory When a hypothesis is tested and survives the test it becomes a theory.

Difference between social and natural sciences

Natural science theories such as those embodied in physical sciences, e.g. astronomy are usually much 'harder' than the theories associated with 'softer' social sciences such as economics. Economic theories often survive only through allowing a significant number of exceptions to their central predictions, which, according to critics, turns the theories into little more than generalisations.

Positive and normative statements

Economists often respond to the criticism that their subject is 'soft' by arguing that they are only concerned with '**positive economics**'. A positive statement can be scientifically tested to see whether it is incorrect. If a positive statement does not pass the test, it is falsified. However, a positive statement does not have to be true. For example, 'the earth is flat' is a positive statement. A few people may believe it, though obviously with the growth of scientific evidence the statement has been falsified.

In contrast, '**normative economics**', which is concerned with 'what should or ought to be', is about value judgements and opinions, and because people have

Positive economics is about statements that can be scientifically tested to see whether they can be falsified.

Normative economics is about value judgements and opinions that cannot be scientifically tested.

different opinions about what is right and wrong, normative statements cannot be scientifically tested: they are just opinions. Words such as 'ought', 'should', 'better', 'worse', 'good' and 'bad' (used as adjectives) often provide clues that a statement is normative.

How value judgements influence economic policy and decision making

A **value judgement** is about whether something is desirable or not — if we believe it is more desirable to study what *is* happening in the economy rather than what *ought* to happen, we have made a value judgement. Economics necessarily requires that government ministers make value-based judgements when deciding on economic policies. Despite this, economists often wrongly insist that the subject is value free.

Value judgement An opinion which cannot be proved.

Government ministers make decisions on issues such as where a new airport should be located or whether high-speed trains are worthwhile. Before making decisions on issues such as these, government ministers usually create the illusion that the decision-making process is completely scientific and objective. To do this, they hire independent 'experts' to provide advice. But the choice of expert in itself involves a value judgement. Whichever way you go, the so-called scientific processes used by the 'experts' to reach their conclusions may be riddled with value judgements. A classic case involved weighing up the costs and benefits of the location of a third London airport, which ultimately depended on putting money values on an hour of a business person's time and an hour of a holidaymaker's time. It was quickly found that when different values were put on these, the airport location recommended by the experts would have 'lost out' under different costing criteria.

The impact of moral and political judgements

Whatever decision is eventually made in the course of framing government economic policy, there will always be winners and losers who gain or suffer as a result of the decision. Governments often claim they have a moral right to make such decisions. They argue that their political manifesto published *before* the previous general election gives them the mandate, supported by the voters, to carry out their policies, regardless of the fact that among the electorate there will inevitably be some losers.

The nature and purpose of economic activity

The central purpose of economic activity

The central purpose of economic activity is the production of goods and services to satisfy needs and wants, with the ultimate objective of increasing people's happiness or **economic welfare**.

Economic welfare The economic wellbeing of an individual, a group within society or an economy.

Increased **production** enables economic welfare to improve, but only if the production of more goods and services leads to higher levels of **consumption**. Production and consumption often result in resource depletion (using up scarce

Production A process or set of processes that converts inputs into outputs.

Consumption The use of goods and services by households.

resources) and resource degradation (e.g. pollution and destruction of the natural environment).

As a general rule, consumption improves economic welfare and people's standard of living. Economists often use the word '**utility**' for the welfare that people enjoy when they consume goods and services. Goods, such as food bought for consumption, are known as '**consumer goods**'; by contrast, a good such as a machine bought by a firm in order to produce other goods is called a '**capital good**'. Goods that people produce for their own consumption, and activities such as contemplating the natural environment, contribute to people's utility or welfare, adding to the utility obtained from consuming goods bought in the market.

Utility Welfare people enjoy when consuming goods and services.

Consumer goods Goods, such as food, which yield utility consumption.

Capital good A good, such as a machine, used to produce other goods.

When discussing economic welfare, we need to distinguish between a **need** and a **want**. A need refers to something people have to have, something they cannot do without. Food is an example. If people starve, they will eventually die. By contrast, a want refers to something people would like to have but which is not essential for survival. It is not absolutely necessary, but it is a good thing to have.

