

Lesson One

Economic Methodology

Aims

The aims of this lesson are to enable you to

- develop a basic economic vocabulary
- identify different categories of economic resources
- define scarcity and understand the importance of choice
- distinguish between positive and normative economics
- improve your essay-writing technique

Context

This first lesson skates over a number of very important topics. If you have already done 'O' level or GCSE Economics, much of this will seem very familiar and you can use it as the first part of a refresher course. All of these topics will recur later in the course so do not worry if you are new to the subject and do not feel that you have a very thorough grasp.



Ray Powell & James Powell: *AQA A-level Economics, Book 1*, ch. 1, pp. 2-20.



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What Economics is about

Economics is the study of the arrangements that societies make for the use and development of their scarce resources. It is a social science, and is similar in its wider thinking to other social sciences, but is also more theory driven than other social science subjects, as we will see below.

Though economies differ profoundly in their technology and organisation, there are certain perennial problems that arise, which do not necessarily have to be settled according to some set of general laws, but which nevertheless have to be answered.

- *Who* is to do the work?
- *What* kinds of work and how much?
- *Who* is to own the means of production, whether it be the fields or the factories, the ploughs or the lorries?
- *What* goods and services are to be produced and in what quantities?
- *Who* is to have the right to use or consume these goods and services and on what terms?

The Economic Use of Data

The economist is a social scientist, and, like any scientist, needs to develop theories and explanations based upon data.

Data that deals with the economy as a whole is known as **macroeconomic data**. The main sources of such data will be government agencies and a range of international economic organisations [such as the IMF and World Bank]. Examples of macroeconomic data you might expect to see in any exam could include:

- inflation
- unemployment
- national income, and
- balance of payments statistics



Thinking point

Look at the IMF website at www.imf.org and search for global indicators.

These will show you the types of indicators collected at a national and international level, which are classed as macroeconomic data.

- Data that covers the economy broken down into its constituent components, sectors and individual markets is known as **microeconomic data**. Examples of microeconomic data include: data on output from a particular industry
- price movements, and
- productivity levels.



Thinking point

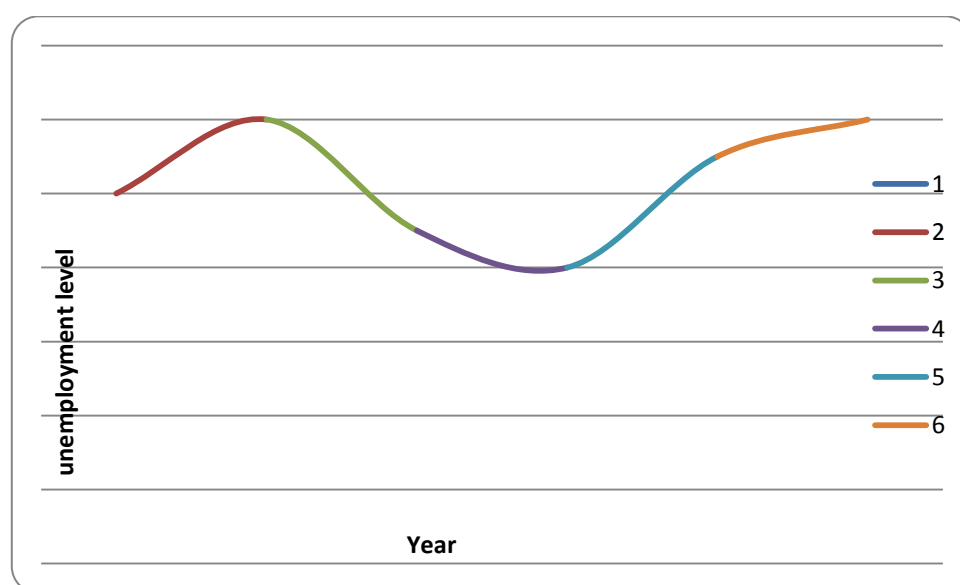
Look at the Office for National Statistics website at <http://www.ons.gov.uk> and search for the productivity of different industries.

These are a useful indication of how well the sector is performing, and are examples of microeconomic data.

Most data supplied in the exam will be **quantitative**, i.e. of a numerical nature. Qualitative data, of a more descriptive and non-statistical form, may also be seen.

