

HODDER
EDUCATION

MY REVISION NOTES
Pearson Edexcel A-level
ECONOMICS

Pearson Edexcel

A-level

ECONOMICS

THIRD EDITION

- + Plan and organise your revision
- + Reinforce skills and understanding
- + Practise exam-style questions



Quintin Brewer



Countdown to my exams

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Glossary

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1 The nature of economics

Economics as a social science

Thinking like an economist

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- + Economics is concerned with the ways in which societies organise scarce productive resources in order to satisfy people's wants.
- + It provides a unique and special way of examining many areas of human behaviour, which involves using the economist's toolkit of concepts, theories and techniques to analyse economic issues and problems.
- + Economists often use models to develop theories of behaviour. These models are usually based on assumptions from which certain deductions may be made.

Exam tip

From the start of the course it is important to adopt a critical approach to the assumptions behind the models that are being considered so that you develop skills of evaluation.

The use of the ceteris paribus assumption in building models

REVISED 

- + When building models, economists work on the basis that all other variables are held constant to enable deductions to be made.
- + This is called the '**ceteris paribus**' assumption, which means 'other things being equal'.
- + This helps to simplify analysis so that the impact of a single change in a variable can be examined.

Ceteris paribus means that when the effect of a change in one variable is considered, it is assumed that all other variables are held constant.

Now test yourself

TESTED 

- 1 Why is the ceteris paribus assumption necessary when building economic models?

Answers available online

Exam tip

Analysis is usually based on the ceteris paribus assumption. However, removing this assumption may be useful in evaluation.

The inability in economics to make scientific experiments

REVISED 

- + It is impossible for economists to conduct laboratory experiments because economics is a social science involving people.
- + Consequently, economic policies that may have been effective at one time in one country may not have the same impact at another time or in another country.

Positive and normative economic statements

Positive economics

REVISED 

- + **Positive economic statements** are based on facts that can be proved or disproved. They include what was, is or will be, and these statements can be verified as being true or false by reference to data or evidence or by using a scientific approach.

Positive economic statements are objective statements based on evidence or facts that can, therefore, be proved or disproved.

- Economists often use models as a way of predicting behaviour. It is possible to make positive statements on the basis of 'models', such as the impact on price of a product following an increase in demand.
- Positive economics relates official data such as gross domestic product (GDP), the price of oil, the rate of unemployment and the rate of tax on sugar. It may also be associated with the use of models as a way of predicting behaviour.

Now test yourself

TESTED 

2 Why do economists use models to predict economic behaviour?

Answers available online

Normative economics

REVISED 

Normative economic statements are based on value judgements and are, therefore, subjective. They relate to what:

- might be good or bad, or
- should be or ought to be, or
- would be fair or unfair.

Normative economics is usually associated with discussions about economic policy. In this unit, for example, it is concerned with issues such as whether or not there should be:

- a minimum price for alcohol
- subsidies for green energy, e.g. solar energy
- road tolls
- an increase in the tax on cigarettes
- more private sector provision in the health service.

Normative economic

statements are subjective statements based on value judgements and cannot be proved or disproved.

Exam tip

When defining normative statements it is better to use the terms 'value judgements' or 'subjective views' rather than 'opinions' to describe them.

The role of value judgements in influencing economic decision-making and policy

REVISED 

- As explained previously, scientific, laboratory experiments are impossible in economics.
- Economists often develop models to help them to predict what might happen in the real world. However, the assumptions underlying these models are invariably based on value judgements.
- Similarly, the economic policies promoted by economists are likely to be heavily influenced by their values and politics. For example, if a government wanted to reduce its budget deficit, a left-wing economist might favour wealth taxes or higher taxes on those with high incomes. In contrast a right-wing economist might prefer cuts in welfare benefits to the unemployed.

Now test yourself

TESTED 

- 3 Which of the following are positive statements and which are normative statements?
- Healthcare workers should be paid more.
 - The USA's GDP fell by over 30% in the second quarter of 2020.
 - The use of robots will create unemployment in jobs that can be automated.
 - High energy prices are unfair on the poor.
 - Wealth inequality is greater than income inequality in the UK.

Answers available online

The economic problem

The problem of scarcity

REVISED

All societies face the problem that wants are infinite but resources are limited in supply. This is the underlying reason for the fundamental economic problem of **scarcity**. Therefore, choices must be made. The issue of scarcity means that societies face a series of questions:

- + **What to produce and how much to produce?** This relates to the different types of goods the economy should produce and how much of each.
- + **How should the goods and services be produced?** Production may be labour intensive, i.e. a high proportion of labour used relative to capital, or capital intensive, i.e. a high proportion of capital used relative to labour.
- + **How should the goods produced be allocated?** This is concerned with the distribution of the goods produced and affects the degree of equality in the society.

Now test yourself

TESTED

- 4 What is the basic economic problem?

Answers available online

Scarcity exists because resources are finite whereas wants are infinite.

Exam tip

To avoid confusion between capital goods and consumer goods, consider how they are used: anything that is an aid in the production of other goods is classified as a capital good. In contrast, anything used by someone for final consumption is classified as a consumer good.

Resources

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The resources of a country are referred to as '**factors of production**'. Four factors of production may be identified:

- + **Land:** includes all natural resources, raw materials, the fertility of the soil and resources found in the sea.
- + **Labour:** refers to those involved in the production of goods and services and includes all human effort, both physical and mental.
- + **Capital:** any man-made aid to production including factory buildings, offices, machinery and IT equipment that is used to make other goods and services.
- + **Enterprise:** the entrepreneur performs two essential functions:
 - + bringing together the other factors of production so that goods and services can be produced and
 - + taking the risks involved in production.

Factors of production

are resources and include land, labour, capital and enterprise.

Exam tip

When referring to capital as a factor of production, remember that it is something used to make other goods, and that it does **not** refer to money.

Making links

Enterprise is considered more fully in Chapter 11 and labour is considered in Chapter 15.

Now test yourself

TESTED

- 5 Identify the factor of production in each of the following cases:
- a) Copper deposits in Zambia
 - b) A woman who opens a hairdressing salon
 - c) Machinery used in car production
 - d) An engineer making computer games for a company

Answers available online

The distinction between renewable and non-renewable resources

REVISED

- + **Renewable resources** are those that can be replaced naturally after use, e.g. solar energy, wind power, wood and fish. Such resources are likely to be sustainable unless they are consumed more quickly than they can be replaced.
- + **Non-renewable resources** are those where continued consumption will eventually result in their exhaustion, e.g. oil, copper, platinum.

