

# TUTOR2U ECONOMICS

## A Study Guide for AS Economics

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We focus on a narrow, but complementary subject range. Our objective is to build a comprehensive, user-friendly study portal, and to contribute to the study and examination success of all our users.

At the heart of Tutor2u lies the [Discussion Forums](#), a wide range of bulletin-board style discussion groups that provide users with a unique opportunity to interact with each other. In just 12 months, the Discussion Forums have attracted over 1,700 registered users, some 20,000 posts and many more page impressions from the thousands of users who prefer just to browse.

An experienced team of teachers and examiners moderates Tutor2u Discussion Forums. Our Moderators currently provide their time and expertise voluntarily. The role of a Moderator is to stimulate discussion; respond where possible to user questions or requests. And, of course, the Moderators keep a watchful eye on Board behaviour! Interestingly, almost every post to a Forum board generates a reply - indicating the popularity of the boards and the supportive atmosphere they promote.

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## Introduction

This guide is designed to support a wide range of students taking a course in Economics for the first time. It is particularly suitable for students taking AS and A Level examinations, undergraduates taking a foundation course at University and MBA students who have not studied Economics before.

This Tutor2u guide is designed as a **complement** to your studies and should **not** be regarded as a substitute for taking effective, well organised notes in your normal Economics schools. Points raised in class discussion invariably go well beyond the fairly narrow confines of this revision guide. And Economics being the subject that it is, new issues and debates will surface over the next twelve months that take you into territory well away from the limitations of a textbook. Who could have predicted for example the economic implications arising from the terrorist attacks on the United States in the autumn of 2001? Economic shocks such as this change the nature of business for many thousands of companies and millions of workers.

Each chapter contains assessment objectives as well as basic revision notes, key definitions and diagrams, short case study readings and web links designed to encourage you to read widely and explore many aspects of the course in greater detail.

Economics is a dynamic subject, the issues change from day to day and there is a wealth of comment and analysis in the broadsheet newspapers, magazines and journals that you can delve into. The more reading you manage on the main issues of the day, the wider will be your appreciation of the theory and practice of economics.

Here are ten resources on the Internet that you should make a point of visiting on a regular basis:

### Web Resource

### Recommendation

[BBC Business and Economics News](#)

Incredible coverage of domestic and international issues

[Biz Ed Economics Portal](#)

Another superb portal site with focus on business education

[Daily Telegraph Economic Outlook](#)

Telegraph economics coverage gets stronger by the month

[Financial Times](#)

Articulate analysis from UK's leading financial broadsheet

[Guardian](#)

Great site for research and special reports

[Independent](#)

Strong coverage of current business/industrial trends

[Office of National Statistics](#)

The main site if you need economic statistics for essays!

[S-Cool](#)

Really well written revision notes and easy to use

[The Economist](#)

Leading international business magazine

[Tutor2u Economics](#)

The leading AS and A Level Economics Portal Site

## 1) INTRODUCTION TO ECONOMICS

### a) What is Scarcity?

If something is **scarce** - it will have a **market value**. If the supply of a good or service is low, the price will rise, providing there is an effective demand for it from consumers. For example, the recent collapse in cod and herring fish stocks in the North Sea has forced up the market price of cod and herring. Indeed in the spring of 2001, the British government decided to [ban cod fishing in the North Sea](#) for a period of three months in a desperate attempt to curb the decline in fish stocks.<sup>1</sup>

[Top class soccer players](#) and other sports stars are also in scarce supply - forcing up their **market value**. The battle between the top Premiership clubs to sign star players and retain existing players on long-term contracts has caused rampant inflation in football transfer fees.<sup>2</sup> The financial stability and long term survival prospects of many professional clubs are in question as a result.

Goods and services that are not scarce will have a lower market value (or price) because supply can easily meet the demand from consumers.

### i) Finite resources

There is only a finite number (or stock) of workers, machines and factories, acres of land and reserves of oil and other natural resources on the earth. There is also limited finance available to the government to pay for their key spending priorities such as transport, education and health and finance for businesses looking to fund capital investment projects. The Government cannot raise taxes too much without damaging other areas of the economy. Because **economic resources are finite**, we cannot produce an infinite number of goods and services. By producing more for an ever-increasing population, we are in danger of destroying the natural resources of the planet. This will have serious consequences for the long-term sustainability of our and other economies throughout the world.

Organisations such as the [New Economics Foundation](#) and [Friends of the Earth](#) seek to highlight the permanent damage to the stock of natural resources available throughout the world and the dangers from rapid economic development and global warming. They believe that economists should view economic growth and development in a different manner from the conventional approach. They want economists and economic policy-makers to take environmental effects and concerns explicitly into account when measuring economic progress and the physical quality of life of a nation's citizens.

### ii) Infinite wants and basic needs

Human beings want better food; housing; transport and health services. Consider the recent General Election when poll after poll suggested that the majority of the electorate highlighted education, the health service and transport as their major concerns.<sup>3</sup>

Whilst our resources are limited, human **needs** and **wants** are **infinite**. Whether it is a person struggling to feed herself in the developing world, or Bill Gates seeking to increase his fortune in the USA and defending his [Microsoft Corporation](#), there is always something more an individual wants. The development of society can be described as the uncovering of new wants and needs - which producers attempt to supply by using the available factors of production.

For a perspective on the achievements of countries in meeting people's basic needs and wants, the [Human Development Index](#) produced annually by the United Nations is well worth reading. Data for each country can

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<sup>1</sup> For a report on this go to the BBC web site:  
[http://news.bbc.co.uk/1/hi/english/uk/newsid\\_1305000/1305146.stm](http://news.bbc.co.uk/1/hi/english/uk/newsid_1305000/1305146.stm)

<sup>2</sup> Deloitte & Touche Sport produce industry leading reports on the football business. This site provides you with access to an outline of each report: [www.footballfinance.co.uk/Welcome/](http://www.footballfinance.co.uk/Welcome/)

<sup>3</sup> For information on political polls and voting intentions the MORI web site is a great source on information and comment on the British political scene. The web link is [www.mori.com](http://www.mori.com)

be accessed and cross-country comparisons can be made. There is a wealth of information on basic measures of living standards (such as real income per head of population; educational attainment and indicators of health).

**Amartya Sen** was awarded the Nobel Prize for Economics in 1998 for his outstanding work on human development, poverty and global economics. Read about his work by accessing his page at the web site for [Winners of the Nobel Prize](#)

## b) Making economic choices

Because of the fundamental problem of scarcity, **economic choices** have to be made at all levels, by individual consumers, firms and governments. Any choice normally involves a **trade-off** - i.e. more of one thing often means giving up something in exchange. All of us make many choices every day of our lives.

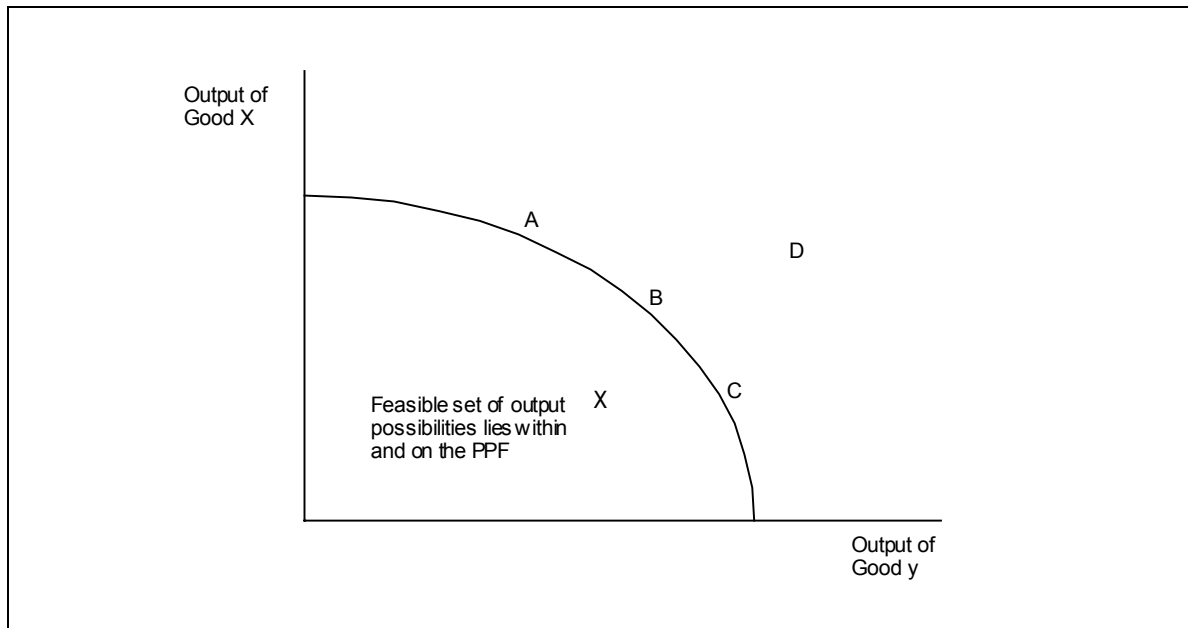
- ☐ Daily choices about which goods and services to buy and where to buy them from
- ☐ A choice about whether to rent or buy a home
- ☐ Choosing whether to work or take a course in higher education for at least three years - how have these choices been affected by the introduction of tuition fees?
- ☐ The choice between using Euro-Tunnel or a ferry or an airline when traveling to Europe
- ☐ Decisions within the National Health Service about which patients to treat and which treatments / drugs to make available on prescription
- ☐ The choice about whether to use a car or use mass transport services when going to work
- ☐ Producers deciding whether or not to stay in a particular market or industry in the face of growing competition from other suppliers

## c) The Production Possibility Frontier

A **production possibility frontier (PPF)** shows the combinations of two or more goods that can be produced using **all available factor resources efficiently**. A PPF is normally drawn as concave to the origin since the extra output resulting from allocating more resources to one particular good may fall. I.e. as we move down the PPF, as more resources are allocated towards Good Y, the extra output gets smaller - and more of Good X has to be given up in order to produce the extra output of Good Y.



### i) Illustrating the Production Possibility Frontier



The diagram above shows a **production possibility frontier**. Combinations of output of goods X and Y lying inside the PPF occur when there are unemployed resources or when the economy uses scarce resources inefficiently. These combinations involve a loss of economic efficiency. Point X is an example of this. We could increase output of both goods by moving towards the production possibility frontier and reaching any of points C, A or B.

Point D is unattainable at the moment - it lies beyond the PPF. An economy would require an **increase in total resources**, an **increase in the efficiency (productivity) of our factor resources** or an **improvement in technology** to reach this combination of Good X and Good Y. If we achieve this then output combination D may become attainable. Producing more of both goods would represent an improvement in overall economic welfare.

An outward shift of the PPF is caused by an improvement in the potential supply of the economy brought about by more resources or an overall improvement in economic efficiency.<sup>4</sup>

### ii) Opportunity Cost and the PPF

Reallocating resources creates an opportunity cost. If a change in demand means that more vehicles need to be produced (a movement along the PPF from point A to C) - there may not be the economic resources available to maintain the output of personal computers. The opportunity cost of a higher output of vehicles is the output of personal computers that has to be given up.

### iii) Shifts in the PPF

The production possibility frontier will shift when

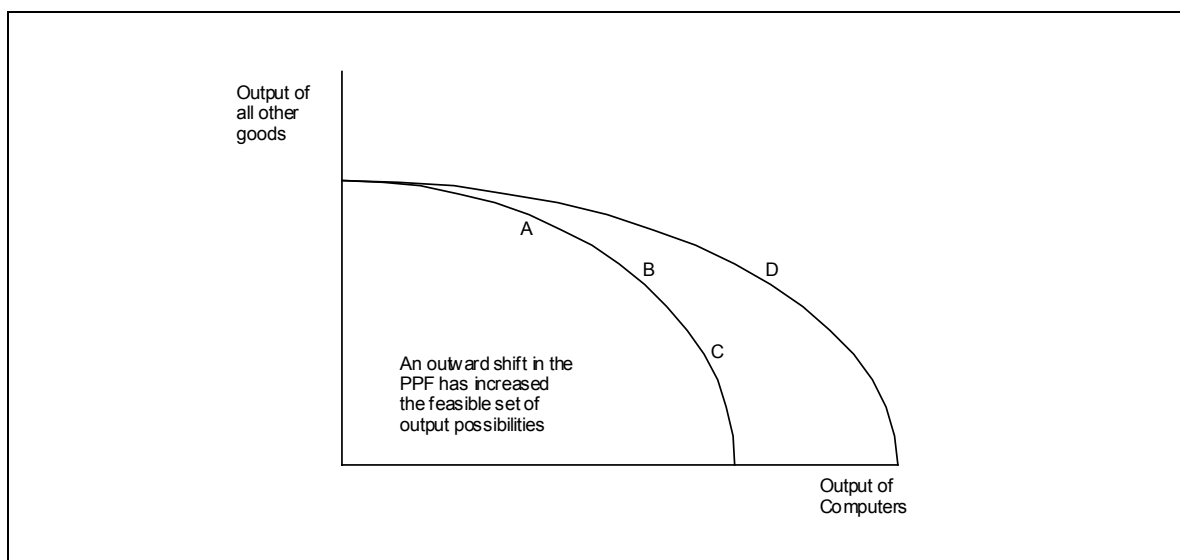
- ❑ There are improvements in productivity and efficiency (perhaps because of the introduction of new technology or advances in the techniques of production)

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<sup>4</sup> For a flash illustration of the PPF, go to [www.theshortrun.com/classroom/curves/prodpossibilities.html](http://www.theshortrun.com/classroom/curves/prodpossibilities.html)

- ❑ More factor resources are exploited (perhaps due to an increase in the available workforce or a rise in the amount of capital equipment available for businesses to use)

In the diagram below, there is an improvement in the state of technology in the personal computer industry. This shifts the PPF outwards and means that more can be produced for a given output of vehicles. Output D now become feasible. There is still an opportunity cost as we move along the new PPF.



Output possibilities have increased and we can conclude from that, providing the good provides positive satisfaction, that there is a potential increase in overall economic welfare. Improved technology should bring the price down and make the good more affordable to the average consumer.

This has been the case in the market for home PCs in recent years. Increased production and improvements in technology have brought prices down for consumers making home PCs much more affordable. <sup>5</sup> [A price war between leading PC suppliers](#) has also driven prices down.

#### d) Choices and Opportunity Cost

The best things in life may be free - but there is a saying in economics that "**there is no such thing as a free lunch**". Even if we are not asked to pay for consuming a good or a service, scarce resources are used up in the production of it and there must be an opportunity cost involved - the next best alternative that might have been produced using those resources.

**Opportunity cost** measures the cost of any economic choice in terms of the **next best alternative foregone**. Many examples exist at the level of the individual household, firms and the government.

- ❑ The opportunity cost of deciding not to work is the lost wages foregone - a rise in the national minimum wage will increase the opportunity cost for people on low wages if they decide to not search for work
- ❑ The opportunity cost of spending money on a foreign holiday is the lost opportunity to buy a new dishwasher or the chance to enjoy a couple of weekend breaks in the UK
- ❑ The opportunity cost of the government spending nearly £20 billion on interest payments each year on the national debt is the extra money it might have allocated to the National Health Service, education or to improving the UK transport network. Similarly there is an opportunity cost involved in the spending the UK and US governments are committing in the war against the Taliban in Afghanistan.

<sup>5</sup> An illustration of production possibility frontiers can be seen at [www.digitaleconomist.com/ppf\\_x.html](http://www.digitaleconomist.com/ppf_x.html)

- ☐ The opportunity cost of an economy investing resources in new capital goods is the current production of consumer goods given up. We may have to accept lower living standards now, to accumulate increased capital equipment so that long run living standards can improve
- ☐ The opportunity cost of using arable farmland to produce wheat is that the land cannot be used in that production period to harvest potatoes

## e) Positive and Normative Economic Statements

### i) Positive Statements

**Positive statements** are objective statements that can be tested or rejected by using the available evidence. Positive economics deals with objective explanation. For example: A rise in incomes will lead to a rise in the demand for new cars. Or, a fall in the exchange rate will lead to an increase in exports overseas. Another example of a positive statement is: A rise in the price of coffee will lead to a rise in the demand for tea. Or, the introduction of a £5 congestion charge for motorists entering central London will increase the demand for mass transport such as the London Underground.

### ii) Normative Statements

**Normative statements** express an **opinion** about what **ought** to be. They are **subjective statements** rather than objective statements - i.e. they carry value judgments

For example:

- ☐ The level of duty on petrol is too unfair and unfairly penalizes motorists
- ☐ The government should increase the national minimum wage to £5 per hour

### Case Study 1: Scarcity and Rationing in the Health Service

The Government was challenged yesterday to admit that rationing takes place in the NHS and to open a debate on what the health service can afford. A document compiled by representatives of the British Medical Association <sup>6</sup>, Royal College of Nursing, patients, private health providers and the pharmaceutical industry points to increased **rationing** as the only way forward.

The BMA has flirted with the idea of **patient charges** as a means of raising money for the health service. But now it says that this idea is dead as a means of providing a more comprehensive health service.

BMA chairman Dr Ian Bogle said patients should be turning to the **private sector** to deal with non-urgent health problems. "We have to accept the prospect of treatments being excluded from the NHS if we want to maintain a universal service, one which is available free and free at the point of use. The public is not convinced that extra government money going into the NHS is being spent effectively."

A **hypothecated, or ring-fenced tax**, for the health service is "unlikely to provide any advantages" over the present system. "The idea of patient charges is certainly dead as far as we are concerned. The objections to them are too strong." In the absence of the government pumping in more cash the only option left was to reduce the amount of treatments that the NHS has to pay for.

A Department of Health spokesman said: "We welcome the BMA's agreement with us that a **tax-funded health system** suits the needs of the UK best. "This government wants the future NHS to be fast, modern and convenient for patients - but to be based on its founding principles. "It should be taxation funded, free at the point of delivery and available to all."

Shadow health secretary Dr Liam Fox said: "It is clear that the BMA have been willing to grasp what the government has refused to accept - that rationing exists and that, in a world where medicine is expanding faster than our ability to fund it, choices will increasingly have to be made and priorities set."

- ☐ How does this report illustrate the concept of scarcity and opportunity cost?
- ☐ What do you understand by the term "health service rationing?" Explain how rationing helps to overcome the problem of resource allocation
- ☐ For a background report on the UK Health Service go to this [BBC News Special Report](#)
- ☐ The [Office of Health Economics](#) is superb on issues to do with health services in the UK

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<sup>6</sup> The British Medical Association web site can be found at [www.bma.org.uk/](http://www.bma.org.uk/)

## 2) FACTORS OF PRODUCTION

Economic resources are scarce relative to the infinite needs of people and businesses operating in the economy. It is important to use these resources efficiently to maximise the output that can be produced from them.

### a) Land

Land is the **natural resources** available for production. Some nations are richly endowed with natural resources and specialise in the extraction and production of these resources - for example - the development of the North Sea Oil and Gas. Only one major resource is for the most part free - the air we breathe. The rest are scarce, because there are not enough natural resources in the world to satisfy the demands of consumers and producers. Air is classified as a **free good** since consumption by one person does not reduce the air available for others - a free good does not have an opportunity cost

Labour is the **human input** into the production process. In the UK, of about 59 million inhabitants only approximately 35 million are of working age (16-64 years for men and 16-59 for women), and of those just over 28 million people have paid jobs. A housewife, a keen gardener and a DIY enthusiast all produce goods and services, but they do not get paid for them. They are producing non-marketed output and the output of these people is not included in [Gross Domestic Product](#). Some economists argue that an estimate for the value of household work should be included in our national income figures. It would certainly add a significant amount to total national output (and living standards) were we to make this accounting adjustment in future years.

- ❑ Not all labour is of the same quality. Some workers are more [productive](#) than others because of the education, training and experience they have received. An increase in both the size and the quality of the labour force is vital if a country wants to achieve sustained [economic growth](#). Raising the [productivity of the British economy](#) is one of the key long-term aims of Chancellor Gordon Brown. Consider this report from his October 2000 speech to the [Confederation of British Industry](#)
- ❑ "Chancellor Gordon Brown is looking to union and business leaders to work out how to boost Britain's economy. Productivity in the UK falls behind competitors such as the United States by a third, and a quarter behind the French. Gordon Brown blamed the shortfall on the "old British problems" of low skills, under-investment, resistance to change and complacency"<sup>7</sup>

### b) Capital

The term capital means investment in goods that are used to produce other goods in the future.

#### i) Fixed capital:

**Fixed capital** includes machinery, plant and equipment, new technology, factories and buildings - all of which are goods designed to increase the productive potential of the economy in future years. We also include the **social capital** created from [Government spending](#), i.e. the building of new schools, universities, hospitals and roads.

#### ii) Working capital:

Working capital refers to stocks of finished and semi-finished goods (components) that will be either consumed in the near or will be made into finished consumer goods. Another term for stocks is inventories.

### c) Entrepreneurship - a 4th factor of production?

An entrepreneur is an individual who **risks** resources in a business venture; and organises the other factors of production. The reward to this risk-taking is the [profit](#) made from running the business. Many economists agree that entrepreneurs should be classed as specialised part of the factor 'labour'.

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<sup>7</sup> Visit the Treasury web site for statistics on the economy and government policy [www.hm-treasury.gov.uk/](http://www.hm-treasury.gov.uk/)

There is a consensus that the British economy needs to encourage and develop more of an **entrepreneurial culture** if it is to achieve faster economic growth in the years ahead. The emergence of new businesses and higher levels of **research and development spending** from smaller “seed-corn companies” is more firmly established in other countries (noticeably the United States).<sup>8</sup>

Read this article from [New Business](#) about the inventor and entrepreneur [James Dyson](#) the man who invented the bag-less vacuum cleaner and the new dual-cylinder washing machine.

#### d) Rewards to the factors of production

Factors of production are used to create output to be sold in markets. Each factor used in production can expect some reward. A summary appears below:

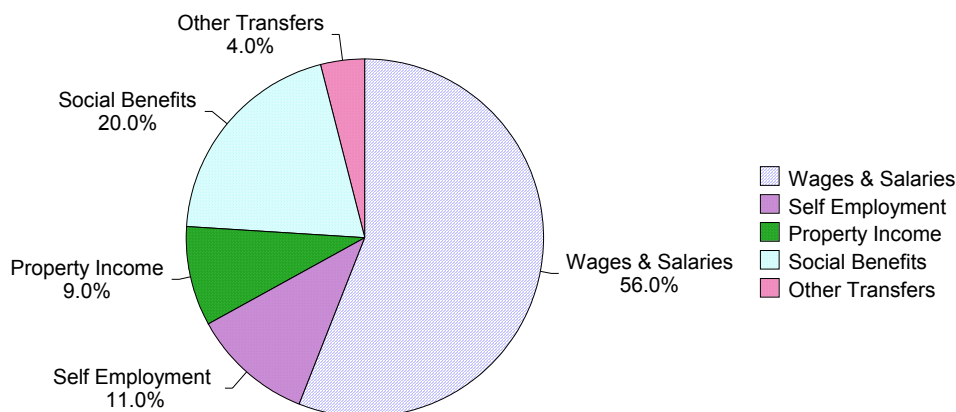
- ☐ The reward to the labour input is wages and salaries
- ☐ The reward to capital is interest and profit
- ☐ The reward to land is rent

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<sup>8</sup> New Business is a great portal site for students wanting to read about entrepreneurship in the UK - access the site through this link: [www.newbusiness.co.uk](http://www.newbusiness.co.uk)

### 3) INCOME AND WEALTH

#### COMPOSITION OF UK HOUSEHOLD INCOME



Source: Social Trends 2001

#### i) Income

Income represents a **flow of earnings** from the use of factors of production to generate an output of goods. The main sources of income for individuals and households are the following:

- ☐ Wages and salaries from work supplemented by overtime and productivity bonuses
- ☐ Interest from savings held in banks, building societies and other accounts
- ☐ Dividends from share ownership
- ☐ Rent income from the ownership of property

The chart above shows the allocation of household income in the UK in 1999. The data is taken from the 2001 edition of [Social Trends](#) - an established reference source of official statistics. It draws together social and economic data from a wide range of government departments and other organisations to paint a broad picture of British society today, and how it has been changing.<sup>9</sup> Social Trends is superb reference to use if you are producing a coursework assignment on living standards in British society.