There are lots of ways of displaying data. You will be introduced to many of these as the course progresses. One of the most popular ways of displaying data in the exam is to use **index numbers** to show changes in data over a period of time.

An example of using index numbers is shown in the graph below, where the base figure is 100. The line shows how unemployment varies over the following years, so it is easier to compare.



A well-known example of index numbers is the Retail Price Index (RPI).

A base year will be chosen and the variable (i.e. what is changing – for example, the price of bread) is given an index number with the value of 100. The data for the following years is given a number that shows how the variable has changed relative to the base year.

For example, if the base year was 2000, with the variable at an index value of 100, and 2001 indicated a figure of 150, this would show a 50% increase in the variable since the base year.

Index values allow economists to easily compare change from one year to another or over longer periods of time. You can make any year the base year. Depending upon which year is selected we get a different series of index numbers. Giving an index number of 100 to the 1985 level of Gross Domestic Product (GDP) then the index number of GDP in 1948 was 40.5 and in 1990 it was 116.2.

Index variables allow percentage calculations to be made using the index variable numbers from one year to the next. Index numbering is most often displayed as columns of figures or as bar graphs displaying the change over a time period.

Note that index numbers do not take inflation into account. The rate of inflation over time can, however, be estimated using the RPI. We need to be clear if the figures are being measured in current prices [nominal prices] over time or not. If the inflation rate is calculated and subtracted these figures become “real” prices.



Thinking point

You can find more information about index numbers and many other Economics topics on the biz/ed website, www.bized.co.uk. Just search for ‘index numbers’.

As you look through this website, think about the role of an economist when looking at these figures, and how this differs from that of a scientist. In particular, think about the wider factors that can influence economic decision making, and also economic policy. For example the impact on a family if a benefit was removed, or if a tax rate was lowered. These considerations could be ethical/moral considerations, such as whether it is ethically right to reduce benefits, or political considerations, such as the impact of a tax cut on voters. Considering the wider implications will help you to distinguish the role of an economist from that of a scientist, and also the influence of these judgments on economic decision-making.

The Nature of Economic Resources

Resources can be divided into two broad categories – **human** and **non-human**. More traditionally, they can be divided into:

Labour Land Capital

Whatever division is used, resources are the basic factors of production. Do not be put off by the terminology. A **factor** is anything which contributes to production. Try to familiarise yourself with the technical terms and use them in your essays.



Read Ray Powell & James Powell: *AQA A-level Economics, Book 1*, ch. 1, pp. 2-6.

Human Resources

These depend on the size of a country's population which in turn depends upon the birth and death rates and the international migration flows. As with most items there are quantitative and qualitative aspects.

It is important to remember that for most economic analysis, 'work' consists only of 'work in exchange for money'; thus while looking after your children or growing vegetables in the garden *is* work, an economist would not usually define it as such. Although in some contexts it may be acknowledged as important; e.g. one of the reasons some Third World countries have what appear to be extremely low average incomes per head is because much productive activity takes place outside the formal, money economy, e.g. as subsistence farming and barter. The habit of ignoring non-paid work causes some problems which will be looked at in later lessons

There are many influences on the **quantity** of the population willing to work:

1. Age and sex structure of the population;
2. School leaving and retirement ages;
3. Social conventions – e.g. in the past, mothers were often discouraged from working.

Another important consideration is the average length of the working week.

The **quality** of the work force has assumed increasing importance in the modern technologically orientated world. It is possible to distinguish between workers in terms of natural and acquired characteristics. Governments now concentrate on improving the acquired skills of their population as the quality of a nation's labour force is influenced to some extent by the education and training facilities provided by the state, employers and others, and by the willingness and ability of citizens to make use of these facilities. Unfortunately these benefits are not easily measured and so in times of economic difficulties tend to be reduced.

Entrepreneurship is also a human resource.

Non-Human Resources

Land in its narrower sense may be fixed in supply, but in economics the term is used to denote both the surface area and its mineral content or other natural resources. Recent experience in Great Britain illustrates how the latter may change significantly. The discovery of North-Sea Oil transformed the economy (and some would argue the politics) of Scotland. Land is also mobile between different uses. It can be utilised for different types of crops or used for recreation or industry. So it is important to note that change is a vital component of all economic activity.