Renewable resources are those whose stock levels can be maintained at a certain level.

Non-renewable resources are those that will eventually be completely depleted.

The importance of opportunity costs to economic agents

REVISED

Opportunity cost is linked to scarcity as explained below:

- + Scarcity implies that choices must be made.
- + Each choice involves an opportunity cost.
- + This may be explained as follows: if a country's resources are used to manufacture one product, then it must forgo an alternative product that could have been produced. The next best alternative forgone is called the opportunity cost of what has been produced.
- + Opportunity cost, therefore, is a **real cost** measured in terms of something that is forgone.

Examples of opportunity cost in relation to different economic agents include:

- + **For a consumer:** a university student might have enough money to buy either a jet ski or a surfboard. If the student decides to buy the jet ski then the opportunity cost is the surfboard.
- + **For a firm:** the firm might have to make a choice between its two priorities, e.g. buying a new IT system or building a new factory. If it chooses the IT system then the opportunity cost is the new factory.
- + **For the government:** suppose the government has £10 million with which to fund one of its two main priorities that both require a £10 million investment — building a new school or building a new university. If it decides that its first preference is the school while the second preference is the university, then the opportunity cost of building the school is building the university.

Opportunity cost is the next best alternative that is forgone when a choice is made.

Making links

Opportunity cost is an important concept that has relevance throughout the course so it is important for exams to ensure that you have a secure understanding of the concept.

For example, this concept is relevant in considering economic growth using production possibility frontiers in Theme 1 (see page 15), normal profit in Theme 3 (see page 153) and the law of comparative advantage in Theme 4 (see pages 188–190).

Now test yourself

TESTED

- 6 A firm has £1 million that it could use to build a new factory or to buy five robots. What is the opportunity cost if the firm decides to build the factory?

Answers available online

Exam tip

Opportunity cost must be measured as a real cost, in other words in terms of goods forgone when a choice is made, and **not** in money terms.

Economic goods and free goods

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Economic goods are created from resources that are limited in supply and so are scarce. Consequently, they command a price.

Free goods are unlimited in supply, such as sunlight or sand on a beach. Consumption by one person does not limit consumption by others. Therefore, the opportunity cost of consuming a free good is zero.

Now test yourself

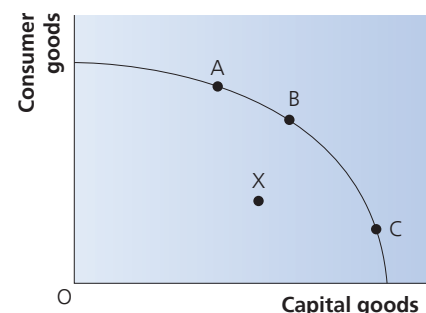
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- 7 Why does the consumption of free goods not incur an opportunity cost?

Answers available online

Production possibility frontiers

A **production possibility frontier** (PPF) shows combinations of two goods that could be produced by an economy if all of its resources are employed fully and efficiently (see Figure 1.1).



A **production possibility frontier** illustrates the maximum potential output of an economy when all resources are fully employed.

Figure 1.1 A production possibility frontier (PPF)

In constructing the PPF in Figure 1.1 it is assumed that the economy can produce either consumer goods or capital goods.

- + **Capital goods** are those required to produce other goods — both capital and consumer goods, e.g. machinery, factory buildings.
- + **Consumer goods** are those that give satisfaction (or utility) to consumers, e.g. smartphones, curry and cars.
- + By definition, any point on the PPF, e.g. A, B or C, implies that all resources are fully and efficiently employed. Therefore, all points on the PPF indicate **the maximum productive potential of an economy and that resources are being used efficiently**.
- + However, if the economy was operating inside its PPF, e.g. at point X, then it would indicate that there are unemployed resources in the economy. For example, some workers may be unemployed or machinery may be unused. It could also imply that **resources are not being allocated efficiently**.

Now test yourself

TESTED ☐

- 8 Classify the following into capital and consumer goods:
- A laptop used by a company director for his business
 - A curry eaten by Marie for her lunch
 - A visit to a spa by Kirsten
 - A car used to transport a manager between offices

Answers available online

Possible and unobtainable production

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Any points inside or on the PPF represent combinations of the two products that are obtainable. However, any points to the right of the PPF would be currently unobtainable. They could only become obtainable if there was economic growth.

PPFs and opportunity cost

REVISED ☐

- + The PPF is drawn as a curve (concave to the origin) in Figure 1.1. This may be analysed in terms of the concept of opportunity cost and **marginal analysis**.
- + Marginal analysis involves consideration of the impact that small changes have on the current situation.
- + Therefore, a marginal increase in the output of capital goods means that some consumer goods must be sacrificed (the opportunity cost).
- + In Figure 1.2, when output of capital goods is increased from OM to OS, the output of consumer goods is reduced from OL to OR.

Marginal analysis is concerned with the impact of additions to or subtractions from the current situation. The rational decision-maker will only decide on an option if the marginal benefit exceeds the marginal cost.

- Therefore, the opportunity cost of increasing the output of capital goods by MS is LR consumer goods.
- Since the PPF has been drawn as a curve, it can be seen that as output of capital goods is further increased, e.g. by SV, the opportunity cost rises, i.e. by RT consumer goods. The main reason for this is that some resources will be better suited to the production of consumer goods while others are better suited to the production of capital goods. Therefore, when more and more capital goods are produced, the opportunity cost in terms of consumer goods increases.

Exam tip

If the PPF were a straight line then the opportunity cost would be constant.