#### ii) Wealth

Wealth is a stock concept - i.e. wealth is a stock of assets that generates a flow of income and can be held in a variety of forms by individuals, firms and also the nation as a whole

- ☐ Financial wealth - stocks and shares, bank and building society accounts
- ☐ Marketable wealth - consumer durables that can be sold for a price
- ☐ Social capital - social infrastructure such as transport systems, schools and hospitals

It is important to distinguish between **income** and **wealth**. If you receive a higher wage or salary - this adds to your monthly or annual income. If this is saved (in a bank for example, or by making contributions to a personal pension fund) you are adding to your financial wealth. Being wealthy can also generate income for you. If you have shares - you can expect to receive dividend income a few months; if you have money in a

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<sup>9</sup> The 2001 edition of Social Trends database is at [www.statistics.gov.uk/statbase/publication.asp?su=25&B2=Search](http://www.statistics.gov.uk/statbase/publication.asp?su=25&B2=Search)

savings account - you will be paid interest. The [distribution of wealth](#) in the UK is unequal. The latest available data shows that 94% of the total marketable wealth in this country is held by 50% of the population. Put another way, the other half of our population can lay claim to only 6% of total wealth.

## b) Labour and wages

Most people have the ability to do some form of work. If they are of working age and actively seeking some form of paid employment, they are included in the **working population**. In industries and occupations where labour is not particularly scarce, so wages are lower. Millions of workers in the UK are paid hourly wages well below the national average.<sup>10</sup> The [National Minimum Wage](#) seeks to address some of the problems associated with low pay. On the other hand, some people have skills that are quite rare, and these people will command high wages and salaries in the modern labour market.

## c) Capital and interest

Businesses often need to borrow money to pay for new capital equipment. The reward for investing money is called interest. [Interest rates](#) (the cost of borrowing money or the rate of return on savings) can go up or down. If the interest rate is high, it becomes less worthwhile to borrow money because any project will have to make more money than before to be profitable since more interest is now being paid. Low interest rates reduce the opportunity cost of using funds to invest and therefore should stimulate an increase in the demand for credit.

## d) Enterprise and profit

In return for having the ideas that bring together the factors of production and taking the risk in putting funds into a business the entrepreneur takes any money that the business has left after the other factors of production have received their rewards. This is called **gross profit**. Taxes then have to be paid to the government, and the entrepreneur takes what is left. This after-tax profit is called net profit.

Economists often assume that one of the main objectives of a business is to achieve **maximum profits** from selling their output to consumers. This is not always the case! Some businesses are looking to achieve the highest **market share**. Increasing market share might mean sacrificing some profits in the short run by cutting prices and under-cutting rival suppliers in the market.

There is growing interest in the concept of ethical businesses - where the traditional assumption of businesses driven solely by the profit motive is challenged

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<sup>10</sup> The Low Pay Unit is a leading authority on the rights of low paid workers in the UK: [www.lowpayunit.org.uk](http://www.lowpayunit.org.uk)



#### 4) MARKET DEMAND

Every day, billions of market decisions are made which affect our lives. **Market prices** are determined by the interaction of market supply and demand for a good or service. Sometimes the government influences prices and thereby affects the allocation of resources.

##### a) The Functions of Prices

Prices play a vital role within a market economy. The **price mechanism** is the means by which millions of decisions of consumers and businesses interact to determine the allocation of resources between different goods and services. Firstly prices have a **signalling function** - if prices are rising because of stronger demand from consumers, this is a signal to suppliers to expand output to meet the higher demand. Higher prices act as an **incentive** to raise output because the supplier stands to make a **higher profit** from selling extra units.

Prices also serve to **ration** scarce resources when demand outstrips available supply. When there is a shortage of a product, the market price is bid up - leaving only those with a willingness and ability to buy with the effective demand necessary to purchase the product. Conversely a glut (or surplus) of a particular product in the market will drive prices down towards a new equilibrium level.

##### b) Examples of important markets

- ☐ [International Commodity Markets](#) such as the market for coffee, oil and copper <sup>11</sup>
- ☐ [Labour Market](#) - the market that allocates our human resources and determines wage levels
- ☐ [Foreign Exchange Market](#) - the buying and selling of currencies around the global economy
- ☐ [Housing Market](#) - a really important market in determining people's wealth.
- ☐ [Stock Market](#) - e.g. the FTSE 100 index or the [Nasdaq index](#), where daily valuations of share prices grab the headlines in the business newspapers and television programmes

##### c) Relative prices

A **relative price** is the ratio of one price to another. For example consumers might compare the relative price of different modes of transport. Consider the price of an airline ticket from Newcastle to London Heathrow on a scheduled [British Airways](#) flight, compared to the cost of a coach journey using [National Express](#). The price of the airline ticket divided by the coach ticket gives the relative price. It measures how many coach journeys have to be given up to purchase one airline ticket. If rail prices rise, other things remaining equal the relative price of travelling by air will have fallen. This will affect the total market demand for flights from Newcastle to Heathrow. Of course, the price of the ticket is not the only consideration that people will make before choosing their mode of transport - but relative price (or cost) levels will influence their decision.

Recent years have seen the expansion of low cost airlines serving both domestic routes and short haul flights to European destinations. As a result, the market demand for short haul flights and European City Breaks has increased in size enormously. Try these web sites:

Buzz: [www.buzzaway.com/index.html](http://www.buzzaway.com/index.html) Ryan Air: [www.ryanair.com](http://www.ryanair.com) and GO [www.gofly.co.uk](http://www.gofly.co.uk)

##### d) Definition of demand

Demand is the quantity of a good or service that consumers are willing and able to buy at a given price in a given time period

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<sup>11</sup> Daily price information on commodities can be found at the London International Futures Exchange: [www.liffe.co.uk](http://www.liffe.co.uk)

#### e) Market demand

Each of us has an individual demand for particular goods and services. The **market demand** is simply the **sum of the individual demand** for a product from each consumer in the market. If more people enter the market, then demand at each price level will rise.

For example, market demand for mobile phones has clearly expanded at a phenomenal rate over the last few years as call costs have fallen. Eventually though the market demand for mobile phones will reach **saturation point** - the product has a life-cycle.

#### f) Effective demand

Demand in economics must be **effective**. Only when a consumer's **desire** to buy a product is backed up by an **ability to pay for it** do we speak of demand. For example, many people would be willing to buy a luxury sports car, but their demand would not be effective if they did not have the financial means to do so. They must have sufficient **real purchasing power**.

Consider the market for **pay-per-view boxing events** - the companies promoting these events must price carefully so that they tap into the largest possible market. What price are you **willing to pay** to view a world championship boxing event? How much are you prepared to spend to watch Premiership soccer on a pay-per-view basis? Or would you be willing and able to pay to watch Elton John or Heresay perform live through subscription channels? <sup>12</sup>

Economists assume that consumers act **rationally**. This means that they will choose between different goods and services so as to maximize their total satisfaction. They will take into consideration.

1. How much satisfaction (or utility) they get from buying and consuming a good or service
2. The price that they have to pay to make this purchase

#### g) Latent demand

**Latent demand** exists when there is a willingness to purchase a good or service, but where the consumer lacks the **real purchasing power** to be able to afford the product. Latent demand is affected by **persuasive advertising** - where the producer is seeking to influence consumer tastes and preferences.

For background reading on advertising, go to the web site of the [Advertising Standards Agency](#).

#### h) The Law of Demand <sup>13</sup>

- ☐ If the price of foreign package holidays falls - what would you expect to happen to the demand?
- ☐ If the Government raises the tax on unleaded petrol how would you predict motorists would react?
- ☐ If [Eton College](#) raises fees by 20% over the next two years - would there be a sharp fall in demand for places?
- ☐ If the world price of coffee falls, will there be a large or small increase in total demand?
- ☐ For more information on world coffee prices, visit the web site of the [International Coffee Organisation](#)

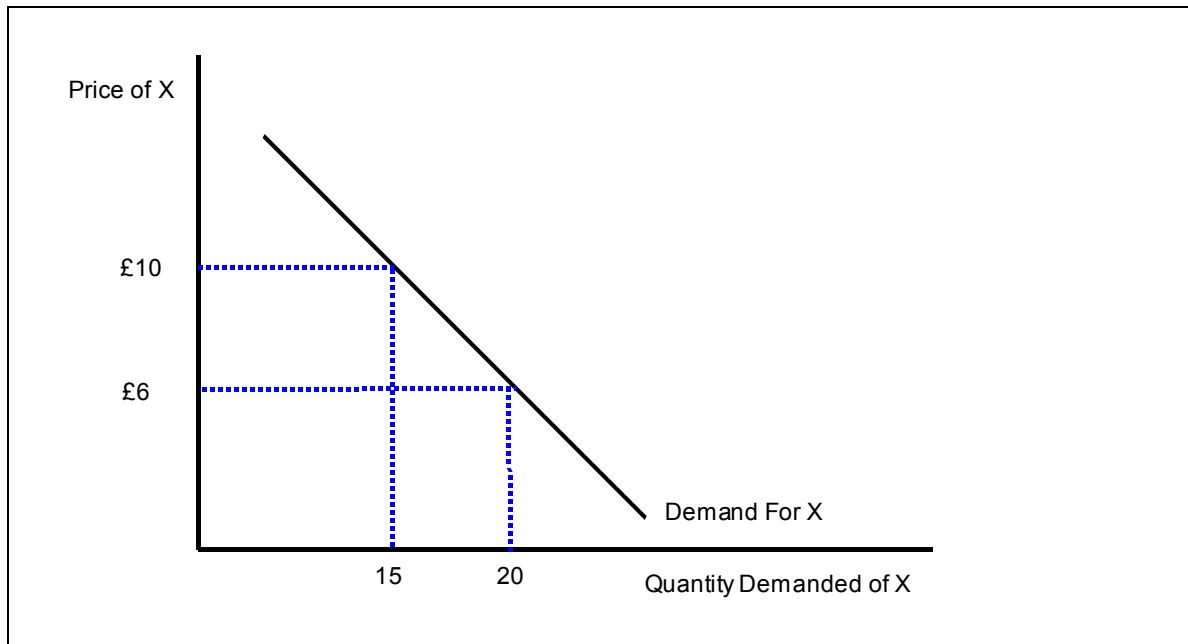
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<sup>12</sup> For details of pay per view projects offered by Sky Television go to: [www.sky.com](http://www.sky.com)

<sup>13</sup> [www.shorrun.com](http://www.shorrun.com) illustrates the demand curve at [www.theshorrun.com/classroom/cuves/demandcurve.htm](http://www.theshorrun.com/classroom/cuves/demandcurve.htm)

The **law of demand** is that there is an **inverse relationship** between the price of a good and demand. As prices fall we see an **expansion of demand**. If price rises there should be a **contraction of demand**.

### i) The Demand Curve



A **demand curve** shows the basic relationship between the price of an item and the quantity demanded over a certain period of time. For **normal goods**, more will be demanded as price falls. This is because at lower prices, consumers can afford to purchase more with a given income. A fall in prices causes an increase in a consumers' **real income**. Secondly, a fall in price makes one good or service relatively cheaper than a substitute - this causes consumers to switch their demand from an alternative.

Price is measured on the vertical (Y) axis, and quantity demanded on the horizontal (X) axis. The demand curve is normally drawn as a straight line. The demand curve shows us how much of an item is demanded over a given period of time at different prices.

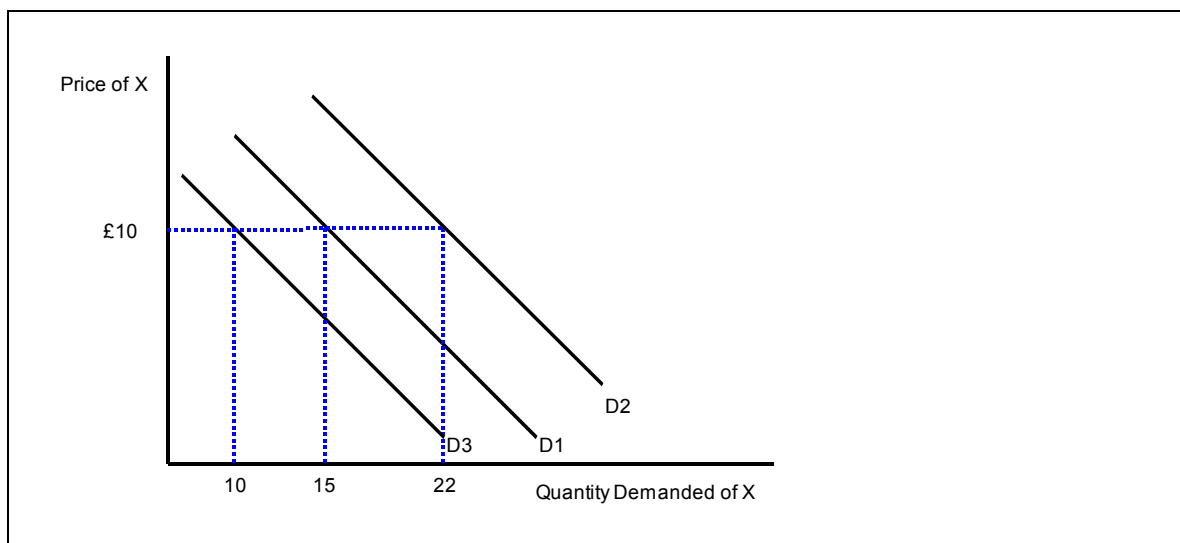
### j) Movements along a demand curve

A change in the price of a good or service causes a movement along the demand curve. A fall in price causes an **expansion** of demand; a rise in price causes a **contraction** of demand.

Many other factors affect total demand - when these change, the demand curve can shift. A movement along the curve occurs following a change in the price of the good itself, everything else held constant

### k) Shifts in the demand curve caused by changes in the conditions of demand

There are two possibilities: either the demand curve shifts to the right or it shifts to the left. D0 - D2 would be an example of an outward shift of the demand curve (or an increase in demand). When this happens, more is demanded at each price. A movement from D0 - D1 would be termed an inward shift of the demand curve (or decrease in demand). When this happens, less is demanded at each price.



## I) What causes shifts in the demand curve?

### i) Changing price of a substitute

Substitutes are goods in **competitive demand** and act as replacements for another product. For example, a rise in the price of [Esso](#) petrol should cause a **substitution effect** away from Esso towards [Shell](#) or other competing brands. A fall in the monthly rental charges of cable companies or [Vodafone](#) mobile phones might cause a decrease in the demand for [British Telecom](#) services. Consumers will tend to switch to the cheaper brand or service provider.

### ii) Changing price of a complement

Two complements are said to be in **joint demand**. Examples include: fish and chips, DVD players and DVDs, success and hard work, and so on. A rise in the price of a complement to Good X should cause a fall in the demand for X. For example a decrease in the cost of flights from London Heathrow to New York would cause an increase in the demand for hotel rooms in New York and also an increase in the demand for taxi services both in London and New York.

### iii) Change in the income of consumers

Most of the things we buy are **normal goods**, that is, more is bought when our income rises. When an individual's income goes up, their ability to purchase goods and services increases, and this causes an outward shift in the demand curve. When incomes fall, for example during an economic downturn or recession, there will be a decrease in the demand for most goods.

The size of a change in demand following a change in income is measured by [income elasticity of demand](#).

### iv) Change in tastes and preferences

Consumers' tastes can often be volatile leading to a change in demand. An example would be demand for British beef during the [BSE crisis](#) or the foreign demand for British lamb and pork in the wake of the Foot and Mouth crisis.<sup>14</sup> Have a look at this excellent [BBC News Special on the Foot and Mouth Crisis](#) Another example is the collapse in demand for transatlantic airline travel in the wake of the September 11<sup>th</sup> terrorist attack on

<sup>14</sup> The National Farmers' Union provides information on key trends in UK farming:  
[/www.nfu.org.uk/info/report.asp](http://www.nfu.org.uk/info/report.asp)

the United States. This sharp fall in demand due to a drop in consumer confidence has caused major financial problems for the major long haul airlines.

**Persuasive advertising** and marketing is designed to change the tastes and preferences of consumers and thereby causes a change in demand. The [National Beef Association](#) for example has been working hard over the last few years to change consumer preferences to bring a recovery in market demand for British produced beef.

#### v) Changes in interest rates

Many goods are bought on credit using borrowed money and therefore the demand for them may be sensitive to the **rate of interest** charged by the lender. Therefore if the [Bank of England](#) decides to raise interest rates - the demand for many goods and services may fall. Examples of "**interest sensitive**" goods include household appliances, electronic goods, new furniture and motor vehicles. The demand for new homes is affected by changes in mortgage interest rates.

For information on the market for new cars, visit the [Society of Motor Manufacturers and Traders](#)

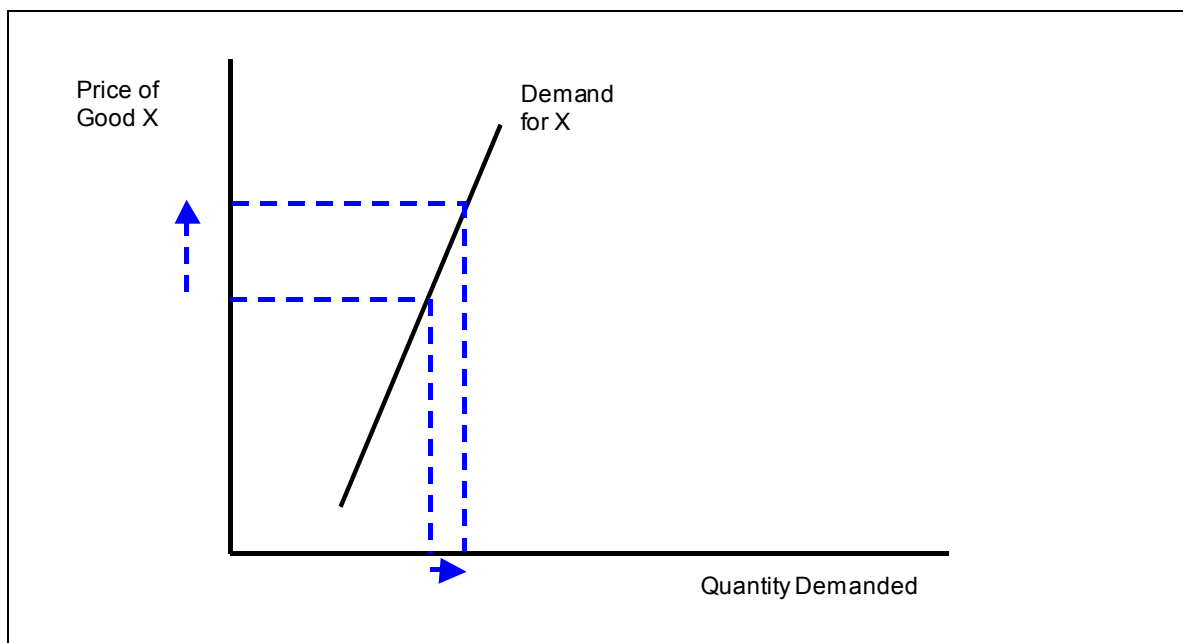
Recent trends in the UK housing market can be found at the [Council for Mortgage Lenders](#)

#### m) Income and demand: normal and inferior goods

For normal products, more is demanded as income rises, and less as income falls. Most products are like this but there are exceptions called **inferior products**. They are often cheaper poorer quality substitutes for some other good. Examples include black-and-white television sets, cigarettes, white bread and several other basic foods. With a higher income a consumer can switch from the cheaper substitute to the more expensive, but preferred alternative. As a result, less of the inferior product is demanded at higher levels of income. Inferior goods have a negative income elasticity of demand.

#### n) Exceptions to the law of demand

Do consumers always buy more of something when the price falls? Some economists claim there are two exceptions to the normal law of demand - leading to the possibility of an upward sloping demand curve.



#### i) Giffen goods:

Giffen goods are inferior goods that consumers on low incomes spend a high proportion of their income on. When the price of a Giffen Good falls, people discard the consumption of these goods (having satisfied their demand) and move onto better goods. These tend to be basic foods such as rice and potatoes. Giffen goods rarely exist in practice - indeed for most markets they can safely be ignored.

#### ii) Ostentatious consumption:

Some goods are luxurious items where a degree of satisfaction comes from knowing the price of the good and being able to flaunt consumption of it to other people. A higher market price may also be a reflection of quality and people on high incomes are prepared to pay this for the "**snob value effect**". Examples would include perfumes, designer clothes, and fast cars. Goods of ostentatious consumption have a high-income elasticity of demand. That is, demand rises more than proportionately to an increase in consumers' income. Get a taste for the high life at the [Cartier](#) web site!

With both Giffen Goods and products of ostentatious consumption, the demand curve may actually slope upwards from left to right - that is, more is bought at higher prices.

#### iii) Speculative Demand

The demand for a product can also be affected by speculative demand in the market. Here, potential buyers are interested not just in the satisfaction they may get from consuming the product, but also the potential rise in market price leading to a capital gain or profit. When prices are rising, speculative demand may grow, adding to the upward pressure on prices. The [speculative demand for housing](#) and for shares might come into this category.

## 5) MARKET SUPPLY

### a) Definition of supply

Supply is the quantity of a good or service that a producer is willing and able to supply onto the market at a given price in a given time period. The conventional theoretical view is that, as the market price of a commodity rises, so producers will expand their supply onto the market.