Need A need is something that is necessary for human survival, such as food.

Want A want is something that is desirable, such as ice cream, but is not necessary for human survival.

There are also important elements of human happiness and welfare that have nothing to do with the consumption of material goods. These include quality of life factors, such as the pleasure gained from family and friends or from contemplating a beautiful view.

Key economic decisions

In large part, economics is the study of economising — the study of how people make choices about what to produce, how to produce and for whom to produce, in a world in which most resources are limited or scarce. How best can people make decisions on how scarce resources should be allocated among competing uses so as to improve and maximise human happiness and welfare? This is the economic problem, which is the main focus of this introductory topic.

Economic resources

For most people, most of the time, increased consumption of material goods is an important part of improving economic welfare. Most, if not all, of the goods we consume must first be produced. This requires the use of **economic resources**. These goods are scarce in relation to demand, which gives rise to the need for economising in their use.

Economic resources The inputs used to produce goods and services, often called the factors of production.

The inputs into the production process are often called the **factors of production**. Four factors of production are usually identified. These are land, labour, capital and enterprise, the last often being called the 'entrepreneurial input'.

Factors of production Land, labour, capital and enterprise (or the entrepreneurial input).

Entrepreneurs are different from the other factors of production. They are the people who address issues such as what to produce, how to produce it and for whom to produce it. An entrepreneur decides how much of the other factors of production, including labour, to employ. When making these decisions, the entrepreneur takes into account the financial risks involved. **Profit**, which is the entrepreneur's financial reward, results from successful decision making. Entrepreneurial profit is the profit left over after the cost of employing the other factors of production is deducted from

Profit Sales revenue minus costs of production.

the sales revenue gained from the sale of the goods and services the entrepreneur decides to produce.

The environment as a scarce resource

Environmental resources are part of the factor of production, land. Some environmental resources, such as the air we breathe and the water we drink, are often described as the 'free gifts of nature'. However, this view can be questioned. The need to get rid of the effects of pollution created by humankind means that clean air and water are scarce and not free. Production and consumption activities taking place in the economy affect and often damage the natural environment.

Environmental resources include:

- physical resources, such as soil, water, forests, fisheries and minerals
- gases, such as hydrogen and oxygen
- abstract resources, such as solar energy, wind energy, the beauty of the landscape, good air and clear water

Environmental resources can be further split into renewable and non-renewable resources, with the latter further divided into recyclable and non-recyclable resources.

Scarcity, choice and the allocation of resources

Scarcity as the fundamental economic problem

Economics is literally the study of economising — the study of how human beings make choices about what to produce, how to produce and for whom to produce, in a world in which most of the resources are limited. Because resources are limited in relation to people's infinite wants, scarcity is the fundamental **economic problem**.

Scarcity means that choices have to be made

The fundamental economic problem exists because both goods and the resources needed to produce goods are scarce. Scarcity also means that people (even the very rich) have limited incomes and face a budget constraint. If goods are scarce and incomes are limited, choices have to be made. And even when goods are free, time is scarce, so choices still have to be made. A need for **choice** also arises whenever an economic agent (for example, an individual, a household or a firm) has to choose between two or more alternatives that are mutually exclusive, in the sense that it is impossible or impractical to achieve both at the same time.

Choices have an opportunity cost

Whenever an individual, a household, a firm or the government has to choose between two or more alternatives which are mutually exclusive, in the sense that it is impossible or impractical to achieve both at the same time, an **opportunity cost** is involved. The opportunity cost of any choice, decision or course of action is measured in terms of the alternatives that have to be given up.

Economic problem There is only a limited amount of resources available to produce the unlimited quantity of goods and services people desire.

Choice The result of the fundamental economic problem of scarcity, which means that decisions have to made by firms, individuals and/or governments regarding which needs and wants to satisfy, and what types of products and services should be produced.

Knowledge check 1

What is meant by scarcity and economising?

Opportunity cost The cost of giving up the next best alternative.