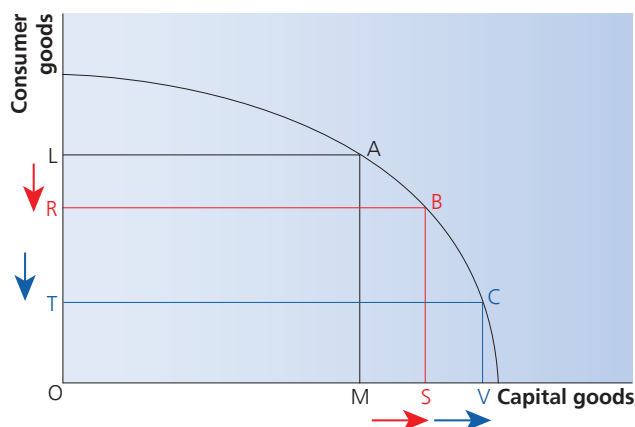


Figure 1.2 Production possibility frontiers and opportunity cost

PPFs, economic growth and economic decline

REVISED

PPFs may be used to illustrate **economic growth**.

- Refer back to Figure 1.2. Suppose that the economy is currently operating at point A on the PPF with OL consumer goods and OM capital goods being produced.
- It is also assumed that the OM capital goods produced are just sufficient to replace worn-out machinery.
- If there is a reallocation of resources so that the production of capital goods is increased to OS, then only OR consumer goods can now be produced.
- Therefore, the opportunity cost of producing MS more capital goods is LR consumer goods.
- This reduction in the output of consumer goods implies a fall in current living standards.
- However, in the long run, there will be economic growth because the extra capital goods will cause an increase in the productive capacity of the economy resulting in a rightward shift in the PPF, as shown in Figure 1.3.

Economic growth refers to an increase in the productive capacity of the economy indicating an increase in real output.

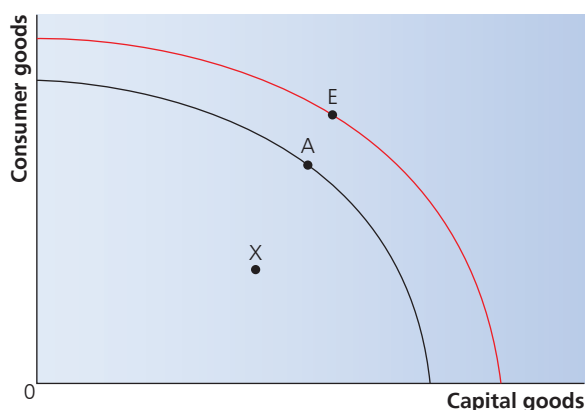


Figure 1.3 Production possibility frontiers and economic growth

- It can be seen that if the economy moved from point A to point E then more of both capital goods and consumer goods could be produced. In turn, this implies that living standards would increase in the long run.
- In contrast, **economic decline** would be associated with an inward shift in the PPF and might have occurred as a result of resources being reallocated from the production of capital goods to the production of consumer goods. For example, if the production of capital goods was reduced below OM then there would be insufficient production of capital goods to cover depreciation, so reducing the productive capacity of the economy. Other factors causing shifts in the PPF are outlined below.

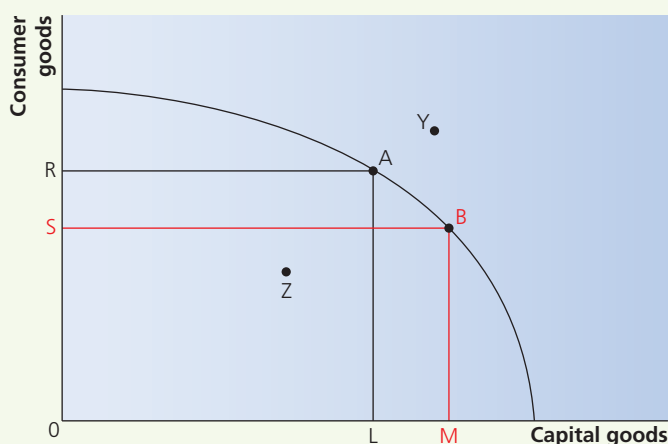
Economic decline

refers to a decrease in the productive capacity of the economy indicating a decrease in real output.

Now test yourself

TESTED

- 9 Study the diagram below and answer the questions that follow.



- What does point Z represent?
 - What is the opportunity cost of increasing the output of consumer goods by RS?
 - Would the opportunity cost of producing more and more consumer goods increase or decrease?
- 10 How might economic growth be affected if a country produces more and more consumer goods and fewer and fewer capital goods?

Answers available online

Movements along and shifts in a PPF

REVISED

Movements along a PPF

- A change in the combination of the two goods being produced, e.g. capital goods and consumer goods, would cause a movement *along* a given PPF.
- Such a change might occur if the economy devoted more resources to the production of capital goods and fewer to the production of consumer goods. This would involve an opportunity cost (see pages 15–16).

Shifts in a PPF

A range of factors could cause a shift in the whole PPF. These are outlined in the following two sections.

Factors causing an outward shift in the PPF

REVISED

Factors that might cause an outward shift in the PPF include:

- + discovery of new natural resources, e.g. rare minerals
- + development of new methods of production that increase productivity
- + advances in technology
- + improvements in education and training that increase the productivity of the workforce
- + factors that lead to an increase in the size of the workforce, e.g. immigration, an increase in the retirement age, better childcare enabling more women to join the workforce.

Factors causing an inward shift in the PPF

REVISED

Factors that might cause an inward shift in the PPF include:

- + natural disasters, e.g. earthquakes or floods that cause a destruction of productive capacity
- + depletion of natural resources
- + factors causing a reduction in the size of the workforce, e.g. emigration, an increase in number of years spent in compulsory education
- + a deep recession that results in a loss of productive capacity with factories closing down permanently.

Making links

It can be seen from the above analysis that PPFs may be used in exams when considering opportunity cost and will be of relevance for economic growth (see Chapter 9) and for the law of comparative advantage (see Chapter 17).

Exam tip

Remember that the PPF represents the possible outputs of two goods that could potentially be produced. Points on the PPF do not represent what is actually produced unless all resources are fully employed.

Now test yourself

TESTED

- 11 What will be the effect on a PPF of each of the following?
- a) An improvement in education and training leading to an increase in labour productivity
 - b) A prolonged drought in North Africa causing agricultural land to be turned into desert
 - c) An increase in the amount of capital per worker
 - d) An increase in immigration of people aged between 16 and 65

Answers available online

Specialisation and the division of labour

The meaning of the division of labour

REVISED

Division of labour occurs when workers specialise on very specific tasks. For example, the work is divided up into many smaller parts so that each worker is responsible for a very small part of the product or service being provided.

Division of labour occurs when the work is split up into small, specialised tasks.