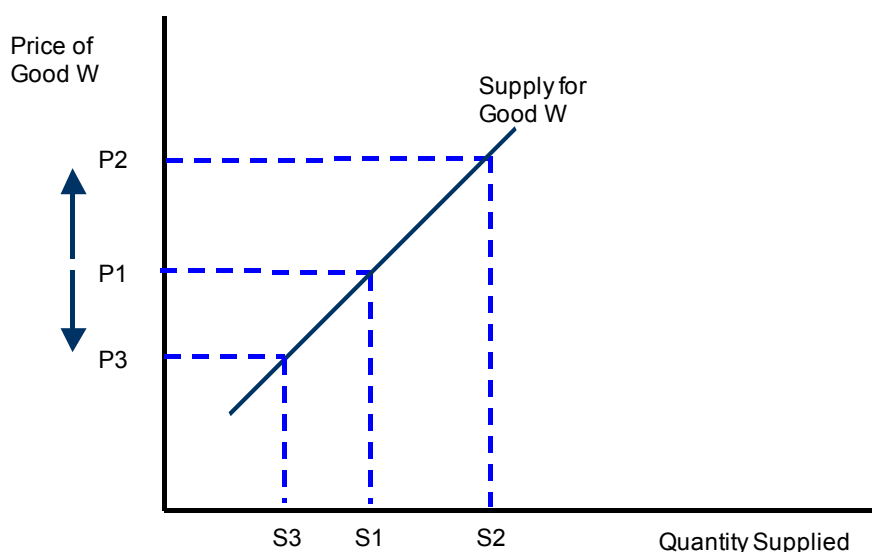
### b) The Law of Supply

There are three main reasons why **supply curves** for most products are drawn as sloping upwards from left to right giving a positive relationship between the market price and quantity supplied

- ❑ When the market price rises (for example after an increase in consumer demand), it becomes more profitable for businesses to increase their output. Higher prices send signals to firms that they can increase their profits by satisfying demand in the market.
- ❑ When output rises, a firm's production costs may rise, therefore a higher price is needed to justify the extra output and cover these extra costs of production
- ❑ Higher prices makes it more profitable for other firms to produce that product so we may see new firms entering the market leading to an increase in total supply available for consumers to buy (and therefore a lower price)

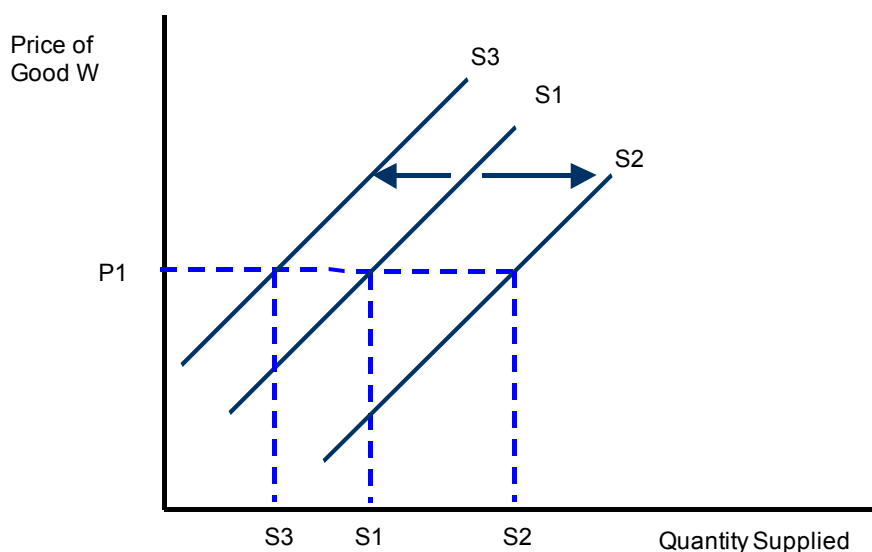
### c) The supply curve

The supply curve shows a relationship between price and quantity a producer is willing and able to sell.



If the price of the good varies, we move along a supply curve. In the diagram, as the price rises from P1 to P2 there is an **expansion** of supply. If the market price falls from P1 to P3 there would be a **contraction** of supply in the market. Producers are responding to price signals when making their output decisions.

### d) Shifts in the Supply Curve



The supply curve can shift its position. If the supply curve shown above shifts to the right (from S1 to S2) this is an **increase in supply**; more is provided for sale at each and every price. If the supply curve moves inwards from S1 to S3, there is a **decrease in supply** meaning that less will be supplied at each price

#### i) Costs of production

A fall in the [costs of production](#) leads to an increase in the supply of a good because the supply curve shifts downwards and to the right. Lower costs mean that a business can supply more at each price.

For example a magazine publishing company might benefit from a reduction in the cost of imported paper and inks. A car manufacturer might benefit from a strong pound because the cost of imported components and technology is lower than it would otherwise be. Lower costs can be passed on through the **supply chain** and may well result in lower prices for final consumers.

If production costs increase, a business will not be able to supply as much at the same price - this will cause an inward shift of the supply curve.

A good example of this would be the rising cost of supplying electricity to UK households because a higher price of crude oil or gas.

#### ii) Changes in production technology

Technology can change quickly and in industries where the pace of technological change is rapid we expect to see increases in supply (and therefore lower prices for the consumer).

#### iii) Government taxes and subsidies

Government intervention in a market can affect supply. A [tax on producers](#) causes an increase in costs and will cause the supply curve to shift upwards. Less will be supplied after the tax is introduced. A subsidy has the opposite effect as a tax cut. A [subsidy](#) will increase supply because a **guaranteed payment** from the Government reduces a firm's costs allowing them to produce more output at a given price. The supply curve shifts downwards and to the right depending on the size of the subsidy.

#### iv) Climatic conditions

For agricultural commodities such as [coffee](#), fruit and wheat the climate can exert a great influence on supply. Favourable weather will produce a bumper harvest and will increase market supply. Unfavourable weather conditions such as a drought will lead to a poor harvest and decrease supply. These unpredictable changes in climate can have a dramatic effect on market prices for many agricultural goods.



v) Change in the price of a substitute

A **substitute in production** is a product that could have been produced using the same scarce resources. Take the example of barley. An increase in the price of wheat makes wheat growing more attractive. Pursuit of the **profit motive** may cause farmers to use land to grow wheat rather than barley.

vi) The number of producers in the market

The number of sellers in a market will affect total market supply. When new firms enter a market, supply increases and causes downward pressure on the market price. Sometimes producers may decide to deliberately limit supply by controlling production through the use of **quotas**. This is designed to reduce market supply and force the price upwards.

The **entry of new firms** into a market causes an increase in market supply and leads to a fall in the market price paid by consumers. Good examples of this include the rapid expansion in market supply of palm-top computers; expanding market supply in the car insurance industry and a wider choice through new entrants into the domestic gas and electricity supply sectors.

**Car Insurance Industry:** The motorist is presented with a bewildering choice of insurance suppliers in the market. Several online sites have been established to sell insurance premiums direct on the web from a host of leading car insurance companies. Try [4Insurance](#) as an example.

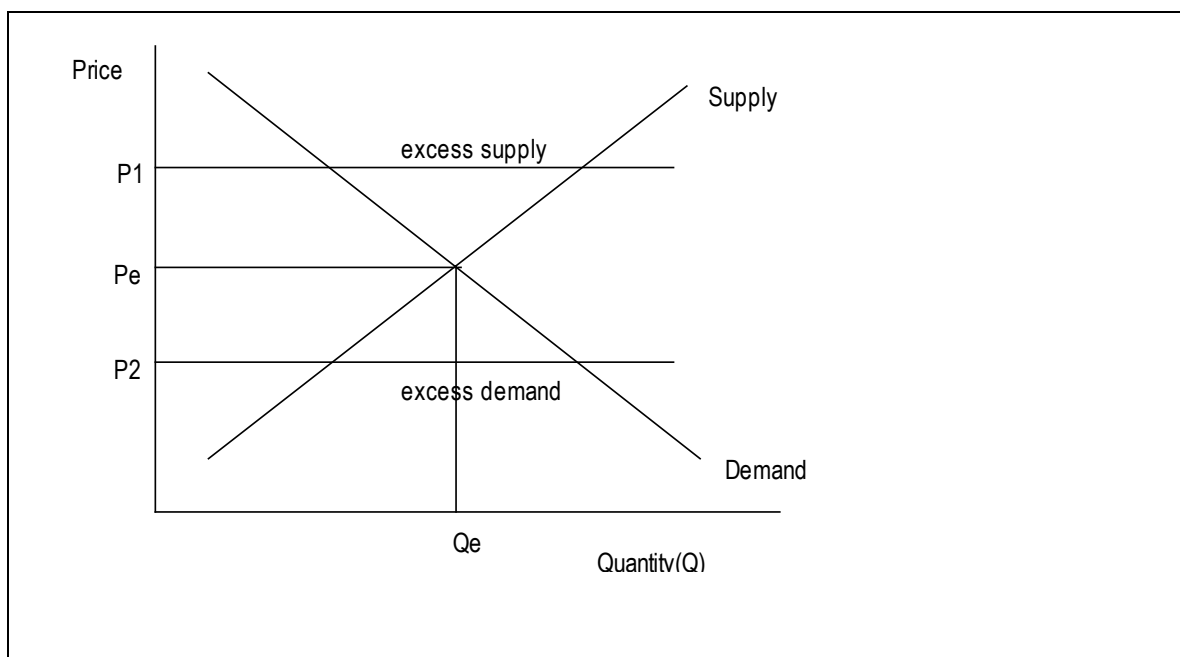
**Domestic Gas and Electricity Supply:** There is now genuine competition in the market for supplying household gas and electricity. The Energy Utilities Regulator, [OFGEM](#) monitors the changing market and their web site is well worth exploring further.

## 6) EQUILIBRIUM MARKET PRICE

### a) The concept of equilibrium

Equilibrium means a state of **equality** between demand and supply. Equilibrium means 'at rest', with 'no tendency to change'. Without a shift in demand and/or supply there will be no change in market price.

In the diagram below, at price  $P_1$ , there is an **excess supply**. In a free market this excess supply will cause price to fall as suppliers try to dispose of their surplus stock. As market price falls we move along the demand curve and leftwards along the supply curve  $S$  until we reach price  $P_e$ . Here sellers and buyers are in equality. All that is offered for sale is being purchased, i.e. we have market equilibrium.



At any price below  $P_e$  such as  $P_2$  we have the opposite effect. Demand exceeds supply and price will be bid up in the free market. As price rises, supply will expand and demand contract until equilibrium price  $P_e$ . At any price other than the equilibrium price, the market will be in a state of disequilibrium.

Changes in the conditions of demand or supply will shift the demand or supply curves. This will cause changes in the equilibrium price and quantity in the market. The weekly demand and supply schedules for T-shirts (in thousands) in a city are shown in the table

Price (£)	8	7	6	5	4	3	2	1
Demand	6	8	10	12	14	16	18	20
Supply	18	16	14	12	10	8	6	4
Demand (2)	10	12	14	16	18	20	22	24
Supply (2)	26	24	22	20	18	16	14	12

- (a) The equilibrium price in the market is £5 where demand and supply are equal at 12,000 units
- (b) If the current market price was £3 - there would be excess demand for 8,000 units
- (c) If the current market price was £8 - there would be excess supply of 12,000 units
- (d) A change in fashion causes the demand for T-shirts to rise by 4 thousand at each price. The next row of the table shows the higher level of demand. Assuming that the supply schedule remains unchanged, the

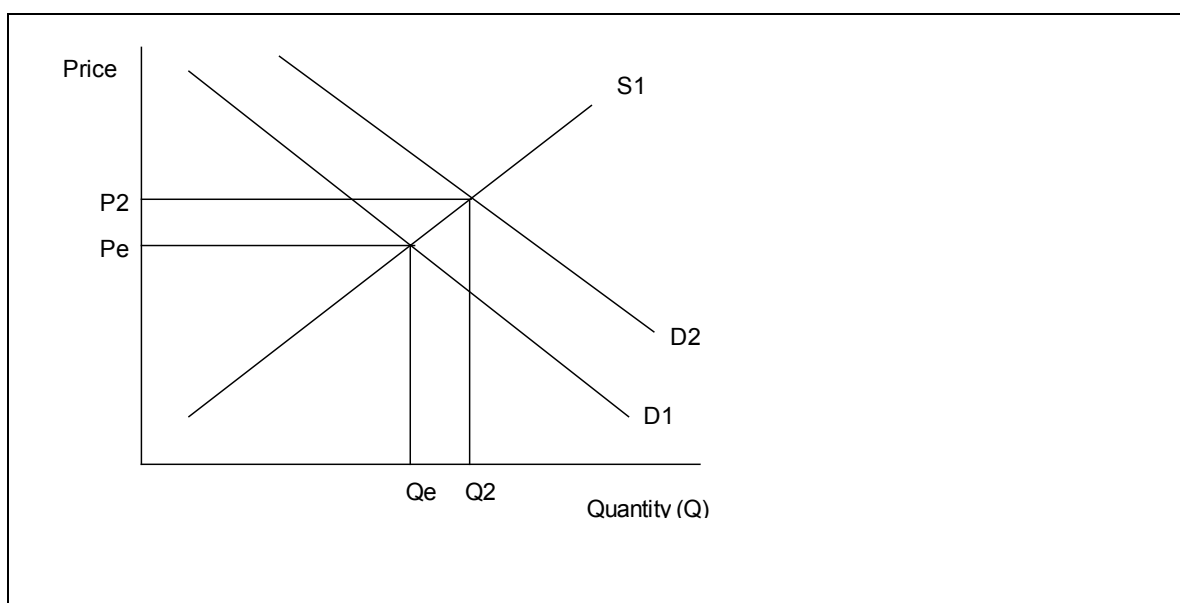
new equilibrium price is £6 per tee shirt with an equilibrium quantity of 14,000 units

- (e) The entry of new producers of T-shirts into the market causes a rise in market supply of 8 thousand T-shirts at each price. The new equilibrium price becomes £4 with 18,000 units bought and sold

### b) An increase in market demand

The demand curve may shift to the right (increase) for a number of reasons:

- ☐ A rise in the price of a substitute or a fall in the price of a complement
- ☐ An increase in consumers' income or wealth
- ☐ Changing consumer tastes and preferences in favour of the product
- ☐ A fall in interest rates (i.e. bank borrowing rates or mortgage interest rates)
- ☐ A general rise in consumer confidence and optimism



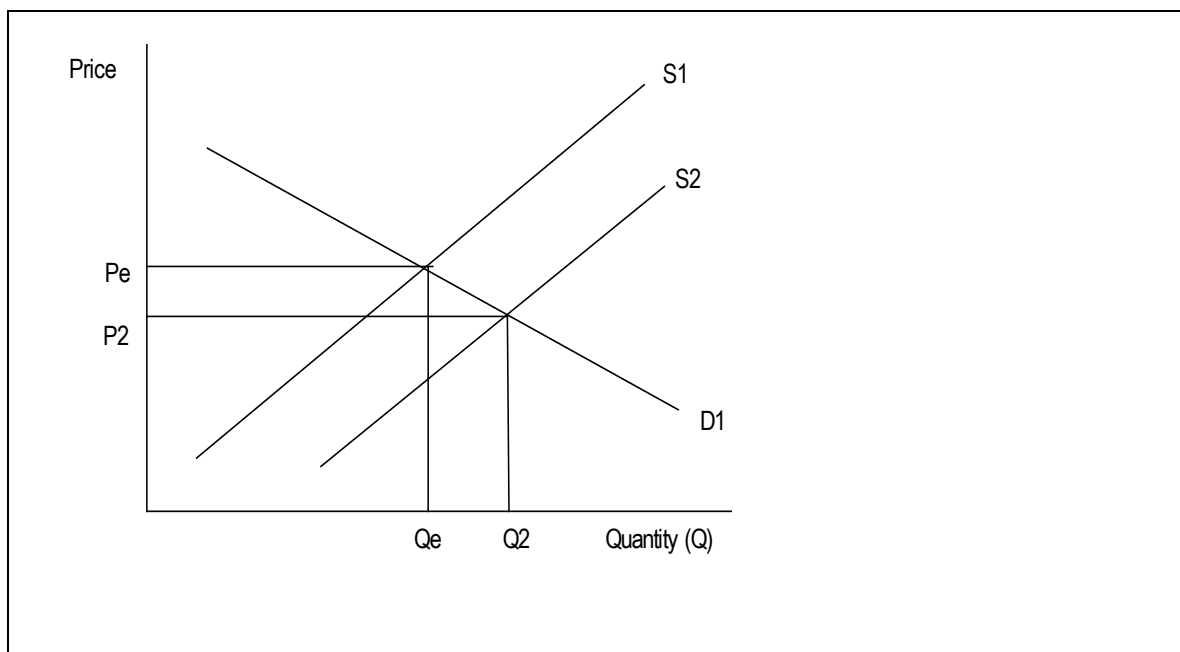
The outward shift in the demand curve causes a movement (expansion) along the supply curve and a rise in the equilibrium price and quantity. Firms in the market will sell more at a higher price and therefore receive more in total revenue. The reverse effects will occur when there is an inward shift of demand.

A shift in the demand curve does not cause a shift in the supply curve! Demand and supply factors are assumed to be independent of each other.

### c) An increase in market supply

The supply curve may shift outwards if there is

- ☐ Fall in the costs of production (e.g. a fall in labour or raw material costs)
- ☐ A Government subsidy to producers
- ☐ Favourable climatic conditions causing higher yields for agricultural commodities
- ☐ A fall in the price of a substitute in production
- ☐ An improvement in production technology
- ☐ The entry of new suppliers (firms) into the market



The outward shift of the supply curve increases the supply available in the market at each and every price and with a given demand curve, there is a fall in the market equilibrium price and a rise in the quantity of output bought and sold

The shift in supply causes a movement (expansion) along the demand curve.

Note: A shift in the supply curve does not cause a shift in the demand curve. Instead we move along (up or down) the demand curve to the new equilibrium position.

[Digital Economist](#) has a series of java applets for you to try - one of which covers the interaction between market demand and supply to determine equilibrium prices. Follow [this link](#) to access their resources

**True or False:** Select true or false for the following statements

	TRUE or FALSE?
1	Market demand for bus transport will fall as the average standard of living rises
2	A fall in the price of Diet Coke should lead to a rise in demand for mineral water
3	A subsidy to wheat producers allows them to produce more at each price
4	Commodities such as strawberries have volatile prices largely because of supply fluctuations
5	If the market price falls below the equilibrium price we expect to see excess supply
6	UK Demand for foreign holidays will rise if sterling rises against other currencies
7	A rise in interest rates will cause an overall rise in demand for second hand cars
8	The entry of new producers into a market will lead to a rise in the price of computers
9	Brown bread and potatoes are examples of goods of ostentatious consumption
10	A rise in the price of apples will cause a shift in the demand for apples

## 7) ELASTICITY OF DEMAND AND SUPPLY

### a) Price elasticity of demand

**Price Elasticity of Demand (Ped)** measures the **responsiveness** of demand for a product following a change in its own price. The **formula** for the co-efficient of elasticity of demand is:

*Percentage change in quantity demanded divided by Percentage change in price*

If demand increased by 10% due to a fall in price of 5%, the Ped would be 2. Since changes in price and quantity nearly always move in opposite directions, economists do not bother to put in the minus sign.

- ☐ If the Ped = 0 (i.e. the same amount is demanded, whatever the price, then demand is perfectly inelastic. This means that demand does not change at all when the price changes
- ☐ If the Ped is between 0 and 1 then demand is inelastic. Producers know that the change in demand will be proportionately smaller than the percentage change in price
- ☐ If the Ped = 1 then demand is said to unit elastic. A 15% rise in price would lead to a 15% contraction in demand leaving total spending by the same at each price level.
- ☐ If the Ped > 1, then demand responds more than proportionately to a change in price. For example a 20% increase in the price of a good might lead to a 30% drop in demand. The price elasticity of demand for this price change is -1.5

### b) What determines the price elasticity of demand?

**The number of close substitutes for a good** - the more close substitutes the more elastic is the demand. If a consumer has a wide choice of product, they can more easily switch their demand if the price of one product changes relative to others in the market

**The degree of necessity of consumption or whether the good is a luxury** - necessities tend to have a inelastic demand; luxuries will tend to have a more elastic demand following a price change - consumers can do without luxuries when their budgets are stretched (for example during an [economic recession](#))

**The % of a consumer's income allocated to spending on the good** - goods that take up a significant proportion of a household's income will tend to have a more elastic demand than products where price changes makes little or no difference to someone's ability to purchase the product

**The time period allowed following a price change** - demand tends to be more elastic, the longer we allow consumers to respond to a price change. In the short run, the demand for a product is often inelastic, because it takes time for consumers to notice and then respond to price fluctuations.

**Whether the good is subject to habitual consumption** - when this occurs demand is inelastic - the consumer becomes much less sensitive to the price of the good in question. Clearly, examples such as cigarettes and alcohol might come into this category. <sup>15</sup> What of the price elasticity of demand for energy drinks such as Red Bull and Lucozade?

**Peak and Off Peak Demand** - demand for certain products can be high at peak times (e.g. the demand for package holidays during summer holidays; the demand for restaurant meals during the Festive period) but lower at off-peak periods. Demand is less elastic at peak times - a feature that suppliers take advantage of when setting prices. Demand is more elastic at off-peak times, leading to lower prices for consumers.

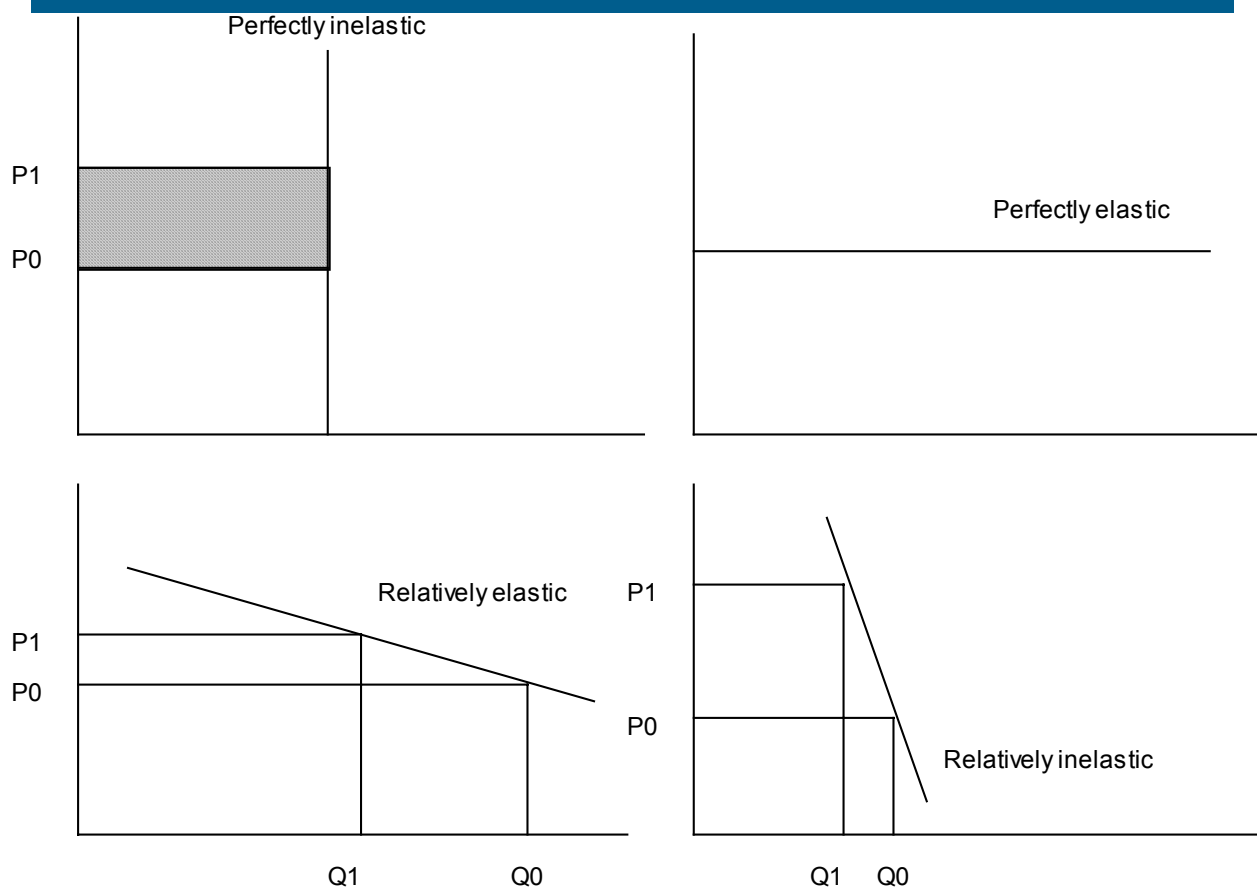
**The breadth of definition of a good or service** - if a good is broadly defined, i.e. petrol or meat, demand is inelastic. But specific brands of petrol or beef are likely to be more elastic following a price change

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<sup>15</sup> An excellent article on the Economics of Tobacco from the BBC website can be found at this link [http://news.bbc.co.uk/1/hi/english/business/the\\_company\\_file/newsid\\_459000/459157.stm#top](http://news.bbc.co.uk/1/hi/english/business/the_company_file/newsid_459000/459157.stm#top)

### c) Demand curves with different price elasticity <sup>16</sup>

- ❑ When demand is perfectly inelastic, any change in price causes no change in demand. A price increase from  $P_0$  to  $P_1$  causes a rise in the total revenue of the firm
- ❑ When demand is perfectly elastic there will be one ruling price in the market unless the demand curves shifts. Producers can sell any amount they want at the ruling price.
- ❑ When demand is relatively elastic, a rise in price will cause a more than proportionate fall in quantity demanded and total spending on the good (revenue to the firm) will fall. The reverse is true for a cut in price.
- ❑ When demand is relatively inelastic a rise in price causes a less than proportionate fall in demand and spending (revenue) will rise. Consumers are unresponsive to a change in price



<sup>16</sup> A Java-based applet showing price elasticity can be found at [www.digitaleconomist.com/elastic\\_java.html](http://www.digitaleconomist.com/elastic_java.html)

#### d) Income elasticity of demand (Yed)

**Income elasticity of demand** measures the relationship between a change in quantity demanded and a change in income. The formula for income elasticity is: *Percentage change in quantity demanded DIVIDED BY Percentage change in income*

##### i) Normal Goods

**Normal goods** have a positive income elasticity of demand so as income rises more is demanded at each price level. Necessities have an income elasticity of demand of between 0 and +1. Luxuries have an income elasticity of demand > +1. (Demand rises more than proportionate to a change in income)

##### ii) Inferior Goods

**Inferior goods** have a negative income elasticity of demand. Demand falls as income rises.

Within a given market, the income elasticity of demand for various products can vary. For example, in the market for overseas holidays, the income elasticity for full-board in a 3 or 4 star hotel will be greater than for self-catering apartments in the same location. Income elasticity will also vary between different destinations. Spanish tourist resorts seek to attract high volumes of tourists in low-cost accommodation from consumers with a lower average income than specialist activity holidays in purpose built resorts who are prepared to pay premium prices for higher quality sporting and leisure facilities.