Production possibility diagrams

Production possibility diagrams illustrate different features of the fundamental economic problem, such as: resource allocation, opportunity cost and trade-offs, unemployment of economic resources, economic growth.

A **production possibility diagram** illustrates the different combinations of two goods, or two sets of goods, that can be produced with a fixed quantity of resource, providing we assume that all available resources are being utilised to the full. The production possibility diagram in Figure 1 illustrates the different combinations of capital goods and consumer goods that the whole economy can produce when all the economy's resources are employed, with no spare capacity. To put it another way, the curve in the diagram shows what the economy can produce, assuming that all the labour, capital and land at the country's disposal are employed to the full, and assuming a given state of technical progress.

Suppose that initially the economy is at point A on the curve, producing K_1 capital goods and C_1 consumer goods. In the absence of economic growth (which moves the curve outwards), consumer good production can only increase to C_2 if the production of capital goods falls from to K_1 to K_2.

The fall in the production of capital goods when the production of consumer goods increases is an example of opportunity cost.

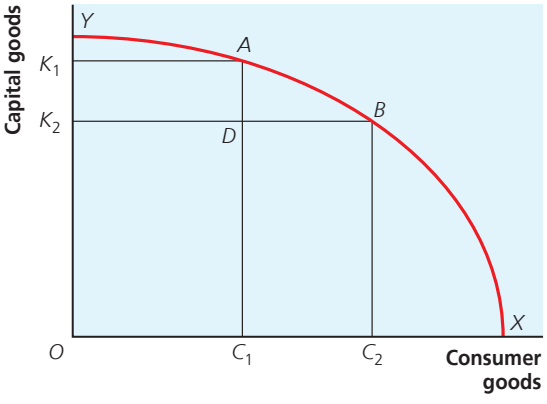


Figure 1 An economy's production possibility diagram

All points on an economy's production possibility diagram are **productively efficient** because they show the maximum possible levels of output that available inputs can produce. However, they are unlikely to be **allocatively efficient** because they say nothing about the economic welfare derived from consumption.

If the economy's production possibility curve is the line YX in Figure 1, short-run economic growth is illustrated by a movement from a point inside the curve such as D to a point on the curve. Long-run economic growth would be illustrated by an outward shift of the curve to a 'further out' position. The opportunity cost of increasing consumer good production from C_1 to C_2 is capital good production falling from K_1 to K_2. All points on the curve represent full employment of all available resources. By contrast, unemployed resources exist at all points inside the curve, such as D.

Production possibility diagram A production possibility diagram represents graphically alternative production possibilities open to an economy. Since resources are scarce, a choice has to be made between the alternative goods that can be produced.

Exam tip

You must learn to draw and interpret production possibility diagrams, which are as important in macroeconomics as in microeconomics.

Productive efficiency Maximising output from available inputs.

Allocative efficiency When it is impossible to improve overall economic welfare by reallocating resources between markets. In the whole economy, price must equal marginal cost ($P = MC$) in every market.

Knowledge check 2

Give an example of an opportunity cost, other than the capital goods given up when the production of consumer goods increases.

Summary

- Economics is the study of economising.
- Economics provides answers to questions on what to produce, how to produce and for whom to produce, in a world in which most of the resources are limited relative to wants and needs.
- Scarcity is the fundamental economic problem.
- The production of economic goods uses up scarce resources and people have to economise in their use.
- Scarcity of economic resources means opportunity costs exist and choices have to be made.
- A production possibility diagram shows the different combinations of goods that can be produced from available resources.
- A normative statement involves a value judgement, whereas a positive statement can be tested to see whether it is true or false.

Questions & Answers

The A-level examination

A-level Paper 1

The A-level Paper 1, 'Markets and market failure', is 2 hours long and has a maximum mark of 80. The exam paper contains two sections, A and B, both of which must be answered. Section A, which accounts for 40 marks (50% of the total), comprises two data-response questions (DRQs), labelled Context 1 and Context 2, of which you should answer one. Section B, which also accounts for 40 marks (50% of the total), contains three essay questions (EQs), of which you should answer one.

This Student Guide contains one Context for Section A and one essay question for Section B.