Adam Smith and the division of labour

REVISED

- + In *The Wealth of Nations* Adam Smith set out the view that economic growth could be achieved by increasing the division of labour.

- + This involved the breaking down of a task into many small jobs with workers specialising on a particular task without the need to change jobs during the day.
- + Smith used the example of pin-making: one person doing all the tasks could make 1 pin a day. However, if each of the skills that go into making a pin were divided into 18 different operations with 18 different operators who pass the pin along an assembly line then 12 pounds of pins per day could be produced.
- + This would save time and enable each worker to become an expert in one specific task, so increasing their productivity.

Advantages and disadvantages of specialisation and the division of labour in organising production

REVISED

Advantages	Disadvantages
Each worker specialises in tasks for which that worker is best suited.	Monotony and boredom for workers: this could result in a decrease in productivity.
The worker only has to be trained in one task. Therefore, training costs for the firm are likely to be lower.	Loss of skills: workers trained in one particular task have only limited skills. This could be a problem if they are made redundant.
Less time is wasted because a worker no longer has to move from one task to another.	A strike by one group of workers could bring the entire production facility to a standstill.
In manufacturing, such an approach enables production line methods to be employed and allows an increased use of machinery. In turn, this helps to increase productivity and to reduce average costs of production.	There is a lack of variety because all goods produced on a production line are identical.

Now test yourself

TESTED

12 How might a firm benefit from the division of labour?

Answers available online

Exam tip

Note that the division of labour enables training costs to be reduced because the worker only has to be trained in one particular task.

Making links

For the exam you should be able to understand the significance of the division of labour for productivity (see Chapter 7), the labour market (see Chapter 15) and economic development (see Chapter 19).

Advantages and disadvantages of specialising in the production of goods and services to trade

REVISED

Advantages

If a country specialises in the production of certain goods and services and then trades these in exchange for goods and services that it does not produce, then it can benefit from increased output, greater choice and lower prices.

Disadvantages

Such specialisation might mean that a country becomes over-dependent on imported goods and services. If its goods and services are uncompetitive then unemployment could result, and the country's value of imports may persistently exceed the value of its exports.

Making links

You will study more about specialisation and trade in Chapter 17 when you consider the law of comparative advantage, which provides the basis for free trade. In exams you would need to use comparative advantage when considering specialisation.

Limits to the division of labour

REVISED

Certain factors limit the extent to which the division of labour can be applied:

- + **The size of the market:** if there is only a small market then it is more difficult to specialise.
- + **The type of product:** for example, designer fashion products are likely to be unique and not suitable for the division of labour.
- + **Transport costs:** if these are high then large-scale production and the division of labour may not be possible.

Now test yourself

TESTED

13 What might limit the division of labour in a firm making individual jewellery?

Answers available online

The functions of money

REVISED

Money performs various functions, which help to facilitate specialisation and the division of labour. The key functions are:

- + **As a medium of exchange** enabling people to specialise, exchanging the money earned from doing a specialist job for the goods and services they wish to buy.
- + **A store of value** enabling people to save in order to buy goods in the future.
- + **A measure of value** enabling people to assess the value of different goods and services by comparing prices.
- + **A means of deferred payments** enabling people to buy goods and pay for them on credit.

Money refers to anything that is used as a means of exchange for goods and services.

Making links

In exams you need to be able to explain the importance of money for specialisation.

Now test yourself

TESTED

14 Explain the importance of money as a medium of exchange.

Answers available online

Free market economies, mixed economy and command economy

Economies may take different approaches to the economic problem of scarcity and of answering the questions of what to produce, how to produce, and how the goods produced should be allocated, as described below.

Free market economies

REVISED

The **free market economy** is one in which the above questions are determined by market forces. The main characteristics of such economies are as follows:

- + There is private ownership of resources.
- + Market forces, i.e. supply and demand, determine prices.
- + Producers aim to maximise profits.
- + Consumers aim to maximise utility (satisfaction).
- + Resources are allocated by the price mechanism.

A **free market economy** refers to an economic system in which prices are determined by supply and demand with no government intervention.

Adam Smith

- + In his book *The Wealth of Nations*, written in 1776, Adam Smith suggested that when individuals follow their own self-interest, they indirectly promote the good of society.
- + Consequently, the free market economy would result in an ordered market with producers responding to changes in consumer wants in such a way that there was little waste.
- + Smith believed that the role of the government should be limited to providing defence, justice and some 'public goods' such as roads.

Friedrich Hayek

- + In the twentieth century Friedrich Hayek offered a strong defence of the free market along with support for private property.
- + Further, he argued in his book *The Road to Serfdom* that attempts by governments to determine the answers to the questions of what to produce, how to produce and for whom were doomed to failure.
- + State planning would involve restrictions on freedom and the use of force.

Now test yourself

TESTED ☐

15 Identify four characteristics of a free market economy.

Answers available online

Command economy

REVISED ☐

The **command or centrally planned economy** is one in which the above questions are determined by the state. The main characteristics of such economies are as follows:

- + There is public (state) ownership of resources.
- + The state determines price.
- + Producers aim to meet production targets set by the state.
- + The state allocates resources.
- + There is greater equality of income and wealth than in a free market economy.

A **command economy or centrally planned economy** is one in which resources are allocated by the state.

Karl Marx

- + Writing in the nineteenth century, Karl Marx thought that capitalism was inherently unstable because workers are exploited by the bourgeoisie (the owners of the factors of production).
- + Ultimately, there would be a proletariat revolution in which communism would result.

Mixed economy

REVISED ☐

The **mixed economy** is a mixture of the free market economy and the command economy.

- + In practice, there are no absolutely free market or command economies: most are mixed economies.
- + In mixed economies, some resources are allocated by the price mechanism while others are allocated by the state. What differs between countries is the degree of that mix.

A **mixed economy** is a combination of a free market economy and a command economy.

Now test yourself

TESTED ☐

16 What is the main characteristic of a command economy?

Answers available online

Exam tip

Remember that in a pure free market economy there is no government intervention.