#### e) Cross Price Elasticity of Demand

**Cross price elasticity** measures responsiveness of demand for good X following a change in the price of a related good Y.

- ☐ With **substitute goods** such as brands of cereal or washing powder, an increase in the price of one good will lead to an increase in demand for the rival product. Cross price elasticity will be positive. In recent years, the [prices of new cars have been falling](#). This should increase demand for new cars and reduce demand for second hand cars and mass transport services such as bus travel (ceteris paribus)
- ☐ With goods that are in **complementary demand** e.g. demand for DVD players and DVD videos, when there is a fall in the price of DVD players we expect to see more DVD players bought, leading to an expansion in market demand for DVD videos
- ☐ When there is no relationship between two products cross elasticity of demand is zero

#### f) Price Elasticity of Supply

**Price elasticity of supply** measures the relationship between change in quantity supplied and a change in price. When supply is elastic, producers can increase production without a rise in cost or a time delay. When supply is inelastic, firms find it hard to change their production levels in a given time period.

The **formula** for price elasticity of supply is:

*Percentage change in quantity supplied divided by the Percentage change in price*

The **co-efficient of elasticity of supply** is positive, because an increase in price is likely to increase the quantity supplied to the market and vice versa.

#### g) Factors that affect price elasticity of supply

##### i) Spare capacity

If there is plenty of spare capacity, the firm should be able to increase output without a rise in costs and therefore supply will be elastic. Supply of goods and services is often elastic at the end of an economic recession, when there is plenty of spare labour and capital resources available to step up output.

## ii) Stocks

If stocks of raw materials, components and finished products are high then the firm is able to respond to a change in demand quickly by supplying these stocks onto the market - supply will be elastic.

## iii) Ease of factor substitution

Consider the sudden increase in demand for petrol canisters during the Autumn 2000 fuel shortage. Could manufacturers of cool-boxes or other types of canister have switched their production processes quickly to meet the high demand for fuel containers? If capital and labour resources are **occupationally mobile** then the elasticity of supply for a product is higher than if capital equipment and labour cannot be switched and the **production process** is inflexible in response to changes in demand for goods and services.

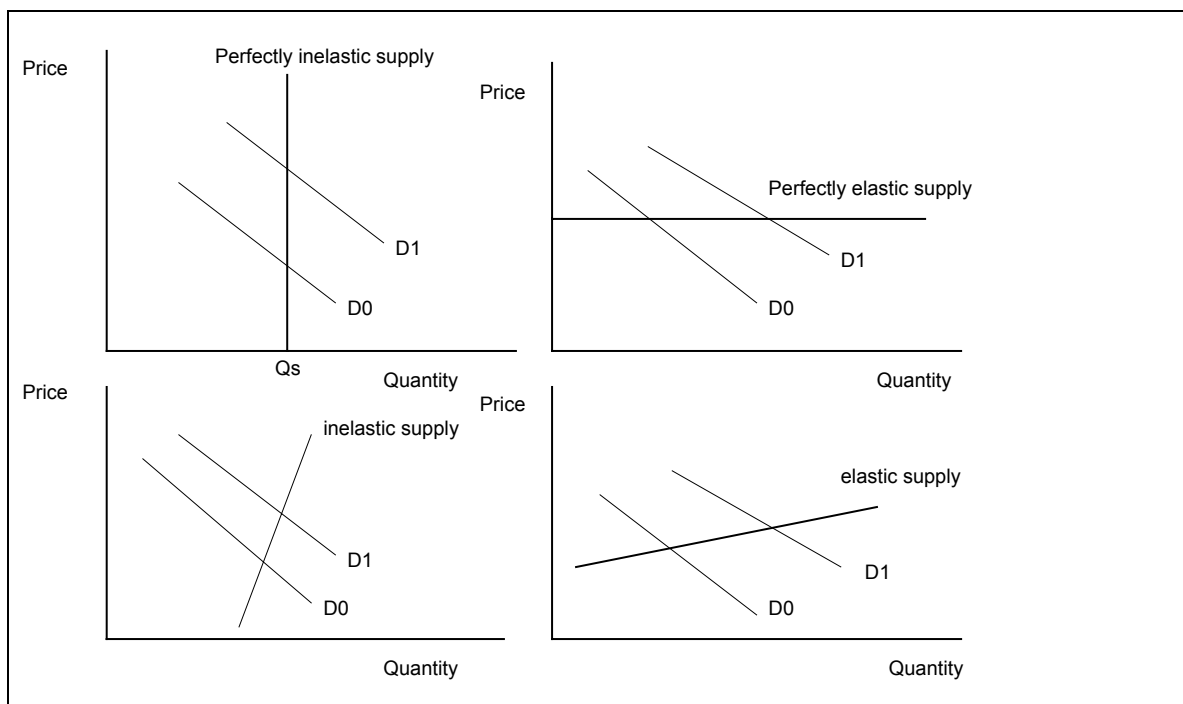
## iv) Time period

Supply is more elastic the longer the time period a firm has to adjust its production. In the short run, the firm may not be able to change its factor inputs. In agricultural markets, the supply is fixed and determined by planting decisions made months before, and climatic conditions, which affect yields.

Economists sometimes refer to the **momentary time period** - a time period that is short enough for supply to be fixed i.e. supply cannot respond at all to a change in demand.

## h) Illustrating price elasticity of supply

- ❑ When supply is perfectly inelastic, a shift in demand has no effect on the equilibrium quantity supplied onto the market. Examples include the supply of tickets for sports or musical venues, and the short run supply of agricultural products (where the yield is fixed at harvest time) the elasticity of supply = zero when the supply curve is vertical.
- ❑ When supply is **perfectly elastic** a firm can supply any amount at the same price. This occurs when the firm can supply at a constant cost and has no capacity limits to its production. A change in demand alters equilibrium quantity but not the price
- ❑ When supply is **relatively inelastic** a change in demand affects the price more than the quantity supplied. The reverse is the case when supply is relatively elastic. A change in demand can be met without a change in market price





## 8) MARKETS IN ACTION - APPLICATIONS OF THE THEORY OF PRICE

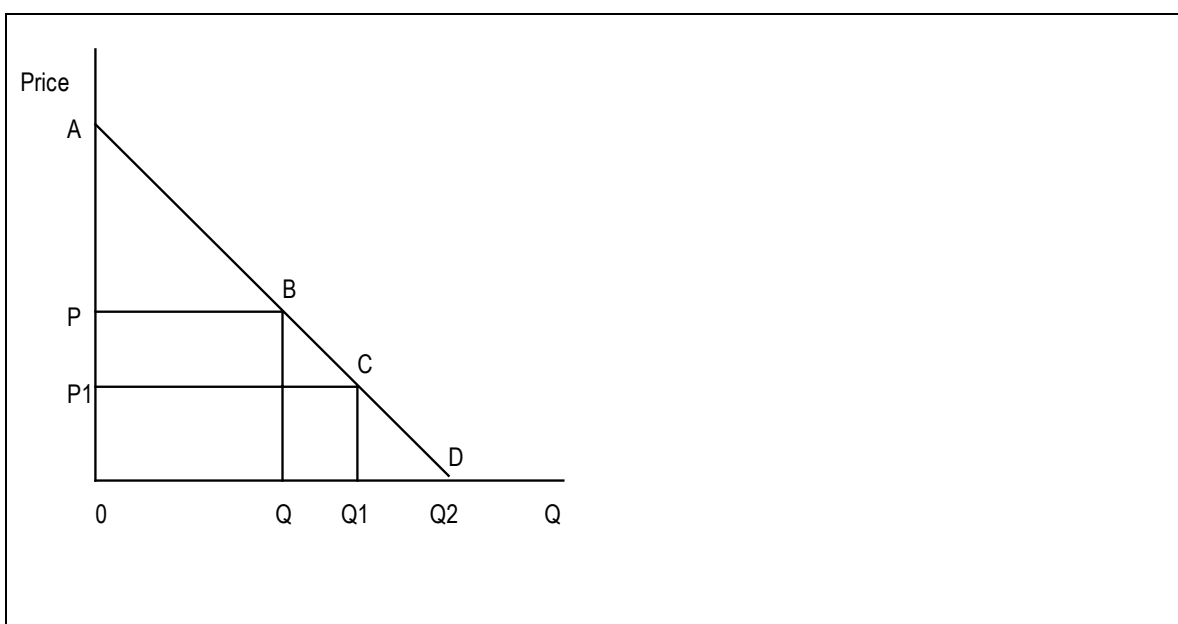
In a free market economy, scarce resources are normally allocated through the working of the **price mechanism** - where millions of decisions of individual consumers and firms determine equilibrium prices and the allocation of factor inputs to produce the goods that people are willing and able to buy. The price mechanism works through **price signals**. When demand is high, the potential profit from supplying to a particular market rises, leading to an expansion in supply (output) to meet rising demand from consumers.

On many occasions, the **government intervenes** in the price mechanism. In this section of the study guide we look at the effect of **indirect taxes** and **subsidies**, **maximum and minimum prices** and the impact of **price support schemes** for industries such as agriculture. In each case we are applying basic price theory and considering how intervention affects both producers and consumers.

Before we look at these forms of intervention, we consider two measures of **economic welfare** - **consumer and producer surplus**.

### a) Consumer surplus

Consumer surplus is a measure of the welfare that consumers derive from the consumption of goods and services, or the benefits they derive from the exchange of goods. It is the difference between what consumers are willing to pay for a good or service (indicated by the position of the demand curve) and what they actually pay (the market price). The level of consumer surplus is shown by the area under the demand curve and above the ruling market price and is illustrated below in the diagram.<sup>17</sup>



- ☐ **Consumer surplus** = total willingness to pay for a good or service - the total amount consumers actually do pay.
- ☐ Consider the demand for public transport shown in the diagram. The initial fare is price P for all passengers.
- ☐ At price P, the area APB shows consumer surplus. If the bus company cuts price to P1 the new level of consumer surplus is AP1C. This means that the level of consumer welfare has increased by the area PP1CB.

<sup>17</sup> For an web-based illustration of the concept of consumer surplus, go to [www.digitaleconomist.com/cs\\_4010.html](http://www.digitaleconomist.com/cs_4010.html)

- ❑ If a zero fare is charged, consumers will demand journeys up to the point where the demand curve cuts the x-axis. Demand expands to Q2 and consumer surplus is area OAD

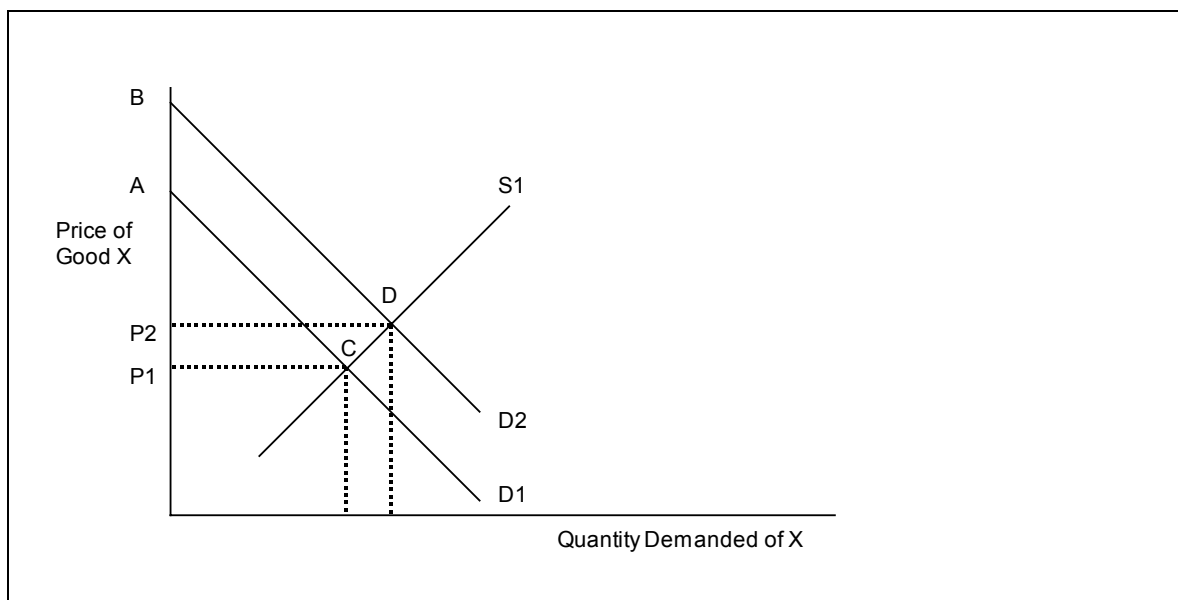
### i) Consumer surplus and price elasticity of demand

When demand for a product is perfectly elastic, the level of consumer surplus is zero since the price that people pay matches precisely the price they are willing to pay. There must be perfect substitutes in the market for this to be the case. When demand is perfectly inelastic, consumer surplus is infinite. Demand is totally invariant to a price change. Whatever the price, the quantity demanded remains the same.

Note that both these situations are highly unlikely to exist - the vast majority of demand curves for goods and services are downward sloping. When demand is inelastic, there is a greater potential consumer surplus because there are some buyers willing to pay a high price to continue consuming the product.

### ii) Changes in demand and consumer surplus

When there is a shift in the demand curve leading to a change in equilibrium price and quantity traded, the amount of consumer surplus will alter. This is shown in the diagram below. Following an increase in demand for good X from D1 to D2, the equilibrium market price rises to from P1 to P2 and the quantity traded expands. Consumer surplus initially was shown by the triangle AP1C. This rises to area BP2D. There is a higher level of consumer surplus because more is being bought at a higher price than before.



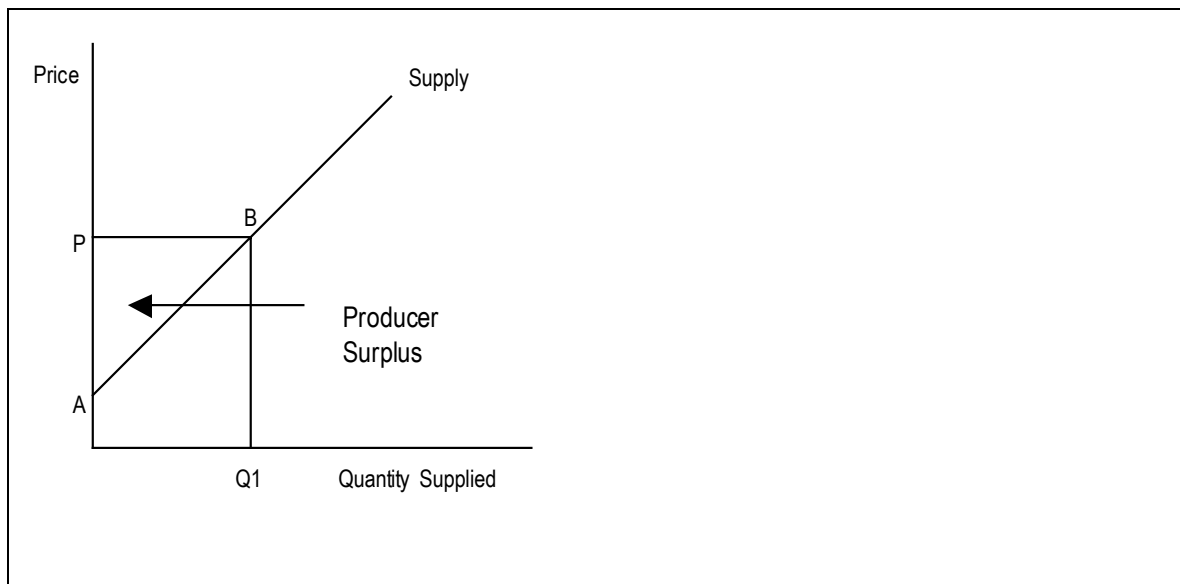
Consumer surplus is an important welfare concept and can and should be used when discussing the impact of government intervention in any market - for example the effects of **indirect taxation on cigarettes** consumers or the introducing of **electronic road pricing schemes**.<sup>18</sup>

Consider too the entry of discount Internet retailers such as [Last Minute](#) and [Amazon](#) into the markets for travel and books respectively. What impact has their entry into the market had on consumer surplus? How much are you prepared to pay for hotel rooms, package holidays and flights? Have a visit to the [Price Line](#) site - an innovative e-commerce idea that seeks to extract from potential customers their willingness to pay for certain goods and services.

<sup>18</sup> For details of Ken Livingstone's proposals for congestion charges in London - go [www.london.gov.uk/](http://www.london.gov.uk/)

## b) Producer surplus

Producer surplus is a measure of **producer welfare**. It is the difference between what producers are willing and able to supply a good for and the price they actually receive. The level of producer surplus is shown by the area above the supply curve and below the market price and is illustrated below.

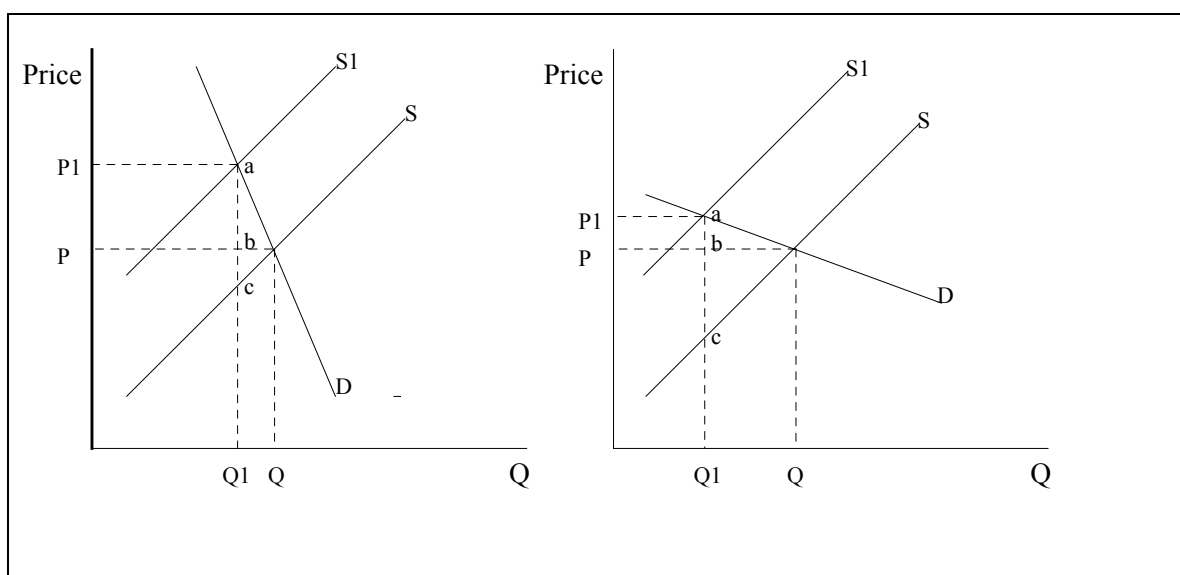


The minimum price that the firm requires to supply to the market is A. As market price rises, (perhaps due to an increase in demand) so supply expands (we move up the supply curve). At price P, the area APB represents producer surplus. Total revenue of the firm is indicated by area OPBQ.

The more elastic the supply curve, the smaller the amount of producer surplus. If the supply curve is perfectly elastic, producer surplus is zero since the price the firm is willing to supply output at is also the ruling market price

## c) Indirect taxes

An **indirect tax** is imposed on producers by the government. This tax raises the **costs** and causes an inward shift in the supply curve. The vertical distance between the pre-tax and the post-tax supply curve shows the tax per unit. With a tax, the supplier may be able to pass on some or all of this tax onto the consumer through a higher price. This depends on the elasticity of demand and supply for the product.



In the left hand diagram, demand for the product is inelastic and therefore the producer finds it easy to pass on most of the tax to the consumer through a higher price. The total tax per unit is equal to distance ac, but most of the tax is paid by the consumer, (ab) while the producer burden is bc. The government received tax revenue equal to (ac) x output Q1

In the right hand diagram, demand is relatively elastic meaning that the producer has to absorb the majority the tax itself (i.e. accept a lower profit margin on each unit sold). The producer burden of the tax (bc) outweighs the consumer burden (ab). When demand is elastic, the effect of a tax is to raise the price - but we see a bigger fall in equilibrium quantity. Output has fallen from Q to Q1 due to a contraction in demand

#### i) Taxation, elasticity of demand and government revenue

The Government would rather place indirect taxes on inelastic commodities because the tax causes a small fall in the quantity consumed and as a result the total revenue from the tax will be greater.