A-level Paper 3

Paper 3, 'Economic principles and issues', also carries a maximum of 80 marks. Section A (30 marks) has 30 multiple-choice questions (MCQs), of which roughly half are on microeconomics and half on macroeconomics.

The MCQs that follow are similar to the sorts of microeconomic themed questions that you might see in the A-level Paper 3 exam.

In Section B of Paper 3, worth 50 marks, there are three extended-response questions based on a case study or investigation which require a student to draw together different areas of the specification. An 'extended response' is evidence generated by a student that is of sufficient length to allow that student to demonstrate the ability to construct and develop a sustained line of reasoning which is coherent, relevant, substantiated and logically structured. The case study in Part B is not pre-released.

This Student Guide provides one such investigation with questions.

Assessment objectives

Assessment objectives (AOs) are set by the government agency Ofqual and are the same across the A-level economics papers. The exams measure how students have achieved the following assessment objectives:

- AO1: Demonstrate knowledge of terms/concepts and theories/models to show an understanding of the behaviour of economic agents (consumers, workers and firms) and how they are affected by and respond to economic issues.
- AO2: Apply knowledge and understanding to various economic contexts to show how economic agents are affected by and respond to economic issues.
- AO3: Analyse issues within economics, showing an understanding of their impact on economic agents.
- AO4: Evaluate economic arguments and use qualitative and quantitative evidence to support informed judgements relating to economic issues.

Assessment objectives 1 and 2 are testing 'lower-order' skills, whereas objectives 3 and 4 test 'higher-order' skills.

Weighting of assessment objectives for A-level Economics

Assessment objectives (AOs)	Component weightings (approx. %)			Overall weighting (approx. %)
	Paper 1	Paper 2	Paper 3	
AO1	5–8	5–8	7–10	20–23
AO2	7–10	7–10	9–12	26–29
AO3	9–11	9–11	6–9	26–29
AO4	7–10	7–10	5–8	22–25
Overall weighting of components	33.3	33.3	33.3	100

The exam questions in this guide

This guide includes 19 examination-style questions designed to be a key learning, revision and exam preparation resource.

In Paper 1, Section A, there are four data-response questions. Then in Section B there are two essay questions (one worth 15 marks; one worth 25 marks).

In Paper 3, Section A, there are ten MCQs. Then in Section B there are three data-response questions (worth 10 marks, 15 marks and 25 marks). Section B is called the INVESTIGATION and all questions refer to the context given in the INSERT.

All the questions in this guide can be used 'en bloc' as part of a short trial or mock exam near the end of your course. Alternatively, as you study a topic in the Content Guidance section of this guide, you could refer selectively to particular questions in this section that assess aspects of the topic.

Note: no past-paper questions, nor students' answers to past-paper questions, have been included in this guide.

This section of the guide also contains:

- correct answers for the MCQs and a brief explanation of the correct answer
- comments on the MCQs, explaining particular features of each question
- student answers of grade-A standard (or sometimes A* standard) and grade-C standard for each DRQ and essay question
- comments on each student's answer, explaining, where relevant, how the answer could be improved.

Paper 1

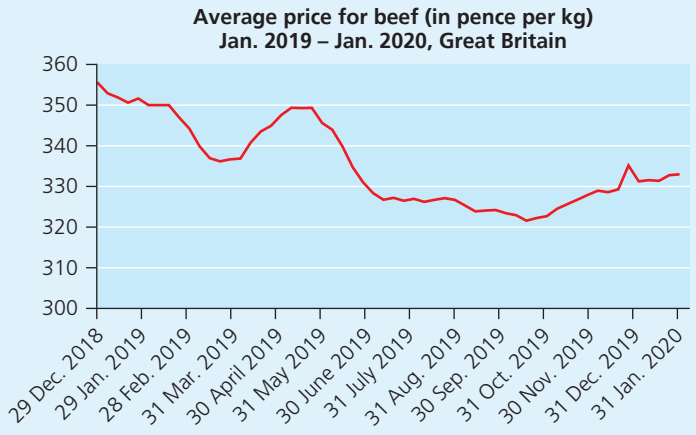
Section A

Total for this Context: 40 marks

Context 1: Veganuary

Study Extracts A, B and C and then answer all parts of Context 1 which follow.