Advantages and disadvantages of free market economies

REVISED

Advantages	Disadvantages
Consumer sovereignty: this implies that consumer spending decisions determine what is produced.	Inequality: those who own resources are likely to become richer than those who do not own resources.
Flexibility: the free market system can respond quickly to changes in consumer wants.	Trade cycles: free market economies may suffer from instability in the form of booms and slumps.
No bureaucracy: officials are not needed to allocate resources.	Imperfect information: consumers may be unable to make rational choices if they have inadequate information or if there is asymmetric information (see Chapter 3, page 55).
Efficiency: competition and the profit motive help to promote an efficient allocation of resources.	Monopolies: there is a danger that a firm may become the sole supplier of a product and then exploit consumers by charging prices higher than the free market equilibrium.
Increased choice: consumers have a wide choice of goods and services compared with a command economy.	Externalities: these are costs and benefits to third parties that are not taken into account when goods are produced and consumed.
Economic and political freedom: consumers and producers have the right to own resources.	

Now test yourself

TESTED

- 17** What is meant by 'consumer sovereignty'?
- 18** Why does inequality occur in a free market economy?

Answers available online

Exam tip

When thinking about the advantages and disadvantages of a free market economy, consider the impact on individuals, businesses and the whole economy.

Advantages and disadvantages of command economies

REVISED

Advantages	Disadvantages
Greater equality: the state can ensure that everyone can enjoy a minimum standard of living and that no one is extremely rich.	Inefficiency: the absence of the profit motive and competition may result in an inefficient allocation of resources.
Macroeconomic stability: the state can ensure that booms and slumps are smoothed out.	Lack of incentives to take risks: again, the absence of the profit motive may reduce incentives for investment.
External benefits and external costs: these may be taken into account when planning production.	Restrictions on freedom of choice: people would be directed into the jobs the state deems necessary.
No exploitation: privately owned monopolies are unable to exploit workers and consumers.	Shortages and surpluses: if the state miscalculates supply and demand then there may be excess demand and/or excess supply of goods and services.
Full employment: the state can ensure that all workers are employed.	Bureaucracy: a vast army of officials is needed to allocate resources.
Resources may be allocated by the state to maximise social welfare.	No consumer sovereignty: decisions by the state rather than consumers determine what is produced.
	Inflexibility: the state may be slow to react to changes in consumer needs.

Now test yourself

TESTED

- 19** Why might there be inefficiency in a command economy?

Answers available online

The role of the state in a mixed economy

REVISED

The state performs a variety of roles, many of which depend on the political priorities of the ruling party. However, in most economies the state has a number of key roles, which include the following to a greater or lesser degree:

- + Defence and internal security
- + Provision of public goods
- + Provision of public services such as education and health
- + Redistribution from the rich to the poor

Making links

In Chapter 3, you will be studying market failure. In exams you may use the different reasons for market failure as the basis for a mixed economy, i.e. reasons for government intervention in an economy.

Summary

You should have an understanding of:

- + what economics is
- + the four key factors of production: land, labour, capital and enterprise
- + the meaning of scarcity and the need to make choices
- + the difference between consumer goods and services, and capital goods and services
- + the difference between labour intensive production and capital intensive production
- + opportunity cost and its significance for individuals, firms and the government
- + the distinction between free goods and economic goods
- + positive and normative economic statements
- + production possibility frontiers including the ability to draw them accurately
- + the use of PPFs to illustrate opportunity cost and economic growth
- + factors that cause an inward or outward shift in the PPF
- + the meaning of specialisation and the division of labour
- + advantages and disadvantages of the division of labour
- + free market, command and mixed economies.

Exam skills

Having started the course you are beginning to develop some of the skills necessary to achieve highly in economics. These include:

- + **Precision:** it is really important to be able to define terms accurately and precisely, e.g. positive and normative economic statements, opportunity cost.
- + **Thinking skills:** the ability to see both sides of an issue, e.g. the benefits and problems associated with the division of labour, or the importance of questioning assumptions behind models, e.g. the assumptions underlying the production possibility frontier analysis.
- + **Building blocks:** the material covered in this section forms the basis of your study of economics so it is important to have a clear understanding of concepts such as 'ceteris paribus', opportunity cost, resources, mixed economies, etc.

Exam practice

- 1 During the years 2010 and 2019 economists disagreed about whether to continue with austerity measures.
 - a) **Statement 1:** 'Austerity measures have resulted in a reduction in government borrowing.'
 - Statement 2:** 'Austerity measures should be abandoned because they harm the poorest people in society.'

Which of the following best describes the two statements above?

 - A Both statements are positive.
 - B Statement 1 is positive and Statement 2 is normative.
 - C Both statements are normative.
 - D Statement 1 is normative and Statement 2 is positive. [1]
 - b) Explain one reason why economists might disagree about an economic policy. [2]
 - c) Why do economists use models in their analysis? [2]
- 2 In the airline industry there is a very high degree of division of labour.
 - a) Which one of the following is most likely to result from an increase in specialisation and the division of labour?
 - A Reduction in the amount of machinery used in production
 - B Increase in the cost of training an individual worker
 - C Reduction in total output
 - D Increase in output per worker [1]
 - b) Explain two advantages of the division of labour to an airline. [4]
- 3 North Korea is an example of a state that makes fundamental decisions about how its economy is organised.
 - a) Explain two possible problems faced by a command economy. [4]
 - b) Which one of the following is a function of the price mechanism in a free market economy?
 - A To stabilise prices
 - B To enable the government to set prices
 - C To ration scarce goods
 - D To reduce consumers' surplus [1]

Answers and quick quizzes online

2 How markets work

Rational decision-making

The standard neoclassical analysis makes two very significant assumptions about the ways in which consumers and firms behave:

- + Consumers act rationally by aiming to maximise their **utility** (satisfaction).
- + Firms also act rationally by aiming to maximise profits.

These assumptions provide a powerful tool for analysis and this chapter explores how this can be applied in theory and in real-world examples. However, some economists have criticised the validity of these assumptions which has led to the development of a new branch of economics called 'behavioural economics'. This is considered at the end of this chapter.

Utility refers to the level of satisfaction a consumer receives from the consumption of a product or service.

Making links

In exams you should recognise the assumption of rationality when explaining, for example, price changes in a free market (see pages 39–40) and market structures (see Chapter 14).

To secure marks for evaluation, you may then suggest that the outcome may be different if the assumption of rational behaviour is removed.