An example of this is the high level of duty on cigarettes and petrol. Demand for both products changes little when a few extra pence are added to the price of a packet of cigarettes or a litre of fuel. Rising prices and higher taxes leads to a rise in total government tax revenue. In 2000, tobacco duty brought in £5.7 billion of tax revenue for the British Government.<sup>19</sup>

#### ii) Illustrating the effects of a producer tax

The table below shows the demand and supply schedules for a good

Price (£)	Quantity Demanded	Quantity Supplied (Pre-tax)	Quantity supplied (Post-tax)
10	20	1280	600
9	60	1000	400
8	150	850	150
7	260	600	50
6	400	400	
5	600	150	
4	900	50	

1	What is the initial equilibrium price and quantity?	Price = £6 Quantity = 400
2	The government imposes a tax of £3 per unit. The new supply schedule is shown in the right hand column of the table - less is now supplied at each and e market price	
3	Find the new equilibrium price after the tax has been imposed	New price =£8
4	Calculate the total tax revenue going to the government	Tax revenue = £450
5	How have consumers been affected by this tax? There has been a fall in quantity traded and a rise in the price paid by consumers - this leads to a fall in economic welfare as measured by consumer surplus	

<sup>19</sup> Background detail on the 2001 Budget statement from <http://www.hm-treasury.gov.uk/budget2001/fsbr/chapc.html>

### iii) Examples of Indirect Taxes in the UK <sup>20</sup>

Value added tax		
VAT standard rate		17.5%
VAT domestic fuel rate		5%
Excise duties		
Beer (pint)		26p
Wine (75cl bottle)		116p
Spirits (70cl bottle)		548p
20 cigarettes	Specific duty	196p
	Ad valorem (22% of retail price)	94p
Petrol (litre)		51p
Unleaded petrol (litre)		49p
Diesel (litre)		49p
Air passenger duty		
Low rate (for destinations within the EU)		£10
High rate (for destinations outside the EU)		£20
Insurance premium tax		
Standard rate		5%

### iv) Specific taxes

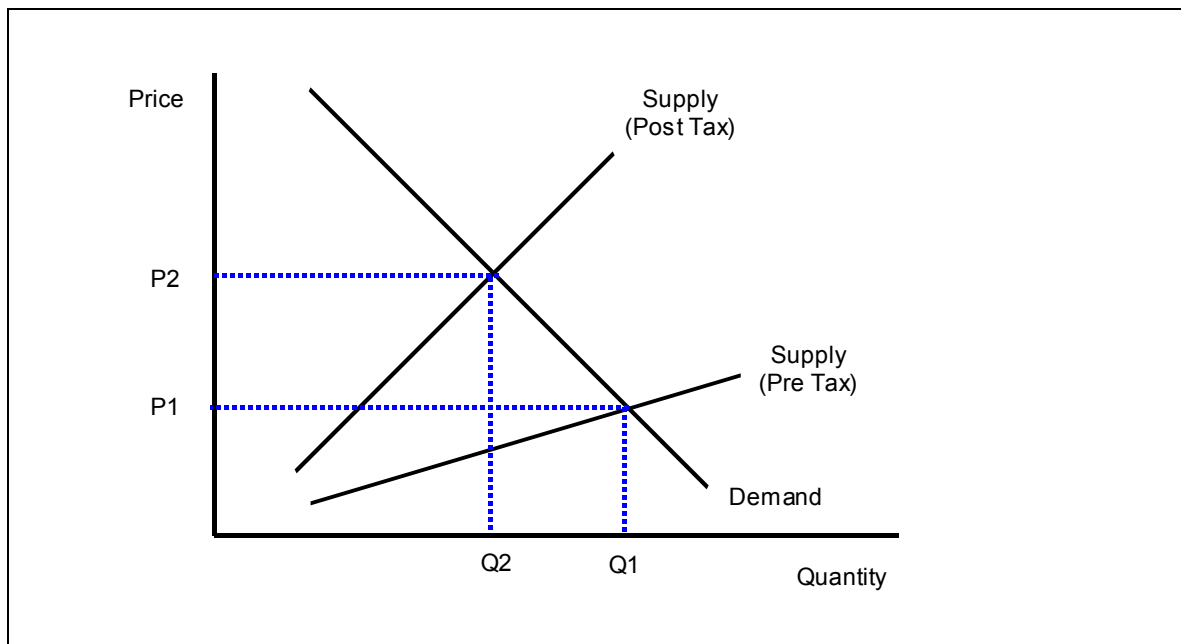
Where the tax per unit is a fixed amount - for example the duty on a pint of beer is 26 pence. The duty on a litre of unleaded petrol is 51p

### v) Ad valorem taxes

Where the tax is a percentage of the cost of supply - the best example of this is value added tax currently levied at the standard rate of 17.5% (5% for the supply of domestic fuel). In the diagram below, an ad valorem tax has been imposed on producers. The market equilibrium price rises from P1 to P2 whilst quantity traded falls from Q1 to Q2.

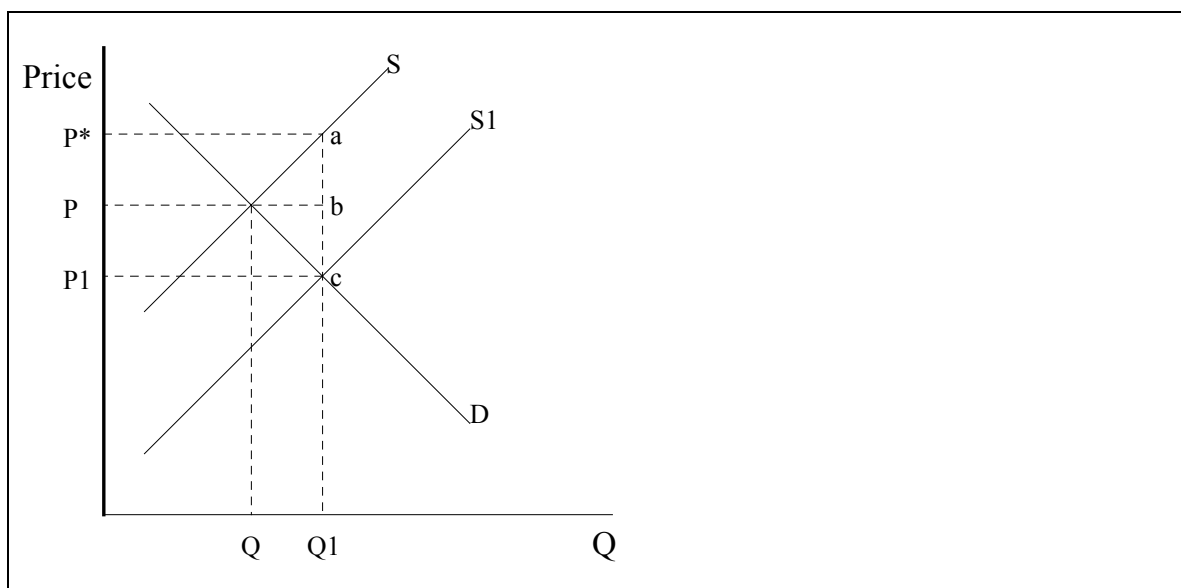
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<sup>20</sup> Information on the tax system available from the Institute for Fiscal Studies  
[www.ifs.org.uk/taxsystem/contents.shtml](http://www.ifs.org.uk/taxsystem/contents.shtml)



#### d) Producer subsidies

Subsidies represent payments by the government to producers that reduce their costs and encourage them to increase output. The effect is to increase supply and reduce the market equilibrium price.

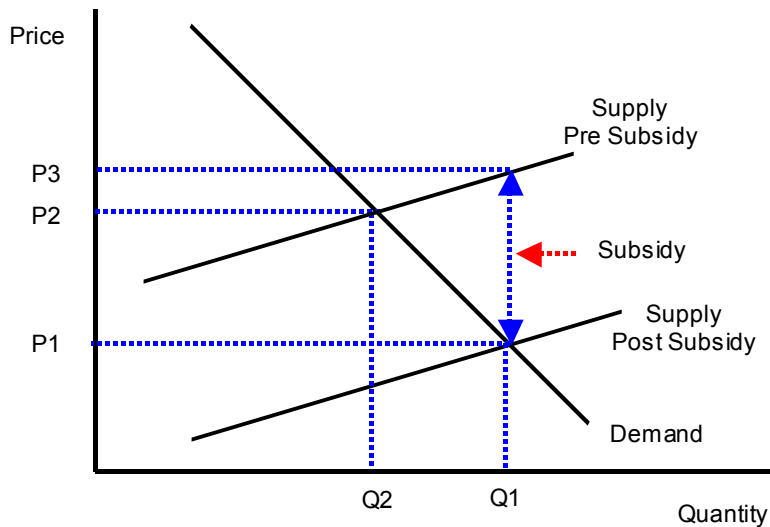


The subsidy causes the firm's supply curve to shift to the right. The total amount spent on the subsidy is equal to  $P^*ac P_1$ . The consumer gain is equal to the distance  $(bc)$  while the producer gain is equal to  $(ab)$ . The total unit subsidy is equal to  $(ac)$

The more inelastic the demand curve the greater the consumer's gain from a subsidy will be. Indeed when demand is perfectly inelastic the consumer gains most of the benefit from the subsidy since all the subsidy is passed onto the consumer through a lower price.

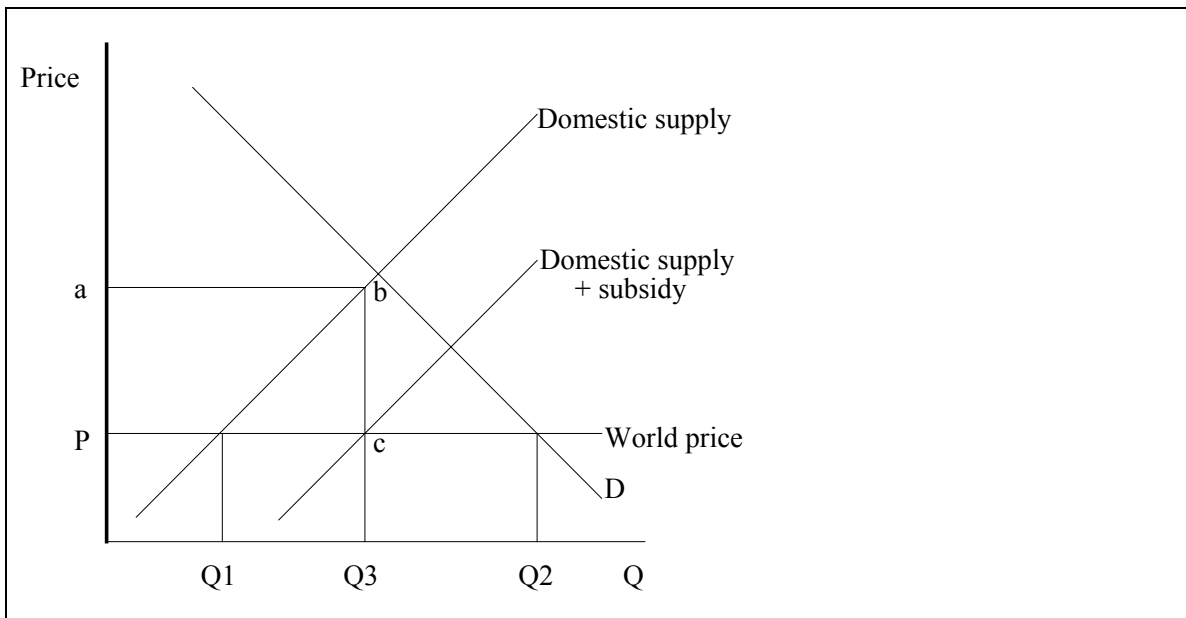
#### e) Government spending on a subsidy

If the subsidy is a guaranteed payment to producers, the government will pay the subsidy per unit to the producer on top of the new market price. The subsidy reduces equilibrium price from  $P_2$  to  $P_1$ . Consumers gain from consuming more at a lower price. Producers will receive price  $P_1 + \text{the subsidy}$  ( $P_1P_3$ ). The total amount spent by the government on the subsidy will be  $Q_1 \times (P_1P_3)$ . This is shown in the diagram below.



#### f) Subsidies in international markets

In an international market, consumers can purchase goods from either domestic or foreign suppliers. It is assumed that an infinite number of foreign goods can be purchased at a constant world price  $P$ .



In the pre-subsidy situation, domestic firms will supply  $Q_1$ . However, at the world price  $P$  domestic demand is  $Q_2$ . The difference between domestic demand and domestic supply ( $Q_2 - Q_1$ ) will be met imports

The subsidy reduces domestic firms costs and causes supply to shift to the right. Domestic supply expands to  $Q_3$  and the volume (quantity) of imports falls to  $Q_3 - Q_2$ . Government spending on the subsidy is calculated by multiplying domestic supply by the vertical distance between the two supply curves.

### i) Should we subsidize?

Subsidies are not without controversy. There are occasions when we might justify a government subsidy to encourage the production and consumption of goods and services that create [positive externalities](#) (see also [merit goods and services](#)). Other economists argue that subsidies are justified to smooth the structural decline of certain industries and to protect jobs when there is a risk of [long-term unemployment](#) in industries such as coal and heavy engineering.

However we must remember that subsidies need to be **financed**. Often this is done out of general taxation. The taxpayer may not benefit from subsidy, but they pay for it from their direct and indirect taxes.

Subsidies may also encourage continued **inefficiency** among producers when the operation of free market forces might result in a more efficient allocation of resources. There are also widespread concerns that generous agricultural subsidies are leading to **long-term environmental problems** as farmers invest in intensive farming methods that threaten the sustainability of our ecological resources. Read this article on subsidies to [olive producers in the EU](#) taken from the BBC news web site.<sup>21</sup>

The economic and social case for a subsidy should be judged on the grounds of **economic efficiency** and also **fairness**. We need to be careful to evaluate who gains from any particular subsidy and who pays. Might the money used up in subsidy payments be better spent elsewhere? Government subsidies inevitably carry an opportunity cost - there are signs that the Labour Government is now reviewing its strategy towards industrial subsidies in the aftermath of the June 2001 General Election win.

*The new trade secretary Patricia Hewitt has announced a comprehensive review of government subsidies to failing industries. In her first major speech, she said that her department's £1bn a year business support scheme could be better targeted to help firms "get to the future first*

*It's not about protecting business or employees from the enormous changes that are taking part in the world. It's about helping them not only survive these changes but also succeed through change," she said. Ms Hewitt pointed out that while [steel](#), shipbuilding, and cars received large grants, other struggling industries such as textiles did not.*

### g) Tariffs and quotas as import controls

A [tariff](#) is a tax levied on the value of imports. Despite numerous attempts by the World Trade Organization (WTO) and its forerunner GATT, the [General Agreement on Tariffs and Trade](#) - many countries opt to introduce import tariffs on goods and services when trade wars ignite and then escalate. Take this example between China and Japan in June 2001.

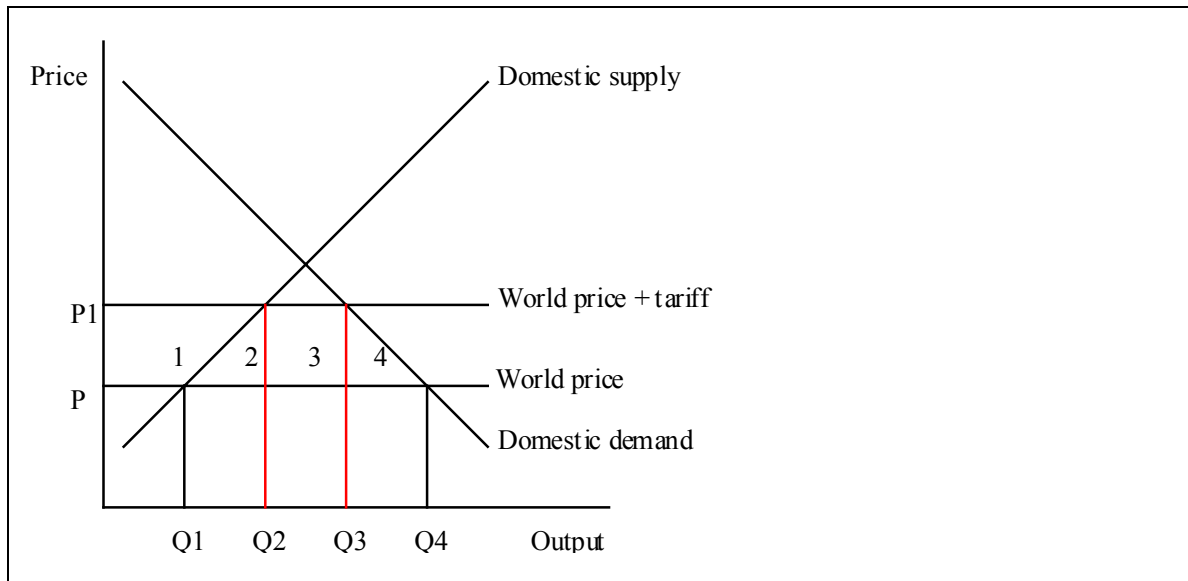
*[China](#) has slapped 100% punitive tariffs on 60 Japanese imports, including cars, mobile phones and air conditioning. The move is in retaliation against tariffs that [Japan](#) placed on a range of Chinese agricultural products including spring onions and shiitake mushrooms. Placing import tariffs on foreign imports is a way to protect domestic markets from competition, but is normally frowned upon by the [World Trade Organisation](#), which China hopes to join*

- ☐ Protection of domestic firms from low cost competition
- ☐ As a response to dumping by other producers
- ☐ Raising revenue for the government
- ☐ Improving the Balance of Payments by limiting the growth of imports
- ☐ Controlling the level of import penetration in a particular industry and therefore protect employment

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<sup>21</sup> The EU Agricultural web site can be found at [http://europa.eu.int/comm/agriculture/index\\_en.htm](http://europa.eu.int/comm/agriculture/index_en.htm)



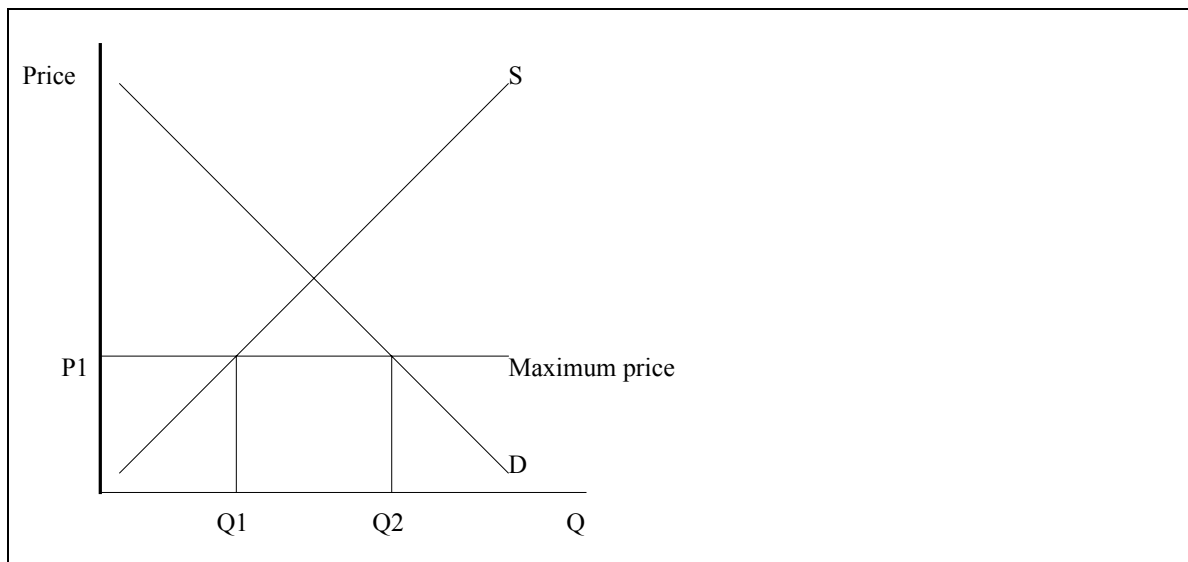


Before the import tariff, at the world price  $P$  domestic supply is  $Q_1$  and domestic demand is  $Q_4$ . The difference is met by imports ( $Q_1-Q_4$ ). The tariff raises the world price to  $P_1$ . Domestic supply expands to  $Q_2$ , while demand contracts to  $Q_3$ . The new level of imports is  $Q_2-Q_3$ . The expansion in domestic output means that producers receive higher revenue. The government receives revenue from the tariff equal to Area 3. This is calculated by multiplying the tariff by import volume  $Q_2-Q_3$ .

The effect of a tariff in reducing the level of imports is determined by the elasticity of demand and supply. The more elastic is the demand and supply, the greater the fall in imports after imposing a tariff.

#### h) Maximum prices

Governments can set legally imposed maximum prices in a market that suppliers cannot legally exceed. To be effective a maximum price has to be set below the free market price

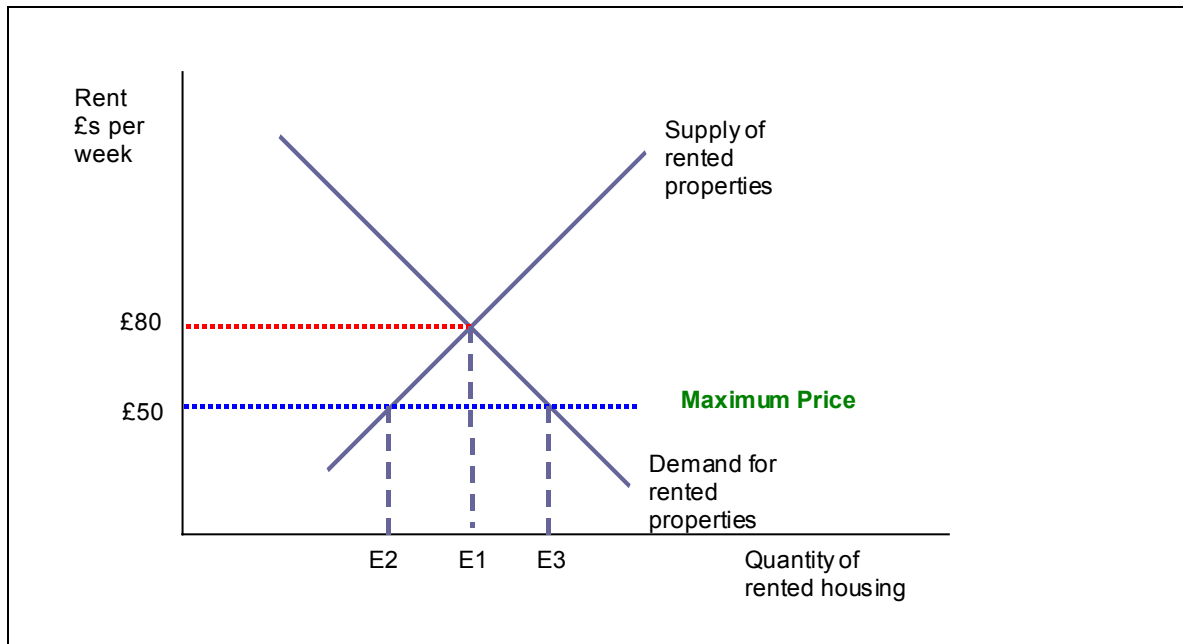


In the diagram opposite, if a maximum price is set at  $P_1$  there will be a shortage in the market equal to  $Q_1-Q_2$ . This shortage could lead to the development of a black market since the price ceiling is below the free market level. In order to assure a fair distribution of the product the government may also introduce rationing to balance the gap between demand and supply at the price  $P_1$ .

### i) Black Markets

A **black market** (or shadow market) is an illegal market in which the normal market price is higher than a legally imposed price ceiling (or maximum price). Black markets develop where there is **excess demand** for a particular good or service. Some consumers miss out on purchasing the products they want but they are prepared to pay higher prices in black markets in order to get these goods or services. When there is a shortage in the market, higher prices act as a rationing device.