Extract A The price of beef



Source: Agriculture and Horticulture Development Board (AHDB)

Extract B Burger King takes the lead in producing plant-based burgers

In January 2020, Burger King launched its first plant-based burger in the UK. The soy-based version of its Whopper burger is aimed at those who want to cut meat consumption.

It is a fact that more people are beginning to cut meat out of their diet in the UK. Various factors — such as the Netflix documentary ***Gamechangers***, the increasing concern about the meat industry contributing to climate change and meat-based health scares — have all contributed to this change in demand. As a result, many people are trying out Veganuary (which was launched by a non-profit firm which encourages people to go vegan for the month of January).

The fast-food market in the UK is highly competitive. As a result, other fast-food firms like McDonalds (veggie dippers) and Greggs (vegan sausage rolls) are following Burger King's lead and also producing non-meat alternatives.

Source: news reports (2020)

Extract C NFU calls for action due to the collapse of beef prices

The prime minister came under fire from a farmers' union, the National Farmers' Union (NFU) in early 2020 because of the collapse in beef prices. One union member stated that 'cattle farmers have lost nearly £170m in profit over 2019 because of the collapse in demand… current market prices barely cover our costs of production'. The NFU, which is registered as an association of employers under the 1974 Trade Union and Labour Relations Act, called for the government to introduce new subsidies to protect profits in the future. It is the largest farmers' organisation in the UK and boasts 55,000 farmer members.

The ability of trade unions to influence wages and levels of employment in the labour market is keenly debated in economics. In this instance, the prime minister was non-committal and replied that the real problem for cattle farmers was not the shortage of staff but the oversupply of imported meat from EU countries. 'Once we get Brexit done,' he said, 'we can limit the number of non-UK meat supplied into the UK which is causing the demand [and profit] for domestic producers to fall.'

Source: news reports (2019)

Question 1

Using the data in Extract A calculate the percentage change in UK beef prices from January 2019 to January 2020. Give your answer to one decimal place. 2 marks

For calculations questions it is important to show all the steps of your calculations, and to make sure that the final units are correct.

Student A answer

Price in January 2019: 355p/kg

Price in January 2020: 335p/kg

Percentage change is: ((335 – 355) / 355) x 100 = –5.6% to 1 decimal place.

2/2 mark awarded This is a correct calculation, which earns full marks. Showing the working like this is advisable because it shows steps that may have gone wrong. You may still get 1 mark for a particular stage of the calculation even if the full result is wrong.

Student B answer

Price in January 2019: 355p/kg

Price in January 2020: 335p/kg

The change is 20p.

1/2 marks awarded The student has not performed a percentage change calculation despite identifying the correct numbers.

Question 2

Explain how the information in Extract B show how the price mechanism allocates resources 4 marks

A good tip is to define the key word(s) in the question (in this case *price mechanism*). Then, make sure you explain the effect of the price mechanism mentioned in the extract in context.

Student A answer

The price mechanism is the process by which the market forces of supply and demand direct the allocation of resources in an economy. In this case, the demand for meat is falling and the demand for non-meat alternative is rising. While the price of meat falls, consumers of non-meat alternatives will bid up this price. This, in turn, creates an incentive for producers to reallocate their resources and produce more non-meat alternatives. Extract B shows that Burger King, McDonald's and Greggs have all recently introduced non-meat alternatives onto their menus, which shows that they are responding to those incentives.

4/4 marks awarded Although a definition is not essential, it can help to frame your answer. The economic theory offered in this answer is clear and correct. Mentioning an example from Extract B is neatly woven into the analysis, showing strong application skills.

Student B answer

The price mechanism is the process by which the market forces of supply and demand direct the allocation of resources in an economy. The price mechanism consists of the rationing, incentive and signalling functions. The rationing function will determine who gets to buy non-meat alternatives. The signalling and incentive functions will determine how many units of non-meat alternatives are produced.