Demand

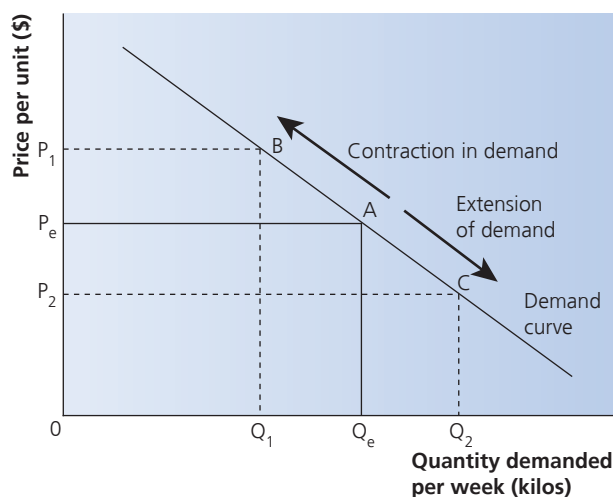
Demand refers to the amount demanded by consumers at given prices over a certain period of time. It is important to include a reference to prices and to the time period in a definition of demand.

Demand is not the same as 'want' — 'wanting' a product that one cannot afford is not demand. Demand must include the ability to pay for the product or service.

Demand is how much is demanded at each price over a certain period of time.

Shape of the demand curve

Figure 2.1 shows that the demand curve is downward sloping from left to right, indicating that more will be demanded as price falls.



Exam tip

Avoid confusing 'want' with 'demand'. 'Wants' simply refer to desires, and desires may be unaffordable, whereas 'demand' is backed by money.

Figure 2.1 Movements along a demand curve

The demand curve demonstrates how a fall in price will cause an increase in the quantity demanded (or an extension in demand) and a rise in price will cause a decrease in quantity demanded (or contraction in demand).

This is based on:

- + **The substitution effect:** when there is a rise in price, the consumer (whose income has remained the same) tends to buy more of a relatively lower-priced good and less of a higher-priced one.
- + **The income effect:** when there is a rise in price, consumers will suffer a fall in their real incomes, i.e. the purchasing power of their money incomes falls. With normal goods, the fall in real incomes will lead to a fall in the quantity demanded.

Movements along the demand curve

REVISED

- + It may be seen from Figure 2.1 that movements along a demand curve would be caused by price changes.
- + Given that the demand curve has a negative slope, a rise in price would cause a fall in quantity demanded and a fall in price would cause a rise in quantity demanded.

Now test yourself

TESTED

- 1 When defining demand, what must it be related to?
- 2 If there is an increase in price, what movement would there be along a demand curve?

Answers available online

Shifts in the demand curve

REVISED

Various factors can cause a shift in the whole demand curve. These include changes in:

- + **Real incomes:** an increase in real incomes implies that incomes (after discounting the effects of inflation) have increased. This would result in an increase in demand for most goods and services, causing a rightward shift in the demand curve.
- + **Size or age distribution of the population:** an increase in the size of the population causes an increase in demand for most goods and services.
- + **Tastes, fashions or preferences:** for example, a decrease in the popularity of cabbage will cause a leftward shift in its demand curve.
- + **Prices of substitutes or complements:** if there is a change in the price of a related good, it will affect the demand curve for the product. For example, if the price of beef rises, the demand for a substitute such as lamb will increase. In contrast, if there is a rise in the price of petrol (a complement to cars), the demand curve for cars would shift to the left.
- + **The amount of advertising or promotion:** a successful advertising campaign would cause an increase in demand.
- + **Interest rates:** affect the cost of borrowing money. For example, a rise in interest rates increases the cost of borrowing money for mortgages, so causing a decrease in demand for houses.

Exam tip

It is only when there is a change in the conditions of demand that the whole demand curve shifts. Price changes cause a movement along an existing demand curve.

Figure 2.2 illustrates how an increase in demand would cause the whole demand curve to shift to the right, whereas a decrease in demand would cause the whole demand curve to shift to the left.

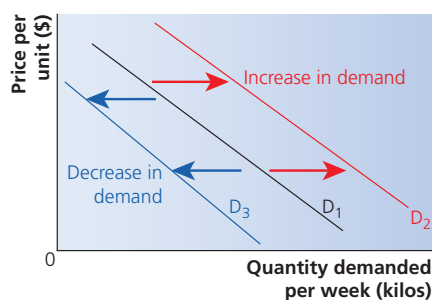


Figure 2.2 Shifts in the demand curve

Now test yourself

TESTED

3 What would be the effect of the following on the demand for houses in the UK?

- a) An increase in immigration into the UK
- b) A decrease in real incomes
- c) An increase in the price of rented accommodation
- d) A rise in mortgage interest rates

Answers available online

The concept of diminishing marginal utility and its influence on the demand curve

REVISED

This principle is based on the idea that consumers gain satisfaction or utility from the goods they consume.

- + **Total utility** represents the total satisfaction gained from the total amount of a product consumed.
- + **Marginal utility** represents the change in utility from consuming an additional unit of the product.
- + **The law of diminishing marginal utility** states that as a person consumes more and more of a product, the marginal utility (extra satisfaction or benefit) falls. Consequently, people are prepared to pay less as their consumption increases with the result that there will be an inverse relationship between the price and quantity demanded.

Example

Utility of consuming apples

The table below is a worked example showing the utility gained from consuming apples.

Number of apples	Total utility	Marginal utility
0	0	
1	20	20
2	34	14
3	44	10
4	50	6
5	52	2

- + The table shows that as a person consumes more and more apples to satisfy their hunger, total utility increases but the marginal utility gained from consuming each extra apple decreases.
- + If monetary values were assigned to marginal utility then it is clear that a rational consumer would be prepared to pay less for each additional apple. This principle provides the basis for the quantity demanded increasing as price falls.

Total utility is the amount of satisfaction a person derives from the total amount of a product consumed.

Marginal utility is the change in total utility from consuming a unit of a product.

The law of diminishing marginal utility states that as consumption of a product is increased, the consumer's utility increases, but at a decreasing or diminishing rate.

- 4 Suppose someone has six ice creams. What happens to marginal utility as each extra ice cream is consumed?

Answers available online

Price elasticity of demand

Price elasticity of demand (PED) is a measure of the responsiveness of quantity demanded of a product to a change in its price.