Good examples of black markets include tickets for major sporting events, rock concerts and black markets for children's toys and designer products that are in short (scarce) supply. Consider the market for apartments in a city where the local authority has imposed rent ceilings.

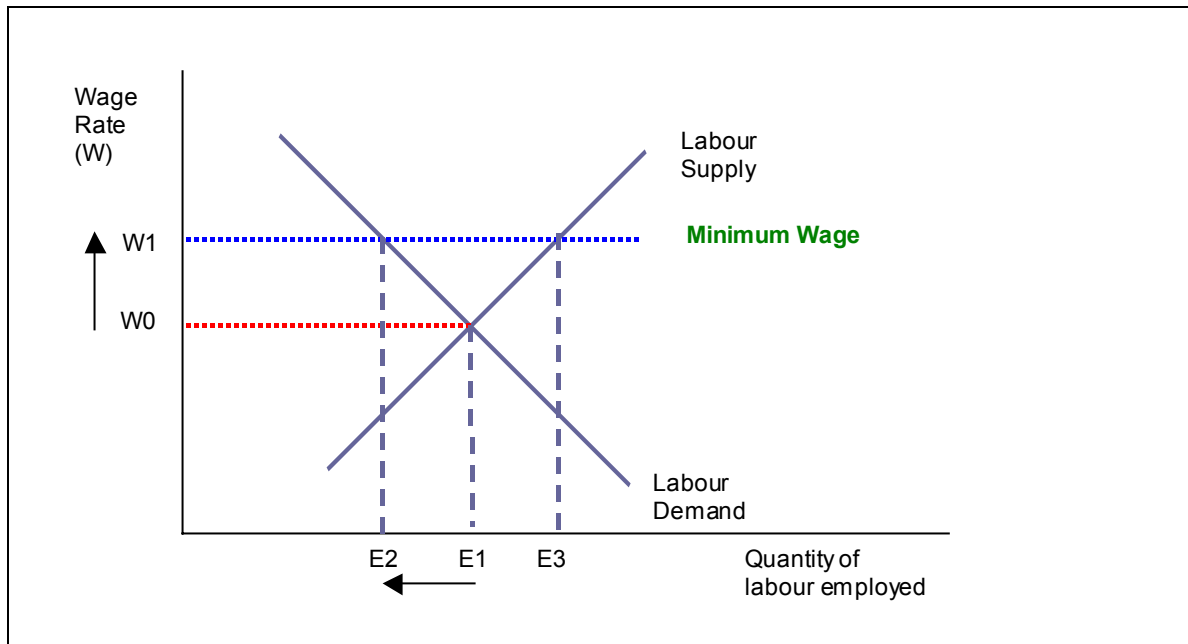


If the maximum rent is fixed at £50, there is an excess demand shown by the quantity  $E3 - E2$ . Some people will miss out on rented property if the supply of properties contracts to E2. These people may search for properties in a "shadow market" - they will be prepared to pay above the £50 rent ceiling if needed to secure the property they want.

### i) Minimum prices

A minimum price is a **price floor** below that the free market price cannot fall. To be effective the minimum price has to be set above the normal equilibrium price. A good example of this is minimum wage legislation. The [National Minimum Wage](#) was introduced in 1998 and is now £4.10 for adult workers aged 21+ and £3.60 for youth workers aged 18-21.<sup>22</sup>

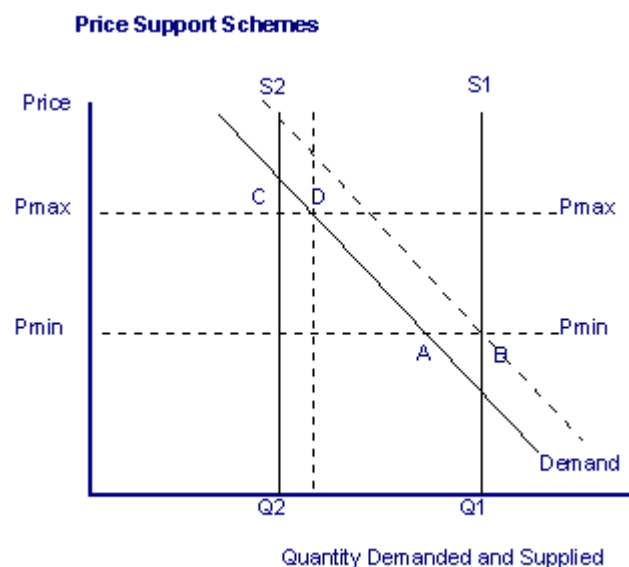
<sup>22</sup> The Low Pay Unit is a superb resource for finding out more on the UK Minimum Wage:  
[www.lowpayunit.org.uk/](http://www.lowpayunit.org.uk/)



If the minimum wage is set at  $W$ , there will be an **excess supply of labour** equal to  $Q_2 - Q_1$ . This means that there will be **unemployment** in the labour market. While the minimum wage may raise earnings for those in employment, there is a risk that the pay floor has a negative impact on the level of unemployment. The impact of a minimum wage on employment levels depends in part on the **elasticity of demand** and **elasticity of supply of labour** in different industries. If labour demand is relatively inelastic (as in the diagram below) then the contraction in employment is likely to be less severe than if employers' demand for labour is elastic with respect to changes in the wage level.

Minimum and maximum prices illustrate how changes price and quantity can be brought about without a change in either the conditions of demand or supply

#### j) Price support schemes - buffer stocks



The prices of agricultural products such as wheat, tea and coffee tend to fluctuate more violently than the price of manufactured products and services. This is largely due to the volatility in the supply of agricultural products coupled with the fact that demand and supply are price inelastic. One way to smooth out the fluctuations in prices is to create a buffer stock scheme.

Buffer stock schemes seek to stabilize the market price of agricultural products by buying up supplies of the product when harvests are plentiful and selling stocks of the product onto the market when supplies are low. The diagram above illustrates the operation of a buffer stock scheme:

The supply curves  $S_1$  and  $S_2$  represent the supply of wheat at the end of two different seasons. Supply is perfectly inelastic since farmers cannot change the quantity supplied

onto the market post harvest. The organisation wishes to keep price fluctuations within a certain band: it will not allow the price of the product to rise above  $P_{max}$  or to fall below  $P_{min}$ .

Assume that in one particular year there is a bumper harvest so that S1 is supplied onto the market. In absence of any intervention the market price would drop below P min, so the organisation buys up AB of the product to increase the market price up to P min. In the next year bad weather may result in a poor harvest so that only S2 is supplied. The market price would rise above the maximum permitted by the organisation, so the organisation sells CD of its stocks onto the market to reduce the price to P max.

In theory buffer stock schemes should be profit making, since they buy up stocks of the product when the price is low and sell them onto the market when the price is high. However, they do not often work well in practice. Clearly, **perishable items** cannot be stored for long periods of time and can therefore be immediately ruled out of buffer stock schemes.

Setting up a buffer stock scheme also requires a significant amount of **start up capital**, since money is needed to buy up the product when prices are low. There are also **high administrative and storage costs** to be considered.

The success of a buffer stock scheme however ultimately depends on its ability to correctly estimate the average price of the product over a period of time. This estimate is the scheme's **target price** and obviously determines the maximum and minimum price boundaries.

But if the target price is significantly above the correct average price then the organisation will find itself buying more produce than it is selling and it will eventually run out of money. The price of the product will then crash as the **excess stocks** built up by the organisation are dumped onto the market. Conversely if the target price is too low then the organisation will often find the price rising above the boundary, it will end up selling more than it is buying and will eventually run out of stocks<sup>23</sup>

## k) Markets In Action - Commodity Prices

### i) Coffee prices

[Coffee prices](#) are amongst the most volatile in international commodity markets. Fluctuations in demand and supply conditions can cause big swings in market prices for producers. One key factor is the control over market supply engineered by the [Association of Coffee Producing Countries](#).

The Association of Coffee Producing Countries (ACPC) was created on the 24th of September 1993 following the collapse of the International Coffee Agreement. The ACPC has 28 members, 14 of which are ratified. In 1999/2000 the 14 ratified members produced 61.4% of world coffee supply and held an export market share of 62.4%.

By seeking a balance between world supply and demand the ACPC aims to stabilize coffee prices at levels that are fair and remunerative to producers and yet consistent with increasing consumption. This recent report outlines attempts by the ACPC to support the market price of coffee through supply adjustments:

*Leading coffee producers have signed a price support agreement in a bid to stabilize falling coffee prices. The support of Brazil to this latest attempt to raise coffee prices is vital. Brazil is to coffee what Saudi Arabia is to oil. Of the 105 million 60-kilo bags of coffee produced globally each year, Brazil accounts for between 30m and 40m, depending on the harvest. The difference between a good and bad harvest in Brazil - about 12m bags - is equivalent to the entire annual production of the world's next largest producer, Colombia.*

*The Association of Coffee Producing Countries (ACPC) last month agreed to withhold from the international market up to 20% of production in order to support the price. The organisation's members are using a basket of prices to calculate a reference point of 95 cents per pound as the "floor" and 105 cents as the ceiling.*

*The smallest coffee producers, mostly sub-Saharan countries, are at the sharp end of fluctuations in price. Although their contribution to world exports is tiny - Uganda, Africa's*

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<sup>23</sup> Background Reading on European Agricultural Policy from the BBC New Web Site:  
[http://news.bbc.co.uk/vote2001/hi/english/main\\_issues/sections/facts/newsid\\_1170000/1170608.stm#top](http://news.bbc.co.uk/vote2001/hi/english/main_issues/sections/facts/newsid_1170000/1170608.stm#top)

*biggest coffee exporter, produces just under 4% of global output - many are almost one-crop economies. Coffee accounts for more than two-thirds of Uganda's export earnings and over half of Rwanda's. A fall in prices can have a devastating effect on these economies. When world prices plummeted in 1998, Uganda's foreign exchange earnings plummeted. This year, a bad harvest forced the country to revise down its growth forecast by 1.5 percentage points.*

Association of Coffee Producing Countries: [www.acpc.org](http://www.acpc.org)

Cheap beans don't make cheap coffee

[http://news.bbc.co.uk/1/hi/english/business/newsid\\_1307000/1307081.stm](http://news.bbc.co.uk/1/hi/english/business/newsid_1307000/1307081.stm)

## ii) World Cocoa Prices

### Case Study: Cocoa Prices Surge by 50%

The growing global demand for chocolate has helped push the price of cocoa up 50% within two months - and led to fears of shortages to come. Amid mounting concern at the state of the industry, cocoa producers are meeting with importers in Geneva to discuss how to tackle the problem.

The gathering comes as cocoa prices rise steeply - daily average prices increased by more than 50% between December 2000 and the middle of February 2001. At the same time, global output has dropped, especially in West Africa, where the Ivory Coast is the world's top producer and exporter. The International Cocoa Organisation (ICCO) predicts that world production of cocoa is likely to drop by 8% in 2000-2001.

Top cocoa producers - estimated share of world production in 2000-2001

Ivory Coast:	41%
Indonesia:	15%
Ghana:	14%
Nigeria:	6%
Brazil:	4%

This leaves a shortfall of 205,000 tonnes based on projected demand, compared with a surplus of 91,000 during 1999-2000. The increase in demand has been partly driven by growing markets for cocoa in former Communist countries and eastern Asia. World cocoa consumption is expected to rise by more than 2% in the next year, according to ICCO. But bad weather and pest problems in West Africa, the world's top cocoa-producing area, have caused a decline in output.

The countries meeting in Geneva want to negotiate a new pact to stabilise such imbalances between the supply and demand. An existing agreement from 1993 is set to expire in September.

At the crux of the negotiations is a conflict between the countries that produce cocoa and those that consume it. Producers, including Brazil, Indonesia and African states, want good prices for their output, while consumers, such as the Netherlands and Germany, are more interested in a steady supply at a reasonable cost. The November talks agreed various mechanisms to monitor the market to control imbalances between supply and demand. However, the delegates could not settle on the definition of a "sustainable cocoa economy" to balance the interests of both producers and consumers.

The international community no longer maintains large stocks of commodities as it used to, in an effort to stabilise the incomes received by commodity producers. Farmers and suppliers of other commodities are now much more vulnerable to the swings in international market prices. Commodity prices are particularly sensitive to general fluctuations in the economies of countries that consume them.

### iii) International Oil Prices

The [international oil market](#) is placed under daily scrutiny - because oil is perhaps the most important internationally traded commodity. [World prices fluctuate because of changes in demand and supply](#).<sup>24</sup>

#### Recent Trends in Oil Prices

Annual average prices for various forms of **crude oil** are shown in the table below. There have been four major upward movements in world oil prices over the last thirty years. In 1973-74 OPEC producers successfully managed to limit world oil supply forcing the price of Dubai crude oil to treble. The subsequent **inflationary shock** to the international economy was a key factor behind the global recession of the mid 1970s.

	West Texas			
	Dubai	Brent	Intermediate	
US dollars per barrel	\$/bbl*	\$/bbl†	\$/bbl‡	
1972	1.90	-	-	First major oil price shock in the winter of 1973-74. At this time the UK was a
1973	2.83	-	-	
1974	10.41	-	-	
1975	10.70	-	-	
1976	11.63	12.80	12.23	Second global oil shock in 1978-79 once again led to much higher cost inflation in the UK and contributed to the recession of the early
1977	12.38	13.92	14.22	
1978	13.03	14.02	14.55	
1979	29.75	31.61	25.08	
1980	35.69	36.83	37.96	
1981	34.32	35.93	36.08	
1982	31.80	32.97	33.65	
1983	28.78	29.55	30.30	
1984	28.06	28.66	29.39	
1985	27.53	27.51	27.99	
1986	12.95	14.38	15.04	Collapse of OPEC cartel due to over-production led to a dramatic fall in world oil prices
1987	16.92	18.42	19.19	
1988	13.19	14.96	15.97	
1989	15.68	18.20	19.68	
1990	20.50	23.81	24.50	
1991	16.56	20.05	21.54	
1992	17.21	19.37	20.57	Gulf War in 1990 (Iraqi invasion of Kuwait forced oil prices higher)
1993	14.90	17.07	18.45	
1994	14.76	15.98	17.21	
1995	16.09	17.18	18.42	

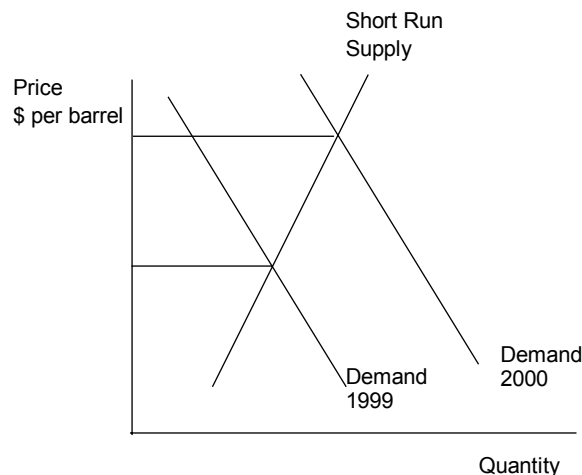
<sup>24</sup> Daily information on crude oil prices and fluctuations in global demand and supply can be accessed from the web site of the International Petroleum Exchange: [www.ipe.uk.com/prices.html](http://www.ipe.uk.com/prices.html)

1996	18.56	20.80	22.16
1997	18.13	19.30	20.61
1998	12.16	13.11	14.39
1999	17.30	18.25	19.31
2000	26.24	28.98	30.37

For most of the 1990s, crude oil prices were relatively low. In 1998, they fell in the wake of the Asian Economic Crisis (which prompted a fall in total world oil demand). But in 2000 we saw a further jump in crude oil prices. Strong global demand (not least from the booming US economy) and production cutbacks from OPEC and Non-OPEC suppliers led to the price of Dubai crude rising from \$17 in 1999 to \$26 in 2000. The price of North Sea Oil also surged, averaging just under \$29 in 2000.

### Oil Demand

Oil is an essential **input** in the production processes of many industries. The demand for oil also comes from household consumers to meet their energy requirements. And, crude oil is refined into petroleum products for transport. The **global economy** has enjoyed strong economic growth over the last few years. And, because the total demand for oil is strongly linked to the **economic cycles** of the major economies, this has caused a steady increase in world oil demand.



Higher demand matched against an **inelastic short run supply of oil** invariably drives market prices higher. An increase in demand causes a fall in oil stocks at the major international refineries and pushes prices higher. This acts as a signal to suppliers to expand production. However there are **time lags** between a change in price and extra supplies coming on stream. The demand for oil is also inelastic. This combination of an inelastic demand and supply helps to explain some of the volatility in world oil prices. Speculative demand for oil can also force prices higher.

### Oil Supply

**OPEC** achieved substantial cuts in total production in 1999 in the wake of the collapse of oil prices in 1997-98. There was pressure on the OPEC cartel to

cut output and raise price in order to boost revenue from oil exports to rebuild their own domestic economies. An inward shift in oil supply matched with an increase in demand causes an increase in equilibrium price.<sup>25</sup>

Oil supply from non-OPEC countries was affected by cutbacks in capital investment spending when oil prices plummeted in the late 1990s. Lower prices made the exploration of several oil fields un-economic and this caused a fall in oil supply. Higher prices for consumers can also be explained by the **tax regimes** imposed in many industrialised countries. Petrol is heavily taxed in Britain with a combination of high **excise duties** and **value added tax** pushing the retail price of petrol higher.

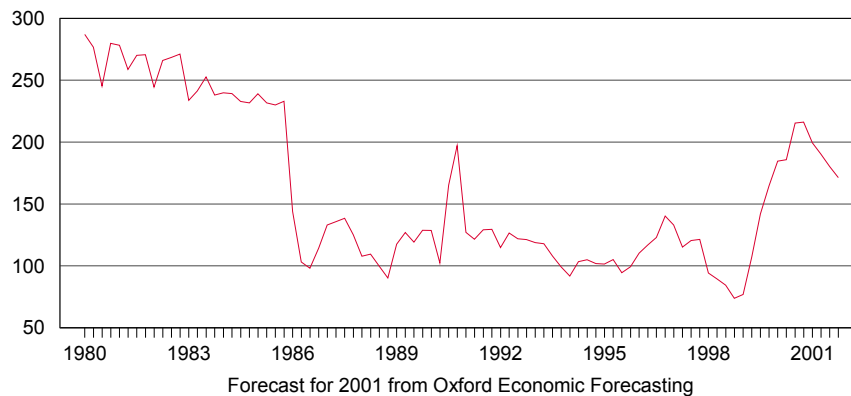
In the late 1990s, the Labour government continued the policy of increasing the duty on fuel in the annual Budget by more than the rate of inflation for the economy as a whole. Higher crude oil prices inevitably means that more VAT (levied at 17.5%) is placed on a litre of petrol. The so-called **fuel escalator** was

<sup>25</sup> The cost of oil from field to pump:  
[http://news.bbc.co.uk/1/hi/english/static/in\\_depth/world/2000/cost\\_of\\_fuel/](http://news.bbc.co.uk/1/hi/english/static/in_depth/world/2000/cost_of_fuel/)

abandoned in 1999 and a year later the government introduced small cuts in the duty on petrol in the wake of the September 2000 fuel crisis.<sup>26</sup>

## REAL CRUDE OIL PRICE

Index of real oil price, 1995=100



### Economic consequences of higher world oil prices on the UK economy

No country is immune to fluctuations in world oil prices. The UK was severely damaged by the oil crises in 1973-74 and 1978-79, although the economy emerged relatively unscathed from the jump in prices during 2000. The effects of higher oil prices on the economy will be lagged. Changes in prices take time to work through the economic system and affect the decisions of thousands of businesses across many industries.

### Oil prices and inflation

It is difficult to disentangle the impact of higher oil prices on inflation, because taxes make up a high proportion of the petrol price. Nonetheless, a \$3-4 rise in oil prices can be expected to add (directly) about 0.1% to **consumer price inflation** after two years. This is not in itself a major contributor to higher prices. Of greater impact are the knock-on effects of increased costs through the **supply-chain**.

The **second-round effects** are more complicated, as firms pass through higher costs. Analysis from economists at the Bank of England suggests that a \$1 rise in oil adds a further 0.1% to inflation after two years (including the petrol effect). A doubling in oil prices would have many other inflationary effects: increasing the cost of heating oil and aviation fuel, plastics, chemicals, as well as raising the material costs of all firms (which would likely be passed onto consumers).

If the **Monetary Policy Committee** of the Bank of England forecast that **inflation** might rise above the government's 2.5% target, they are likely to move interest rates higher as a policy response. Increased interest rates would control consumer demand for goods and services and keep inflation under control - but the trade-off would be a reduction in the rate of economic growth.

### Oil prices and British industry

Higher oil prices increase costs of production for UK businesses. This will have damaging effects on industries such as **petrochemicals**, **aviation**, the **road haulage** sector and **farming**. Some regions are affected more than others. If domestic firms lose international competitiveness as a result of the increase in input costs, there is a risk of a fall in export demand and output leading to job losses.

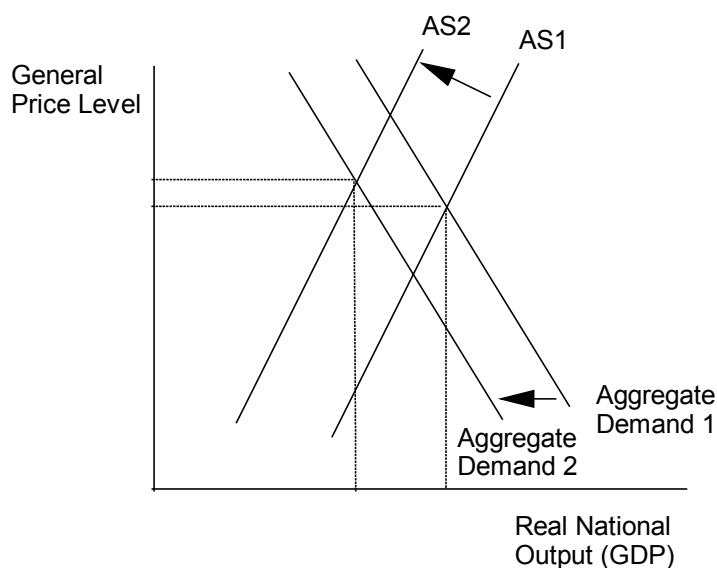
### Oil Prices and Aggregate Demand and Supply

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<sup>26</sup> Coverage of the Autumn 2000 fuel crisis from this site:

[http://news6.thdo.bbc.co.uk/hi/english/in\\_depth/world/2000/world\\_fuel\\_crisis/](http://news6.thdo.bbc.co.uk/hi/english/in_depth/world/2000/world_fuel_crisis/)





Consider the effects of higher oil prices - this causes an inwards shift in the short-run aggregate supply curve. In short - the result is an **adverse supply shock** for the economy (i.e. higher costs of production). If this results in a fall in exports overseas, and triggers higher interest rates, then we might expect to see a contraction in aggregate demand. The danger is that higher oil prices bring about an inflationary shock to the economy that translates itself into a fall in real national output.

#### Oil prices and government revenue

One of the winners from short run increases in the international price of crude oil is the British government. Higher prices and an expansion of production in the North Sea generate extra tax revenues from oil duty, valued

added tax and the tax on profits from North Sea Oil producers.