The picture below shows an oil rig located just off the coast of Scotland at Cromarty, showing the importance of land in economic resources. The oil it extracts is an expensive commodity.



Land by itself is of little use without the labour to work it and the capital to develop it, whether by the application of fertilisers to agricultural land or the building of massive oil rigs to exploit the potential in the North Sea – just like the one above. **Capital** therefore is any resource – except those included by the terms land

and labour – that is used in the production and distribution of goods or services. It must be stressed that this, like all definitions, is not completely correct in every case since the line of distinction between land and capital is not always clear. Land reclaimed from the sea is one such example.

Capital can again be sub-divided into:

1. **Fixed capital**—buildings, plant and machinery;
2. **Working capital**—stocks of components and raw materials.

Some economists also speak of human capital and physical or non-human capital. They argue that physical capital goods are produced by humans through investment but humans also invest in themselves by acquiring new skills.

It is important to realise that money is not capital in economic terms. Money can measure capital but money as such does not produce anything. It must first be transformed into actual physical assets.

Modern advanced industrial technology rests upon the use of vast amounts of capital; elaborate machinery, large-scale factories and stores and stocks of finished and unfinished materials. ‘Capitalism’ got its name because this capital, or ‘wealth’ is primarily the private property of somebody—the capitalist.

Few economic tasks are performed by one factor alone. Nearly every productive unit, whether it be a factory or a farm or a railway or a school, uses a number of different types of workers, equipment, land and other factors. It combines their services in order to produce its output. The exact quantity or proportion of each factor used will depend – in a free market system – on their relative prices. The important point to note is the ability to substitute – albeit within limits – one factor for another.

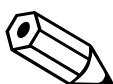
Example: a farmer who wishes to expand output can either purchase more land, or buy more agricultural machinery or engage more labour.

This situation of **choice** is vital to understanding economic theory.

Activity 1

What are the four factors of production? Classify them as human or non-human.

Please jot down your answer in the box below and then compare your answer with the one given at the end of the lesson.

**Scarcity and Choice**

The first definition in this lesson emphasised the need to make use of **scarce resources**. Most goods and services are scarce because at any given time the supplies of raw materials, land and equipment as well as the human skill and energies needed to create them are limited. The word in economics does not mean unavailable but is a *relative* term meaning that **the desire for goods and services exceeds the available supplies**. This concept is therefore relevant for the world as a whole, the national community, the family and the individual as a person. Each one has rising expectations competing for the available resources so **choice** is forced upon the government and the individual.

For example, the environment is a scarce resource, and much of the environment is limited, such as in the extraction of oil – a finite resource – or precious metals such as gold or silver, which are becoming increasingly scarce.

If all productive resources are fully employed, an increase in the output of one commodity or service can only be produced by having less of another. The sacrifice of alternatives in producing a commodity or a service is known as **opportunity cost**. A simple definition of this is – ‘the best alternative which has to be given up’. So the opportunity cost of developing the Concorde aircraft was the hospitals, factories or new houses that might have been built instead.

Free Goods

Can goods be **free**? Some goods, or more often resources, have a zero opportunity cost. These are things which are so plentiful, relative to demand, that nobody will give anything for them.

Resources may also be free because no ownership rights have been established. Once ownership is established – for example, on many rivers in Scotland a charge is made for fishing – the resource may no longer be considered as a free good. In the past few decades it has become clear that many things which might previously have been seen as ‘free’ goods, e.g. timber in forests, or peat in moorlands, are actually scarce, since using them has an opportunity cost. Once a forest is cut down, it is gone, and can no longer be used for, say, recreation or as a source of nuts for food - whereas a ‘free’ good, such as a stream which turns a water mill, continues to exist and be usable further downstream.

Furthermore a product is only free if all the resources required for its supply were free. In practice even the free gifts of nature can be utilised only through the additional, scarce resources; the mill powered by the stream requires costly capital equipment and considerable labour.

So the term ‘free good’ is usually restricted to resources as opposed to products. In fact, it has been claimed that ‘the only free good is air’ since this is virtually the only resource which can be used without opportunity cost. Some may argue that this does not even apply to all air, given that present levels of pollution make clean air scarce in some places.