Making links

In exams, price elasticity of demand and price elasticity of supply (see pages 37–39) may need to be considered together, for example, when considering the impact of a tax or subsidy (see pages 43–45) or when considering consumers' surplus and producers' surplus (see Pages 42–43).

Price elasticity of demand

measures the sensitivity of the quantity demanded of a product to a change in its own price.

Measuring price elasticity of demand

REVISED 

$$\text{PED} = \frac{\text{percentage change in quantity demanded}}{\text{percentage change in price}}$$

Exam tip

To calculate a percentage change in, say, quantity demanded, it is necessary to divide the change in quantity demanded by the original quantity demanded and multiply the result by 100.

Calculations of PED and interpretation of results

REVISED 

PED will always have a negative value because price and quantity move in opposite directions (since the demand curve is downward sloping).

Example

Price inelastic demand

Suppose a 100% increase in the price of oil led to a 20% fall in quantity demanded, then PED would be:

$$\frac{-20}{100} = -0.2$$

Demand is said to be price inelastic (or relatively price inelastic) because a change in price has led to a smaller percentage change in quantity demanded.

When demand is price inelastic, the value of PED will be between 0 and –1.

Exam tip

When required to calculate PED in the exam, remember to include the negative sign.

- 5 Calculate the PED if a 20% fall in the price of petrol leads to a 2% increase in the quantity demanded.
- 6 Is demand price elastic if a 20% increase in price results in a 10% fall in quantity demanded?

Answers available online

Exam tip

When considering whether demand is price elastic or price inelastic, compare the percentage changes in price and quantity. If the percentage change in quantity demanded is larger than the percentage price change, then demand is price elastic.

Example**Price elastic demand**

Suppose a 5% decrease in the price of a package holiday to Florida led to a 20% increase in quantity demanded, then PED would be:

$$\frac{+20}{-5} = -4.0$$

Demand is said to be price elastic (or relatively price elastic) because a change in price has led to a larger percentage change in quantity demanded.

When demand is price elastic, the value of PED will be less than -1.

Figure 2.3 illustrates an inelastic and an elastic segment of a demand curve.

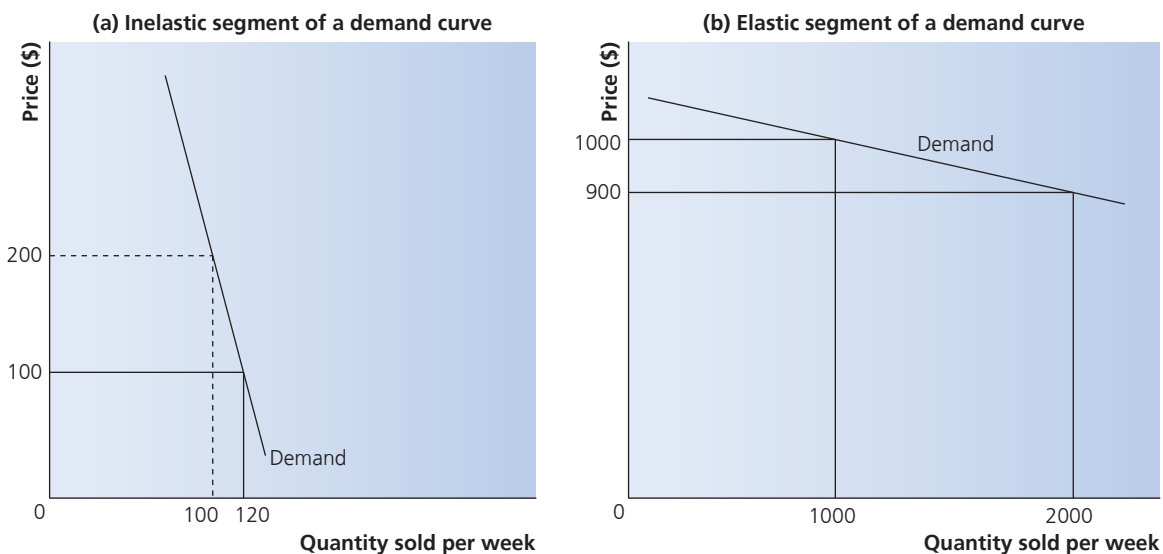


Figure 2.3 An inelastic and an elastic segment of a demand curve

Examples**Unit elastic demand**

Suppose a 15% decrease in the price of a digital camera led to a 15% increase in quantity demanded, then PED would be:

$$\frac{+15}{-15} = -1.0$$

Demand is said to be unit elastic because a change in price has led to the same percentage change in quantity demanded.

When demand is unit elastic, the value of PED will be equal to -1 and the demand curve will be a rectangular hyperbola (see Figure 2.4).

Perfectly inelastic demand

Suppose a 10% increase in the price of salt led to no change in the quantity demanded, then PED would be:

$$\frac{0}{10} = 0.0$$

Demand is said to be perfectly price inelastic because a change in price has had no effect on quantity demanded.

When demand is perfectly price inelastic, the value of PED will be 0 and the demand curve will be vertical (see Figure 2.4).

Perfectly elastic demand

Suppose a small increase in the price of a product causes the quantity demanded to fall to zero, then demand is said to be perfectly elastic.

When demand is perfectly elastic, the value of PED will be infinity and the demand curve will be horizontal (see Figure 2.4).

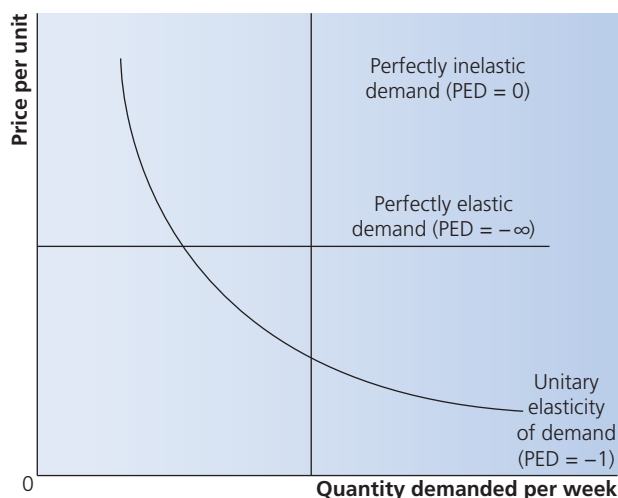


Figure 2.4 Demand curves showing unitary elasticity of demand, perfectly inelastic demand and perfectly elastic demand

Making links

Although perfectly elastic demand is unlikely, this concept is used in considering the model of perfect competition (see pages 158–160) and will be required in exams.