#### Oil prices and the balance of payments

Britain is both an importer and exporter of oil. (Brent crude is generally of a higher quality than its Saudi equivalent). An increase in oil prices improves our balance of payments. For example, the net surplus from UK oil exports rose from £4 billion in 1999 to £6 billion in 2000. Higher prices will also act as an incentive for north-sea oil producers to expand investment in new oil fields and expand their supply. This is good news for regions linked to the fortunes of the oil extraction and refining industries.<sup>27</sup> The [Scottish economy](#) in particular has a high dependency on the fortunes of the North Sea Oil industry

Over the long term, the British economy's dependence on crude oil has diminished, not least because of the experience of past international oil crises. The supply of alternative energy technologies has grown and the economy can cope more flexibly when the price of a key input rises sharply

<sup>27</sup> UK Offshore Operators Association web site is at [www.ukooa.co.uk/](http://www.ukooa.co.uk/)

## 9) PRODUCTION AND COSTS

### a) Production - the basics

#### i) Short run productivity and cost

**Production** refers to the output of goods and services produced within the economy. To simplify the idea of the production function, economists create time periods for analysis.

The **short run** is a period of time when there is **at least one fixed factor of production**. This is usually capital input such as plant and machinery and the stock of building and technology. In the short run, output expands when more **variable factors** (labour, raw materials and components) are employed. In the **long run**, all factors of production can be changed meaning that a business can increase the scale of its operations.

In order to understand **short run costs** it is essential to understand the **productivity** of the variable factor and thus the **law of diminishing returns**.

#### ii) Productivity of the variable factor - diminishing returns

In these examples the labour input is assumed to be the only variable factor. Other factor inputs are fixed in supply. The returns to adding more labour to the production process are measured in two ways.

**Marginal product (MP)** = The change in total product resulting from adding one extra unit of labour.

**Average product (AP)** = Total Output divided by the total units of labour employed

Units of Labour Employed	Total Physical Product (tonnes of wheat)	Marginal Product (tonnes of wheat)	Average Product (tonnes of wheat)
0	0		
1	3	3	3
2	10	7	5
3	24	14	8
4	36	12	9
5	40	4	8
6	42	2	7
7	42	0	6

**Diminishing returns** occur when the marginal product of labour starts to fall. In the example above, extra labour is added to a fixed supply of land when harvesting wheat. Marginal product is maximized when the 4<sup>th</sup> worker is employed. Thereafter the extra output from new workers is falling. Once marginal product falls below average product, then we have reached the point where average product is maximized - i.e. we have reached productive efficiency. The Law of Diminishing Returns occurs because factors of production are not perfect substitutes for each other. Resources used in producing one type of product are not necessarily as efficient when switched to the production of another good or service.

#### iii) Criticisms of the law of diminishing returns

The **law of diminishing returns** lies at the heart of traditional production and cost theory. Underlying the idea is the assumption of fixed resources and given technology. This concept may hold true for many small and medium sized businesses. However the ability of transnational corporations to source inputs from more

than one economy and engage in rapid transfers of technology make the concept less relevant to the real world. Production can be switched between plants in a bid to achieve increased efficiency and cost savings.

## b) Costs of Production

**Costs** are expenses faced by a business when producing a good or service for a market. E business faces costs - these must be recouped if a business is to make a **profit** from its activities. In the short run a firm will have fixed and variable costs of production

### i) Total Cost

Total Cost is made up of **fixed costs** and **variable costs**

### ii) Fixed Costs

These costs relate to the fixed factors of production and do not vary directly with the level of output.

- ☐ Rent and business rates, Depreciation of capital equipment due to age, Insurance charges
- ☐ Salaried staff and Interest charges on borrowed money
- ☐ The costs of purchasing new capital equipment and also marketing and advertising costs

### iii) Variable Costs

Variable costs vary directly with output. I.e. as output rises, a firm will face higher total variable costs. Common example of variable costs for a business include:

- ☐ Raw materials and components, wages of part time staff and electricity and gas and other energy supplies

### iv) Average Variable Cost

$$\text{Average Total Cost} = \frac{\text{Total Variable Cost}}{\text{Output}}$$

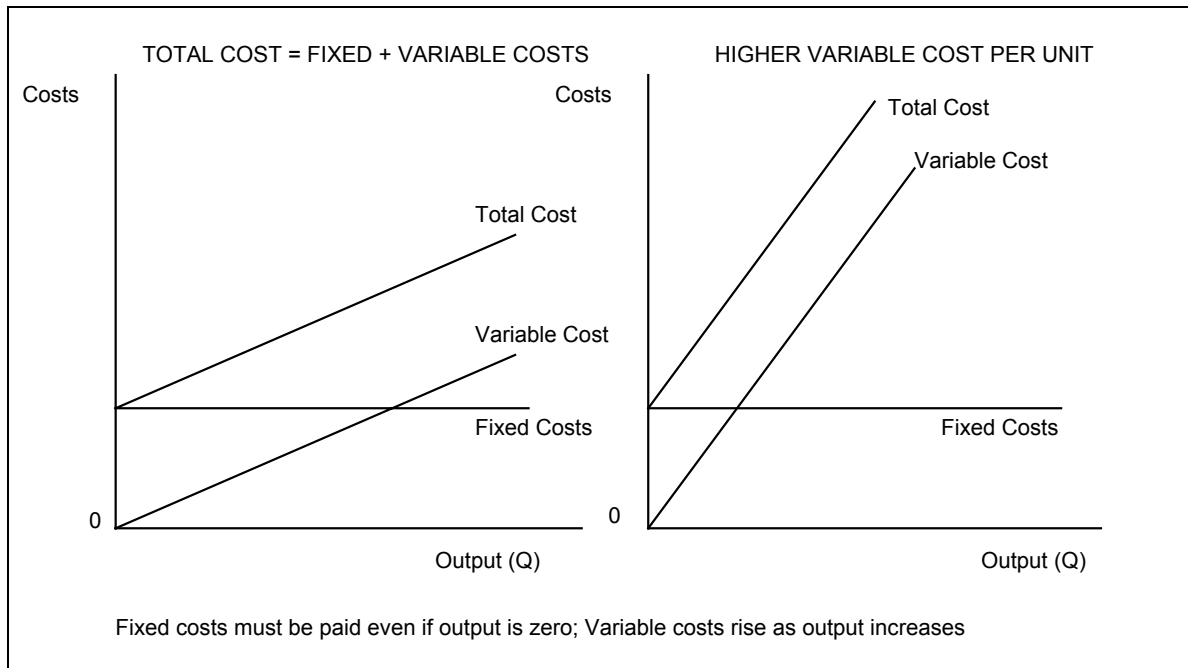
### v) Average Total Cost

$$\text{Average Total Cost} = \frac{\text{Total Cost}}{\text{Output}}$$

### vi) Average Fixed Cost

$$\text{Average Total Cost} = \frac{\text{Total Fixed Cost}}{\text{Output}}$$

vii) Illustrating short run costs for a business

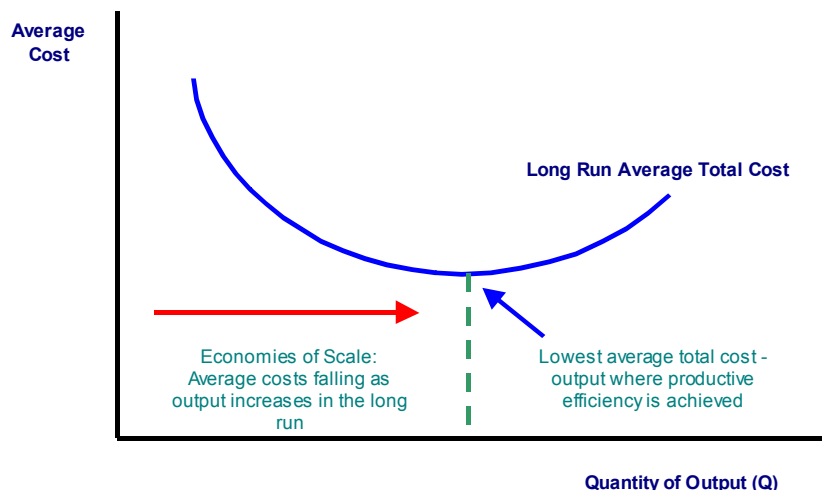


c) Long Run Costs

The Long Run is a period of time in which all factor inputs used in production can be changed. The firm can alter the scale of production. If a firm sees a fall in long run average total cost, it is experiencing economies of scale. If average total cost rises as the firm expands, diseconomies of scale are occurring.

d) Economies of Scale

Economies of scale are of huge importance to many businesses - not least those that have to compete in



international markets where cost competitiveness is vital in securing and retaining orders from overseas customers. Both producers and consumers stand to gain if economies of scale can be achieved. Businesses can bring down their average total costs by producing on a larger scale. This opens up the possibility of bigger profit margins and a competitive advantage in their chosen markets.

For consumers, lower costs per unit can be translated into lower market prices, a rise in their real purchasing power and a potential improvement in economic welfare (e.g. measured by consumer surplus). The diagram above illustrates how reductions in **long run average total cost (LRAC)** can be achieved as output increases.

The output of **productive efficiency** occurs when a business in a given market or industry reaches the lowest point of its long run average cost curve. Output is being produced at minimum cost per unit implying an efficient use of scarce resources and a high level of overall factor productivity.

How can a business exploit the potential **economies of scale**? A variety of internal economies of scale (i.e. relating to the growing size of a particular firm) can be achieved. These are outlined below:

#### i) Technical economies of scale

Large-scale production encourages more efficient production that leads to **increasing returns to scale**. This means that output rises more than proportionate to the inputs used, causing a decline in the average total cost of production. Several technical economies of scale can be identified.<sup>28</sup>

- ❑ **Economies of increased dimensions:** useful in industries such as shipping, warehousing and transport. An increase in the scale of a surface area leads to a more than proportionate increase in the cubic area. Costs will rise but the cubic capacity increases at a faster rate thereby reducing the cost per cubic metre of capacity
- ❑ Large-scale firms use **large units of capital** with high productivity if used fully. These units of machinery are expensive - the more units of output that are produced, the more this cost is spread over higher output
- ❑ Large-scale production allows the principles of **mass production** and **division of labour** to be exploited. Division of Labour is where the production process is split into many separate tasks allowing individual workers to become proficient in certain tasks

#### ii) Marketing economies

A large manufacturer can buy essential raw materials and other inputs in **bulk** and can get lower prices than the small manufacturer through negotiated discounts. When a major buyer in a market has substantial **buying** power, this is termed a monopsony. The cost of selling can also be lower, because advertising costs can be spread over a large output sold and specialist salesmen/buyers are employed.

#### iii) Financial economies

Small firms often have to pay higher interest rates on loans since they are perceived by financial organisations to carry a higher level of **risk**. Firms therefore have to pay a risk premium on their loans. The smaller firm may find it more difficult to raise money through selling new shares than a larger firm.<sup>29</sup>

#### iv) Administrative or managerial economies

A large manufacturer can employ **specialist staff** to manage and supervise production, thus cutting managerial costs per unit. Greater managerial control of the workforce should raise **labour productivity** since the firm can screen their workers. Specialist administrative equipment, like networked systems of computers, can be used profitably in large firms. The cost of transmitting business information is reduced and employees can communicate more effectively.

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<sup>28</sup> Further notes on economies of scale available at [www.bized.ac.uk/stafsup/options/notes/econ204.htm](http://www.bized.ac.uk/stafsup/options/notes/econ204.htm)

<sup>29</sup> The views of thousands of small businesses throughout the UK, are represented by the Federation of Small Businesses. Their web site can be found at [www.fsb.org.uk/](http://www.fsb.org.uk/)

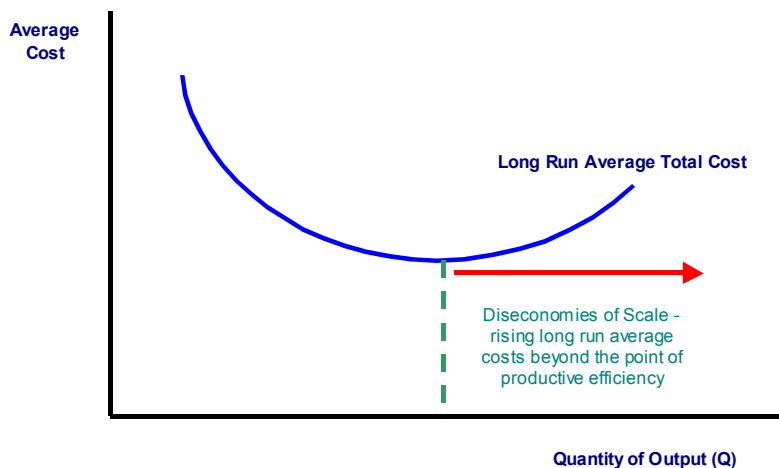
#### v) Risk-bearing economies

A large firm sells in more markets and has a wider product range than a smaller company. The rapid expansion of multi product businesses is part of a process of diversification. This helps spread risks so that if one market does badly the company has other markets to sell into.

#### e) Diseconomies of Scale

Diseconomies of scale lead to higher long run average total costs and they arise mainly through **problems of management**. As a firm grows, management finds it more difficult to organize production efficiently. It is much easier to lose control of costs in a large organization than in a small business.

- ❑ **Control** - monitoring how productive each worker is within a large business is both imperfect and costly. This can lead to a loss of productive efficiency if worker shirking is common
- ❑ **Co-ordination** - it is difficult to co-ordinate complicated production processes and they may break down. Achieving efficient flows of information is expensive
- ❑ **Co-operation** - workers in big firms may feel a sense of alienation, perhaps perceiving that they don't really belong and this may affect their productivity adversely.

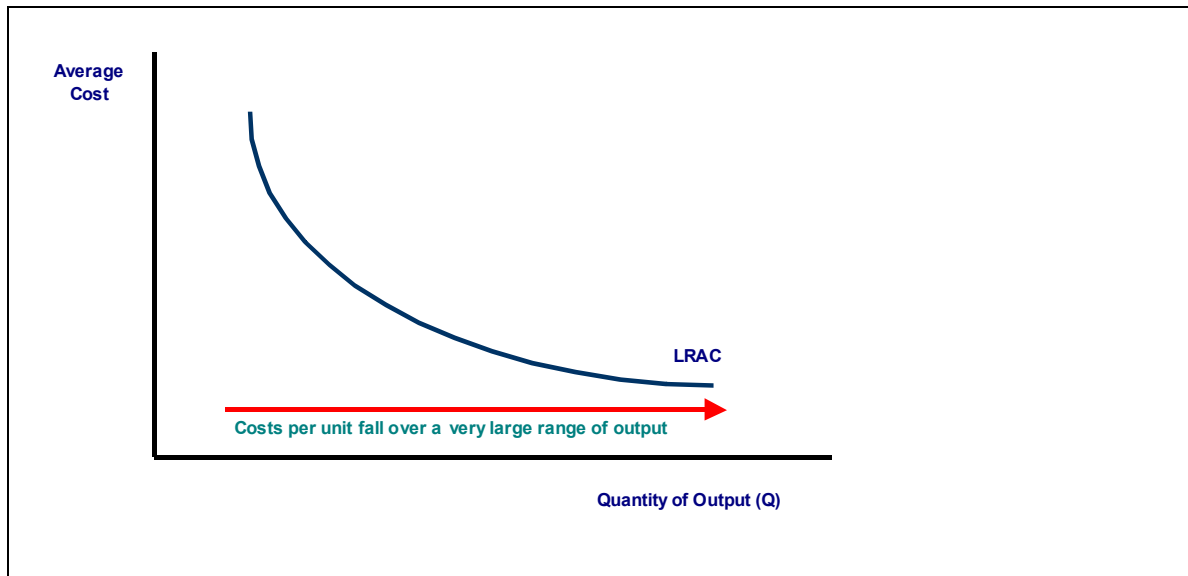


#### f) External Economies of Scale

External Economies arise from the **growing size of the industry** rather than the firm. As the industry grows in size and there are more firms in the industry, these companies may enjoy lower average total costs for several reasons:

- ❑ **Labour costs may be reduced.** Firms will be able to draw on a pool of skilled labour, trained by firms and government, thus reducing their own training and living costs.
- ❑ **The necessary infrastructure is more likely to be present.** Roads, gas supplies, etc. are more likely to be laid on, if the industry is large. This helps reduce costs for individual firms.
- ❑ **Suppliers for the industry will emerge** - specialist firms that make or service machinery, or supply components. Because they specialise, these firms are able to produce goods and services far more cheaply than if the main company attempted to produce them on its own

### i) A Natural Monopoly



A natural monopoly exists when there is great scope for economies of scale to be exploited over a large range of output. Indeed the scale of production that achieves productive efficiency may be a high percentage of the total market demand for the product in the industry.

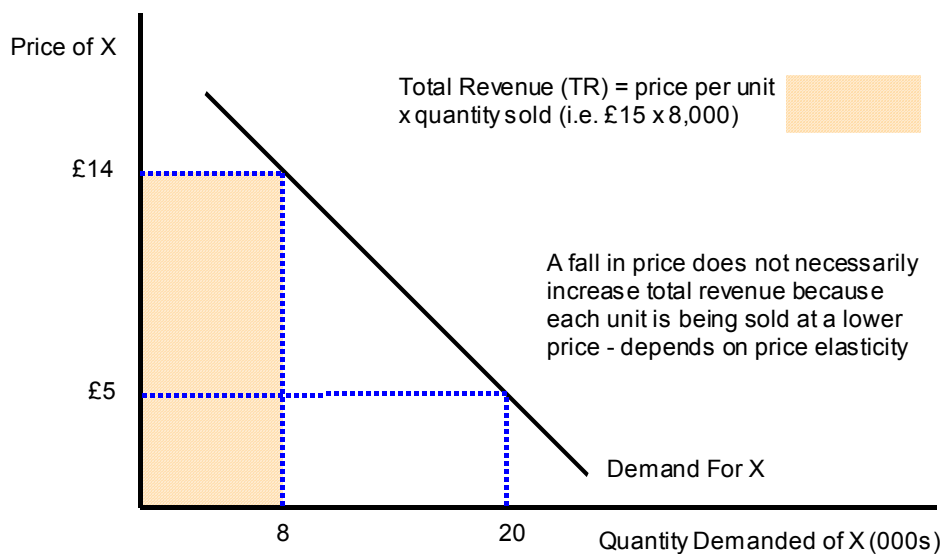
Natural monopolies tend to be associated with industries where there is a high ratio of fixed to variable costs. For example, the fixed costs of establishing a national distribution network for a product might be enormous, but the marginal (variable) cost of supplying extra units of output may be small. In this case, the average total cost will continue to decline as the scale of production increases, because fixed (or overhead) costs are being spread over higher and higher levels of output. See the chapter in this study guide on monopoly.

The **telecommunications industry** has in the past been considered to be a natural monopoly. Like railways and water provision, the existence of several companies supplying the same area would result in an inefficient multiplication of cables, transformers, pipelines etc. However the perception of what constitutes a natural monopoly is now changing - in part because of the impact of new technology in reducing traditional barriers to entry within markets.

In the case of the telecommunications industry in the UK, British Telecom has faced increasing levels of competition from new telecommunications service providers during the 1990s - not least the rapid expansion of mobile and cable services. This has led to a change in the role of the industry regulator (OFTEL). Its main role now is not necessarily the introduction of even more competition into the telecommunications industry - but a policing role to ensure fair competition between service providers.

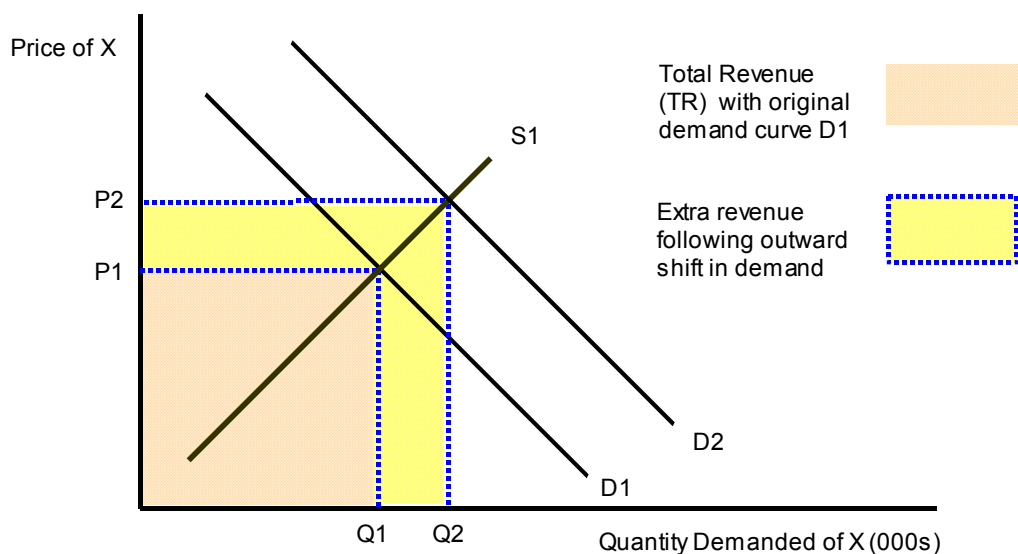
### g) Sales Revenue

The total revenue a business generates from sales = price per unit x quantity sold ( $P \times Q$ )



#### i) Sales revenue following a shift in demand

An outward shift in demand causes a rise in both the equilibrium market price and quantity traded - leading to an increase in total revenue for a business. The reverse effects occur in an economic recession when demand, prices and revenues often fall.



#### h) Profits

**Profits** are made when **total revenue exceeds total cost**. Total profit = total revenue - total cost. **Profit per unit supplied** = price - average total cost.

The standard assumption is that private sector businesses seek to make the highest profit possible from operating in a market. There are times when this assumption can be dropped - but the profit seeking firm or business remains a powerful component of standard economic analysis.

#### i) The cyclical nature of profits

Profits rise when demand for the goods or services that the business is producing increase, or when production costs fall allowing the business to increase the **profit margin** on their output. When the macro-economy is doing well, we expect to see rising profit levels. Britain enjoyed a period of sustained economic growth during the late 1990s when output and corporate profits were both rising strongly.



But when there is an economic downturn, companies are found issuing **profits warnings** to the stock market and often announcing declines in pre-tax profits or losses on their operations. This then has a knock on effect on **business confidence** and investment. Consider this article published in July 2001.

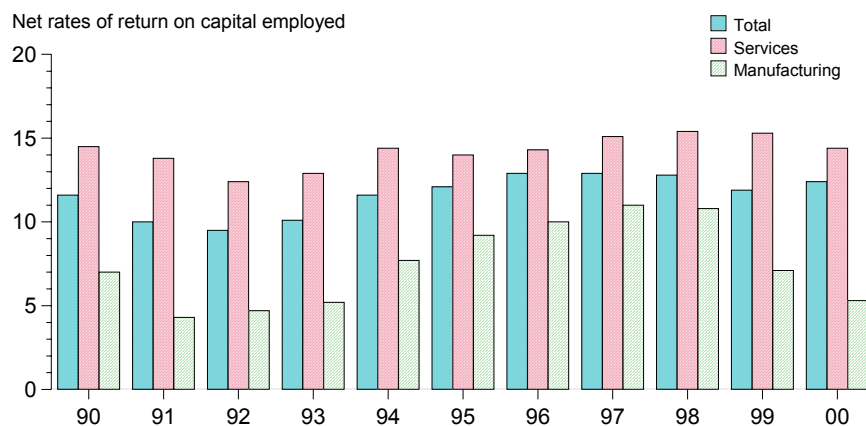
*British industry is poised on the brink of recession with profits in many sectors down 15% according to a new report. The UK has not been immune from the slowdown in the world economy and a strong pound and too much red tape are hurting profits - particularly in the manufacturing sector.*

*Since the start of the year (2001) UK industry has witnessed the foot-and-mouth disease and the technology and telecoms crisis. Seven industries have seen their profitability fall by more than one-fifth year-on-year - engineering, printing, paper and packaging, textiles and clothing, food manufacturing, media, non-food retailing and motor traders. Other areas such as food retailing, transport and support services have seen their profitability fall by 15% to 20%.*

One measure of profitability is the **net rate of return on capital**. The chart below tracks the profitability of two key sectors in the economy, manufacturing and service industries. The service sector has enjoyed a strong growth of output in recent years - illustrated by a persistently high rate of return on capital. Manufacturing industry on the other hand has suffered from stagnant growth and increasing competitive pressure from overseas. Manufacturing's average rate of return has fallen each year from 1997.