Thinking point

Can a stream, such as the one in the picture below, still be classed as a “free good” in terms of the water? Think about other free goods which still exist, and how we use them on a day to day basis.



Positive and Normative Economics

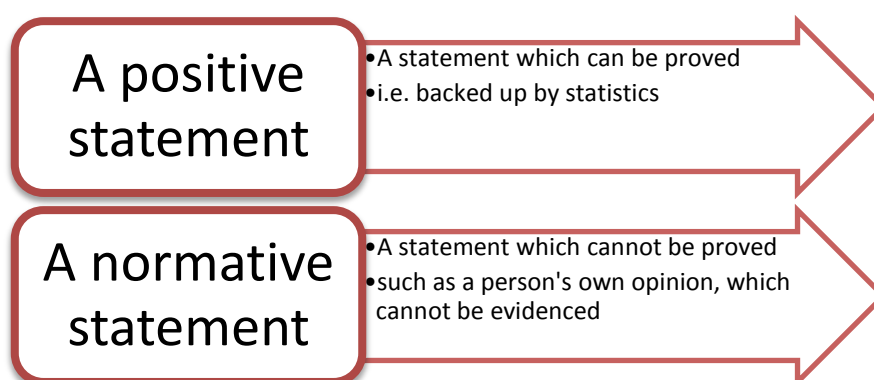
So far in this lesson we have discussed some of the basic problems which economists attempt to solve. The economist does this by using techniques similar to those of a scientist; by carefully measuring the phenomenon in question, using the data to test hypotheses which seem to fit in with the data. The economist can then develop statements about general tendencies which can be used for predictions. Alas, the type of data involved in economic decision making is not easily measured and some forecasts seem in retrospect to be no more than failed prophecy.

Nevertheless most economists agree with this method of procedure. What they do not agree on is the vital next step – the specific measures required to change the economic situation. These often require value judgements and political decisions about what society ought to be like.

For example, the government may be able to *either* reduce income tax *or* increase pensions. The economist who believes in remaining objective will simply point out the economic consequences of both alternatives. This is termed **positive economics**. Note that in this sense ‘positive’ means ‘objective, provable’ not ‘good’.

A **positive statement** is one which can be proved, e.g. ‘Increasing pensions requires funding from government revenue’. Other economists argue that it is not possible to separate policy advice from theory and would suggest one of the alternatives as the correct method – this is known as **normative economics**.

A **normative statement** is one which cannot be proved, a value judgement, e.g. ‘It is more important to look after the old than to cut taxes’.



Conclusions

We have covered a number of points in this lesson so do not be worried if you feel that your knowledge of these topics is superficial. You will be returning to most of the important questions as you progress through the course.

Summary

Macroeconomics deals with the economy as a whole

Microeconomics covers a smaller part of the economy

Economic resources can be broken down into:

Land – i.e. a factory or field

Labour – i.e. human resources

Capital – fixed and working capital



Read Ray Powell & James Powell: *AQA A-level Economics, Book 1*, ch. 1, pp. 7-22.

Hints on Writing Essays

Although it is more important for A2 than AS, a substantial part of your exams will consist of essay questions. A few points should be stressed at the outset.

1. The first thing to decide is what is the point of this question? What material do I need to answer it?
2. It is normally advisable to make a brief, rough plan. This helps to cut out repetition, aids logical presentation and gives time for second thoughts.
3. When writing, remember that conciseness and relevance are the two vital elements in a good essay.
4. Use clear and well annotated **diagrams** whenever possible. This is vital in economics.
5. Try to give relevant examples from your knowledge of current events – these help to enliven your work.

6. Questions are sometimes set in a deliberately imprecise manner so a successful answer may depend on spotting ambiguous wording or a suspect definition, e.g. in your first essay of the course (in the Self-Assessment Test below) you need to give clear definitions of both 'wealth' and 'scarcity' as they are interpreted in economics.
7. Remember an essay is a continuous piece of writing; try to avoid note form or lists numbered 1, 2, 3, 4, etc (like this one!). Instead start a new paragraph for each point.
8. Try to reach a conclusion which in itself is a stopping point – it may either clinch the argument or set it in a wider context. Avoid abrupt endings.
9. Finally, always re-read your essay. It may be depressing, but it gives you the opportunity to check the sense, spelling, punctuation and legibility of your answer. If you cannot read it, then you cannot expect much credit for the essay!