2/4 marks awarded This answer demonstrates the skill of AO1 (knowledge) without applying it to the extract. It is not enough to use the words 'non-meat alternatives'; instead, you must use the extract to support your economic knowledge.

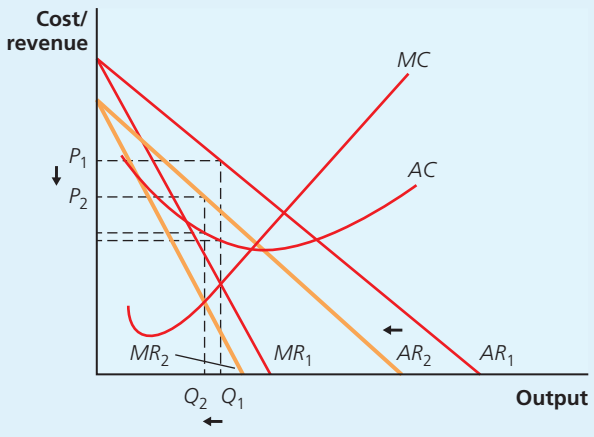
Question 3

Extract C states that '[UK] cattle farmers have lost nearly £170m in profit over 2019'. With the help of a cost and revenue diagram, explain why profits may have fallen for UK cattle farmers in 2019. 9 marks

Make sure that you include the correct type of diagram that the question asks for (in this case, demand should be falling). You won't be able to gain full marks for the question without including it.

Student A answer

Extract B says that more people are beginning to cut meat out of their diet in the UK. As a result, the price of UK beef is falling. This can be seen in Extract A where the price has fallen from 355p/kg in January 2019 to 335p/kg a year later. This demonstrates that the demand for meat-based foods, like burgers and sausage rolls, is falling. Since the demand for cattle is derived demand for burgers and sausage rolls, this is the reason for the 'collapse in demand' described in Extract C.



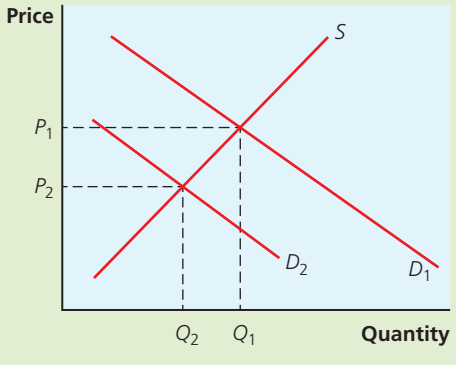
The diagram above shows the demand for cattle falling. The *AR* curve shifts to the left (AR_1 to AR_2). As a result, the *MR* curve also shifts left (MR_1 to MR_2) and the profit maximising level of output falls (Q_1 and Q_2). Although costs have not changed, the rectangle indicating supernormal profit has significantly decreased. This could be the lost '£170m in profit' described in Extract C. Also, it is clear that the new market price is much closer to the firms' average cost, which explains the quote: 'the current market prices barely cover our costs of production' from Extract C.

9/9 marks awarded The theory is well articulated and is correct. The diagram is well drawn and, crucially, is referred to throughout the answer; the simple use of brackets indicating the movements of lines when they are explained really helps. Quotes and figures from the extract are used to great effect throughout the answer, fully demonstrating the skill of application but also making sure the answer stays focused and actually answers the question.

Student B answer

Extract B says that more people are beginning to cut meat out of their diet in the UK. As a result, the price of UK beef is falling. This can be seen in Extract A where the price has fallen from 355p/kg in January 2019 to 335p/kg a year later. This demonstrates that the demand for meat-based foods, like burgers and sausage rolls, is falling.

When the demand curve decreases, this will lead to a decrease in the revenue gained by producers. Revenue is calculated by the formula *P* x *Q*. As the diagram shows, when demand falls the revenue box decreases in size (from P_1Q_1 to P_2Q_2), which indicates a fall in revenue.



4/9 marks awarded This answer starts well enough but it uses a simple demand and supply diagram rather than a cost and revenue diagram, which was specified in the question. In addition, the answer focuses on the issue of revenue rather than profit. Revenue and profit are different concepts and should not be used synonymously.