Exam tip

Think of perfectly inelastic demand as a set amount demanded whatever the price. The demand curve must therefore be vertical.

Now test yourself

TESTED ☐

- 7** Calculate price elasticity of demand in the following examples and comment on your results:
- a)** A rise in the price of electricity from 25 pence to 30 pence per unit causes the quantity demanded to fall from 10 000 kilos to 9 000 kilos.
 - b)** A rise in the price of gold watches from \$1000 to \$1100 causes demand to fall from 200 to 170 per week.
 - c)** A 6% reduction in the price of tomatoes causes a 6% increase in quantity demanded.

Answers available online

Factors influencing price elasticity of demand

REVISED ☐

Factors that influence the PED include:

- + Availability of substitutes:** if substitutes are available there will be a strong incentive to shift consumption to them when the price of the product rises. The existence of substitutes therefore tends to make demand for the product elastic.
- + Proportion of income spent on a product:** if only a small percentage of income is spent on a product such as salt then demand tends to be inelastic, whereas if a high percentage of income is spent on the product then demand tends to be elastic, e.g. exotic holidays and works of art by famous artists.
- + Nature of the product:** if the product is addictive, e.g. alcohol and tobacco, then demand tends to be inelastic.
- + Durability of the product:** if the product is long-lasting and hard-wearing, e.g. furniture and cars, then demand is fairly elastic since it is possible to postpone purchases. However, demand for non-durable goods, e.g. milk and petrol, tends to be inelastic because these must be replaced regularly.
- + Length of time under consideration:** it usually takes time for consumers to adjust their expenditure patterns following a price change. For example, it

takes time for motorists to switch from fuel-greedy to more fuel-efficient cars. Consequently, demand is usually more price elastic in the long run than in the short run.

- + **Breadth of definition of a product:** if a product is broadly defined, e.g. fruit, demand is likely to be price inelastic. However, demand for particular types of fruit, e.g. apples, is likely to be more price elastic.

Making links

In exams you should be able to apply the factors influencing PED to those influencing the elasticity of demand for labour (see page 178).

Now test yourself

TESTED 

- 8 If there are many substitutes for a brand of batteries, is demand likely to be price elastic or price inelastic?

Answers available online

Exam tip

When considering PED always refer to *the demand for product X* as being elastic or inelastic. It is imprecise to describe *a product* as being elastic or inelastic.

The relationship between price elasticity of demand and total revenue

REVISED 

There are key relationships between PED and **total revenue** (TR):

- + When **demand is inelastic**, a price change causes total revenue to change in the **same direction**.
- + When **demand is elastic**, a price change causes total revenue to change in the **opposite direction**.
- + When **demand is unit elastic**, a price change causes total revenue to **remain unchanged**.
- + When **demand is perfectly inelastic**, a price change causes total revenue to change in the **same direction by the same proportion**.
- + When **demand is perfectly elastic**, a price rise causes total revenue to **fall to zero**.

Total revenue is the value of goods sold by a firm and is calculated by multiplying price by quantity sold.

Making links

This analysis is very significant, not only for explaining the relationship between TR and PED, but also their relationship with marginal revenue (see pages 143–144).

Now test yourself

TESTED 

- 9 What can be inferred about PED in each of the following examples?
- An increase in the price of petrol results in an increase in total revenue of oil companies.
 - A rise in the price of gold jewellery leads to a fall in the total revenue of shops selling this type of jewellery.
 - An increase in the price of iPads has no effect on total revenue.

Answers available online

Exam tip

Note that if TR remains constant following a price change, there must have been an exactly proportionate change in quantity demanded. Therefore, demand would be unitary elastic.

Significance of PED

REVISED 

For firms

- + If firms know that demand for their product is price inelastic then they can increase TR by increasing price.
- + However, if firms know that demand is price elastic, then they can increase TR by reducing price. For example, if there are a lot of restaurants in a high street then one of these might have special offers on certain days, knowing that this will increase their revenue.

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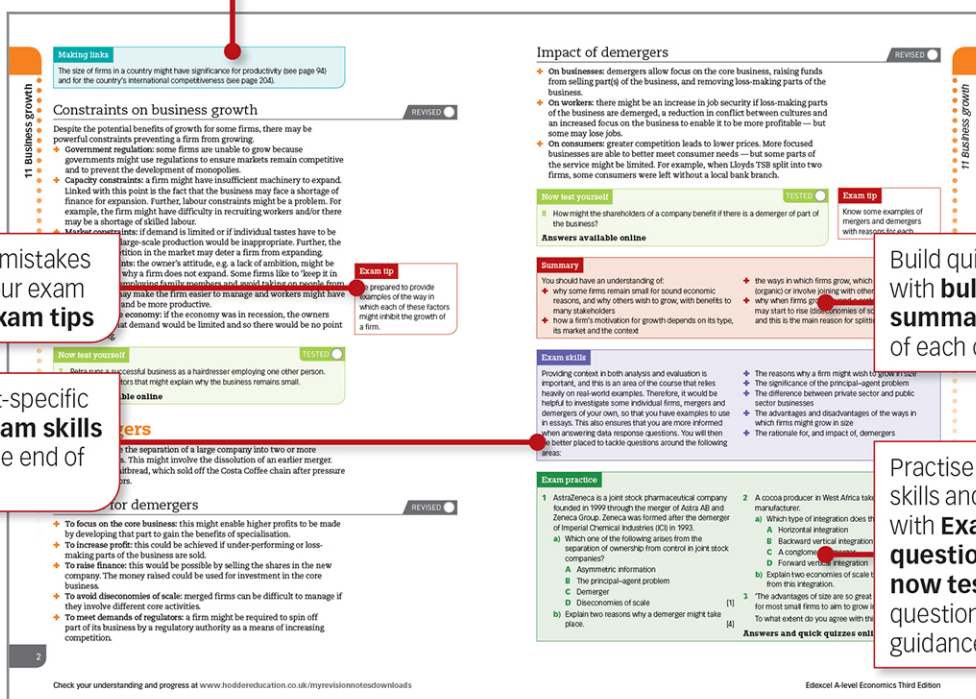
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