Suggested Answer to Activity One

The four factors of production are land, labour, capital and entrepreneurship. Labour and entrepreneurship are human resources, land and capital are non-human resources.

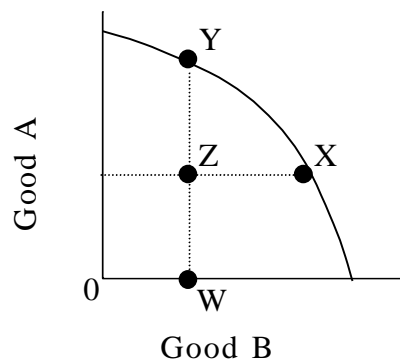
Self-Assessment Test (Lesson One)

Lessons will conclude with *either* a self-assessment test *or* a tutor-marked assignment. You should make written attempts at the following questions and then compare your answers with those given in the special section at the back of the course.

1. 'Economics is the study of wealth'. 'Economics is the study of scarcity'. Explain how these definitions are connected.

Answer the following objective test questions by writing down one of the letters A–E and explaining your choice.

2. All the following are part of a country's stock of capital, **except**:
 - A. Factories
 - B. Hospitals
 - C. Machinery
 - D. Stocks of components
 - E. Money
3. On the production possibilities frontier below, the opportunity cost of producing Y rather than X is:



- A. XY
- B. OW
- C. WY
- D. ZY
- E. XZ

4. Which of the following is a **positive** statement:
- A.** Control of inflation should be the first priority for any government.
 - B.** More of a good will be demanded if its price falls.
 - C.** Airports should not be sited near suburban areas.
 - D.** Pensions should be increased to keep up with inflation.
 - E.** A country should be self-sufficient in its production of food.
5. In 2000 a woman purchased a new car for £11,000. Its second-hand value at the end of 2002 was £6,000. By the end of 2003 this fell to £4,000. The opportunity cost of using the car during 2003 was:
- A.** £11,000
 - B.** £6,000
 - C.** £5,000
 - D.** £4,000
 - E.** £2,000

Now check your answers. You will find a set of suggested answers at the end of the module.

AQA Subject Content	<p>The first lessons in this pack of course materials are closely linked to the AQA syllabus (specification). This lesson relates to the first topic, Economic methodology and the Economic Problem. This topic includes:</p>
	<ul style="list-style-type: none"> • Economic methodology • The nature and purpose of economic activity • Economic resources • Scarcity, choice and the allocation of resources • production possibility diagrams

AQA Syllabus Review

Not all of these topics have been covered yet, but this list will serve later for revision purposes.

3.1 The operation of markets and market failure

This section of the specification is primarily about microeconomics. Students will be required to acquire knowledge and understanding of a selection of microeconomic models and to apply these to current problems and issues. Micro-economic models such as demand and supply, the operation of the price mechanism and causes of market failure are central to this part of the specification. Students should be provided with opportunities to use these models to explore current economic behaviour.

When applying and evaluating all the microeconomic models in the specification, such as supply and demand theory and production possibility curves, students should be critically aware of the assumptions upon which these models are based and their limitations when they are used to make sense of real world phenomena. Students should be able to apply their knowledge and skills to a wide variety of situations and to different markets and examples of market failure, including environmental market failures. They should appreciate that economic decisions relating to individual markets may be affected by developments in the macro-economy.

3.1.1.1 Economic methodology

- Economics as a social science.
- Similarities to and differences in methodology from natural and other sciences.
- The difference between positive and normative statements.
- How value judgements influence economic decision making and policy.
- People's views concerning the best option are influenced by the positive consequences of different decisions and by moral and political judgements.

Students should understand how thinking as an economist may differ from other forms of scientific enquiry.

3.1.1.2 The nature and purpose of economic activity

- The central purpose of economic activity is the production of goods and services to satisfy needs and wants.
- The key economic decisions are: what to produce, how to produce, and who is to benefit from the goods and services produced.