## PROFITABILITY OF UK COMPANIES

Net rates of return on capital employed



## 10) COMPETITION AND MONOPOLY - MARKET STRUCTURES

The [ITN Business News](#) site often carries useful case studies of individual markets and industries. [Sky Business News](#) is also worth accessing on a regular basis.

### a) The Spectrum of Competition

Markets can be characterised according to how many **suppliers** are seeking the demand of consumers. The **spectrum of competition** ranges from **competitive markets** where there are many sellers, each of whom has little or no control over the market price - to a **pure monopoly** where a market or an industry is dominated by one single supplier. In many sectors of the economy we see an **oligopoly** - where a just a few producers dominate the majority of the market. In a **duopoly** two firms dominate the market.<sup>30</sup>

### b) Monopoly

A pure monopolist is a **single seller** of a product in a given market or industry. In simple terms this means the firm has a **market share** of 100%. The working definition of a monopolistic market relates to any firm with greater than 25% of the industries' total sales. Monopolies can develop in a variety of ways:

#### i) How monopolies can develop

##### Horizontal integration

Where two firms join at the same stage of production in the same industry. For example two car manufacturers may decide to merge, or a leading bank successfully takes-over another bank. The world's biggest contested takeover took place in 2000 when British business [Vodafone](#) mounted a successful bid for German telecoms firm Mannesmann and US business AirTouch

##### Vertical integration

Where a firm develops market power by integrating with different stages of production in the industry e.g. by buying its suppliers or controlling the main retail outlets. A good example is the oil industry where many of the leading companies are both producers and refiners of crude oil.

##### Creation of a statutory monopoly

When a policy of nationalisation was being pursued - key industries were taken into state ownership and run as public corporations with monopoly status.

The Royal Mail (now known as [Consignia](#)) has had a statutory monopoly in the delivery of letters for many years - though this is set to end as the government seeks to promote competition in the industry.

##### Franchises and Licences

These give a firm the right to operate in a market - and are usually open to renewal every few years. Examples include:

- ☐ Commercial television and radio licences
- ☐ Camelot - National Lottery (renewed for a further seven years in December 2000)
- ☐ Franchise holders to run regional rail services

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<sup>30</sup> Monopoly simulation game: [www.eco.utexas.edu/Homepages/Faculty/Wilcoxon/games/macsoft/index.htm](http://www.eco.utexas.edu/Homepages/Faculty/Wilcoxon/games/macsoft/index.htm)

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### Internal expansion of a firm

Firms can generate higher sales and increased market share by expanding their operations and exploiting possible economies of scale. This is internal rather than external growth (i.e. organic growth)

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## c) Barriers to Entry

For a high level of profits to be maintained the existing monopolist must prevent the entry of new suppliers. This can be done through **barriers to entry**. These are the mechanisms by which potential competitors are blocked. Monopolies can then enjoy higher profits in the long run as rivals have not diluted market share.

### i) Patents

Patents are government enforced **property rights** to prevent the entry of rivals. They are generally valid for 17-20 years and give the owner an **exclusive right** to prevent others from using patented products, inventions, or processes. Consider this example concerning BT in a case from June 2000.

*UK firm BT is claiming ownership of a key part of the internet. The telecommunications giant says it came up with idea for hyperlinks that turn separate pages of information into an interconnected whole. Clicking on a hyperlink whisks you from one web page to another. BT says a patent filed in the US in 1976 and granted in 1989 gives it ownership of hyperlink technology. Now, it is asking US internet service providers to pay to use what it considers to be its intellectual property. If the claim is successful, BT stands to make millions from the licence agreements*

### ii) Vertical Integration

Control over supplies and distribution can be important. For example many major oil companies are fully vertically integrated. They control, oil extraction refining and retail outlets maintain their market power

### iii) Predatory Pricing

Firms may adopt **predatory pricing** policies by lowering prices to a level that would force any new entrants to operate at a loss. A high profile case came to a head in 1999 when the [Office of Fair Trading](#) found [News International](#) guilty of adopting predatory pricing policies in a bid to reduce competition in the market for broadsheet newspapers.

*The fair trade regulator has upheld complaints against Rupert Murdoch's News International (NI) over price discounting of The Times newspaper in recent years. The Office of Fair Trading found NI had pursued 'predatory pricing' tactics between 1996 and early 1998 when the price of The Times was dropped to 10p on some issues*

### iv) Absolute cost advantages

Lower costs, perhaps through experience of being in the market for some time, allows the existing monopolist to cut prices and win **price wars**

### v) Advertising and Marketing

Developing consumer loyalty by establishing branded products can make successful entry into the market by new firms much more expensive

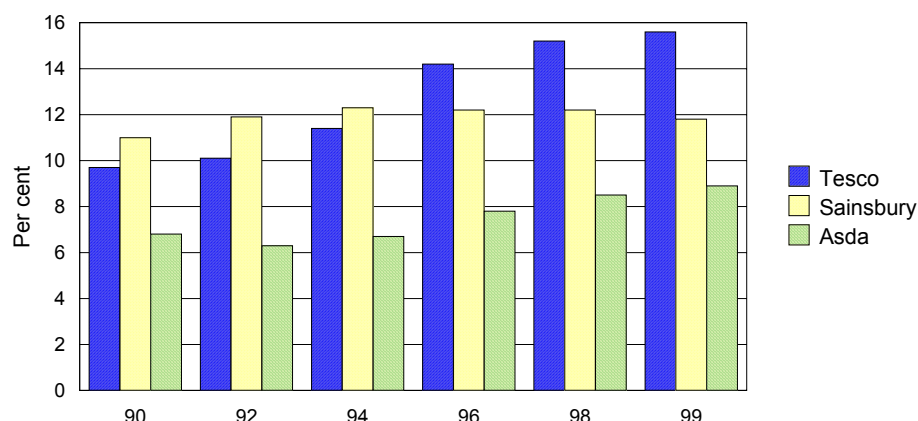
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#### d) Measuring the degree of monopoly power - the concentration ratio

One way of measuring monopoly power is to use the **concentration ratio**. This adds together the market share of the leading firms in a particular industry. In the chart below we see the market share of Britain's leading national food retailers.

**MARKET SHARE OF THE TOP 3 FOOD RETAILERS**

From taking just over one quarter of total market sales in 1990, the leading three firms has seen their share of the market grow by 36% by the end of 1999. The supermarket industry was subject to an investigation by the Competition Commission in 1999-2000.



#### e) Brand Proliferation

In many industries multi-product firms engaging in **brand proliferation** can give a false appearance of competition to the consumer and disguises from consumers the actual degree of concentration within the industry. This is certainly true in markets such as detergents, confectionery and household goods.

#### f) Controlling Monopoly Power

Monopolies are often criticised in the media for **exploiting consumers** due to the lack of competition. If prices are higher than they would be in a competitive market (leading to **monopoly profits**) then market failure is said to exist and as a result, there is a case for the government to intervene in monopoly markets. This intervention can take several forms<sup>31</sup>

#### i) Competition Commission

The [Competition Commission](#) is the UK's main competition "watchdog" and it is empowered to investigate mergers and take-overs and block them if it thinks that it will result in excessive monopoly power and will be against the interests of consumers. Under the terms of the new Competition Act, firms found guilty of anti-competitive behaviour can be fined up to 10% of their turnover. The Commission publishes reports on specific industries and can make recommendations to the Secretary of State for Trade and Industry. Details of past inquiries are [available here](#).

In the spring of 2001, the Competition Commission announced an investigation into the monopoly power of Britain's leading commercial banks. A summary of their findings is shown below

*Small and medium size businesses may lose out because the major banks in the UK have a monopoly grip on the market, the Competition Commission has ruled. The findings showed that the big High Street banks restrict price competition and choice for small firms.*

*"Ninety percent of all small businesses are locked into the four major clearing banks," said Stephen Alambritas, a spokesman for the Federation of Small Businesses. "We are hoping that the report will try and unravel this complex monopoly."*

*A "complex monopoly" is one where a group of two or more organisations controls at least a quarter of a market and prevents, restricts or distorts competition. The report has not yet decided whether the banks' monopoly acts against the public interest.*

<sup>31</sup> "The Government tackles the cartels" - report on the changing nature of UK competition policy from BBC online - [http://news.bbc.co.uk/1/hi/english/business/newsid\\_662000/662071.stm](http://news.bbc.co.uk/1/hi/english/business/newsid_662000/662071.stm)

*"It is difficult for firms to change banks at the moment, and not easy for other banks to enter the market. Companies tend to stick with their banks because they want to avoid the complications of transferring standing orders and direct debits. At the same time other banks fail to enter the market because the automated payment system used for electronic transactions of money is much cheaper for the main four clearing banks"*

*Adapted from news sources, March 2001*

## ii) Office of Fair Trading and Restrictive Practices Court

The [Office of Fair Trading](#) plays a key role in protecting the economic welfare of consumers, and in enforcing UK competition policy. Its main roles are:

- ❑ To identify and put right trading practices which are against the consumer's interests;
- ❑ To regulate the provision of consumer credit;
- ❑ To act directly on the activities of industry and commerce by investigating anti-competitive practices and abuses of market power, and bringing about market structures, which encourage competitive behaviour.

The Office of Fair Trading publishes regular reports on allegations of anti-competitive practices in the UK. Its [Fair Trading magazine](#) provides interesting case studies on markets and industries where businesses have a significant amount of market power and the potential impact on consumers.

## iii) Utility Regulators

With the privatisation of many former state-owned utilities - there was a fear that they might exploit monopoly power. At the same time as privatisation the government also established a utility regulator.

They have introduced **price capping** for each of the industries and over time, they have also **introduced competition** into the markets by breaking down some of the statutory monopoly power in specific markets - although this has not been possible with the regional water companies. Competition was introduced into the telecommunications in 1984; in Gas from 1996-98 and in Electricity from 1998. Another key role for the regulatory agencies is to **monitor the quality of service provision** and improve standards for consumers.

## g) Deregulation of Monopoly

Another policy is to open up markets where there was substantial monopoly power in the past. This is called **de-regulation**. There are many examples of this in the UK over recent years including the opening up of markets for household energy, the ending of the 150 Post Office monopoly and financial deregulation.

## h) Economic Benefits of Monopoly

Although economists express concern about the negative consequences of a firm having a monopoly position, this market power can bring advantages both to the firms themselves and also to consumers.

## i) Research and Development

Large firms enjoying a high level of profits can use some of these to fund high-cost **capital investment spending** and [research and development](#) projects. The positive spill-over effects of research can be seen in a faster pace of [innovation](#)<sup>32</sup> and the development of improved products for consumers. This is particularly the case in industries such as telecommunications and pharmaceuticals. The table below shows capital investment spending by some of the UK's largest firms in the year 2000.

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<sup>32</sup> See the DTI's Innovation Unit case study of the week [www.innovation.gov.uk/csd/index.html](http://www.innovation.gov.uk/csd/index.html)

	Total Capital Investment Spending	Total Sales Income	Capital Spending as a % of sales
Company	£ Million	£ Million	Per cent
All companies	77477.5	922353	8.4
<u>Rolls-Royce</u>	412.0	4744	8.7
<u>BAE Systems</u>	307.0	7043	4.4
<u>Diageo</u>	627.0	11795	5.3
<u>ICI</u>	410.0	8449	4.9

## ii) Economies of Scale

Because monopoly producers are often supplying goods and services on a large scale, they may be better placed to take advantage of [economies of scale](#) - leading to a fall in the average total costs of production. These reductions in costs will lead to an increase in monopoly profits but some of the gains in **productive efficiency** might be passed onto consumers in the form of lower prices. Economies of scale provide **potential gains in [economic welfare](#)** for both producers and consumers.

## iii) International Competitiveness

One argument in support of businesses with monopoly power is that the British economy needs multinational companies operating on a scale large enough to compete effectively in global markets. Relatively few British firms appear in [international rankings of the world's largest companies](#). A firm may enjoy domestic monopoly power in the home economy, but face significant (and intense) competition in overseas markets. Two good examples of these are RJB Mining and British Steel (now known as Corus) - both of which are competitive firms in the international markets in which they operate.

## i) Oligopoly

An oligopoly is a market dominated by a few large suppliers. The degree of **market concentration** is high (i.e. a large % of the market is taken up by the leading firms). Firms within an oligopoly produce **branded products** (advertising and marketing is an important feature of competition within such markets) and there are also [barriers to entry](#).

Another important characteristic of an oligopoly is **interdependence between firms**. This means that each firm must take into account the **likely reactions of other firms** in the market when making pricing and investment decisions. This creates uncertainty in such markets - which economists seek to model through the use of [game theory](#).

*Economics is much like a game in which the players anticipate one another's moves. Game theory may be applied in situations in which decision makers must take into account the reasoning of other decision makers. It has been used, for example, to determine the formation of political coalitions or business conglomerates, the optimum price at which to sell products or services, the best site for a manufacturing plant, and even the behaviour of certain species in the struggle for survival.*

*Adapted from Britannica*

The ongoing interdependence between businesses can lead to implicit and explicit **collusion** between the major firms in the market. Collusion occurs when businesses agree to act as if they were in a monopoly position.

## j) Competitive Markets

A **competitive market** is one where no one firm has a dominant position and where the consumer has plenty of choice when buying goods or services.

- ☐ Firms in a competitive market each have a **small market share** with little monopoly power
- ☐ There are **few barriers to the entry of new firms into the market** - this allows new businesses to enter the market if they believe they can make sufficient profits
- ☐ **Lower prices for consumers** because of the high degree of competition
- ☐ **Profit** (the rate of return on capital) tends to be higher for those firms with substantial monopoly power. When demand is inelastic, businesses with **monopoly power** can raise prices and increase their total revenue. This leads to higher profits, but a **loss of consumer surplus** in the market. Competition helps to curb monopoly power and prevent excessive levels of profit

*In several markets we have seen increased competition in recent years*

- ☐ Home Banking and Financial Services (including home and car insurance)
- ☐ Parcel deliveries
- ☐ Low cost domestic airlines

Many markets have become more **contestable** - there are more businesses competing for people's custom. The introduction of more competition into a market can have quite dramatic effects. Much depends on how intensive the competition is and how consumers respond.

### i) Possible effects of increased competition:

- ☐ Lower prices for consumers
- ☐ A greater discipline on producers/suppliers to keep their costs down
- ☐ Improvements in technology - with positive effects on production methods and costs
- ☐ A greater variety of products (more choice)
- ☐ A faster pace of invention and innovation
- ☐ Improvements to the quality of service for consumers
- ☐ Better information for consumers allowing people to make more informed choices

### ii) Price and Non Price Competition in Markets

Firms compete for market share and the demand from consumers in lots of ways. We make an important distinction between price competition and non-price competition. **Price competition** can involve discounting the price of a product to increase demand.

**Non-price competition** focuses on other strategies for increasing market share. Consider the example of the UK supermarket sector where non-price competition has become important in the battle for sales

- ☐ Traditional advertising / marketing and the development of Store Loyalty cards
- ☐ Banking and other Services (including travel insurance)
- ☐ In-store chemists and post offices
- ☐ Home deli systems
- ☐ Discounted petrol at hypermarkets
- ☐ Extension of opening hours (24 hour shopping)
- ☐ Self-scanning and internet shopping services

### Case Study: The End of Price Fixing for Over-the-Counter Medicines

Britain's last bit of government-sanctioned price-fixing was ruled illegal on May 15th, 2001. The Restrictive Practices Court decided that makers of over-the-counter remedies could no longer set minimum retail prices for their products. The Office of Fair Trading (OFT) brought the suit because of big gaps between prices for branded and unbranded drugs. In countries without price-fixing, such as America, prices for equivalent products are lower.

Supermarkets such as Asda, Sainsbury and Tesco announced straight away that they would cut prices by as much as 50% for popular medicines. Small pharmacists say this is a disaster for them. They cannot compete on price with the supermarkets who get big discounts from the manufacturers. The pharmacists say that consumers will suffer too, because those who do not live within easy reach of a big supermarket will find it hard to buy medicines.

Small pharmacies may have to change to survive. Even if they do disappear, that matters less to consumers than it might have a few years ago. The Internet has spawned a number of online drug sellers, with affiliated telephone services. So these days, anybody at the end of a phone can get their drug of choice.<sup>33</sup>

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<sup>33</sup> For a variety of views on this issue consult: [www.bized.ac.uk/stafsup/options/argument/arg9.htm](http://www.bized.ac.uk/stafsup/options/argument/arg9.htm)



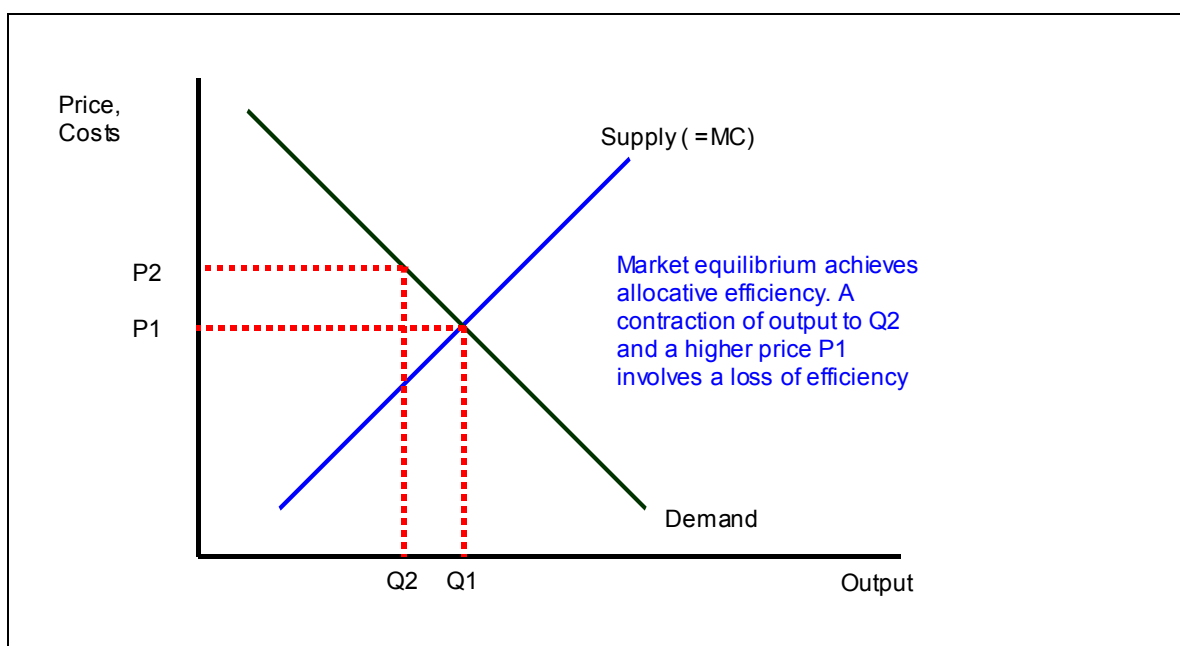
## 11) ECONOMIC EFFICIENCY

Efficiency is a key concept for an economist. There are several meanings of the term - but they generally relate to how well a market or the economy allocates scarce resources to satisfy consumers.

### a) Static Efficiency

Static efficiency focuses on how much output can be produced now from given factor resources (land, labour and capital) and whether producers are charging a price to consumers that fairly reflects the cost of the factors of production used to produce a good or a service. There are two main types of static efficiency

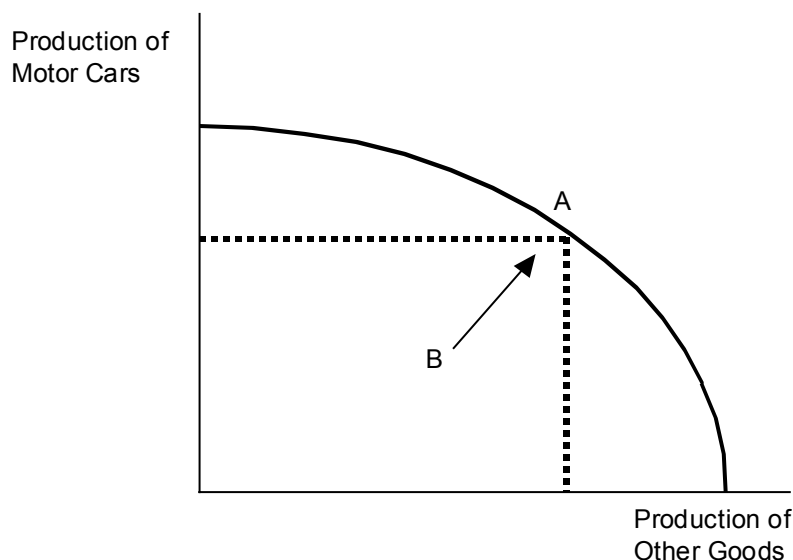
#### i) Allocative Efficiency



**Allocative efficiency** is achieved when the value consumers place on a good (reflected in the price they are willing to pay) equals the cost of the resources used up in production. Condition required is that price = marginal cost. When this condition is satisfied, total economic welfare is maximised.

In the diagram above, the market is in equilibrium at price P1 and output Q1. At this point, the total area of consumer and producer surplus is maximised. If suppliers decided to restrict output to Q2 and force price to P2, the suppliers would gain extra producer surplus (profit) but there would be an even greater loss of consumer surplus. Thus P2 is not an allocative efficient allocation of resources for this market.

#### ii) Using the Production Possibility Frontier to show allocative efficiency



[Vilfredo Pareto](#) defined allocative efficiency as a situation where no one could be made better off without making someone else at least as worse off. This can be illustrated using a production possibility frontier - all points that lie on the [PPF](#) can be said to be allocatively efficient because we cannot produce more of one product without affecting the amount of all other products available. In the diagram above, the combination of output shown by Point A is allocatively efficient - but at B we can increase production of both goods by making fuller use of existing resources or increasing the efficiency of production.

An allocation is Pareto-efficient for a given set of consumer tastes, resources and technology, if it is impossible to move to another allocation which would make some people better off and nobody worse off.

If the market in the economy is a competitive free market, the resulting equilibrium throughout the economy will be Pareto-efficient.

### iii) Productive Efficiency

Productive efficiency refers to a firm's costs of production and can be applied both to the short and long run. It is achieved when the output is produced at minimum average total cost (ATC). For example we might consider whether a business is producing close to the low point of its long run average total cost curve. When this happens the firm is exploiting most of the available economies of scale. Productive efficiency exists when producers minimise the wastage of resources in their production processes.

### b) Dynamic Efficiency

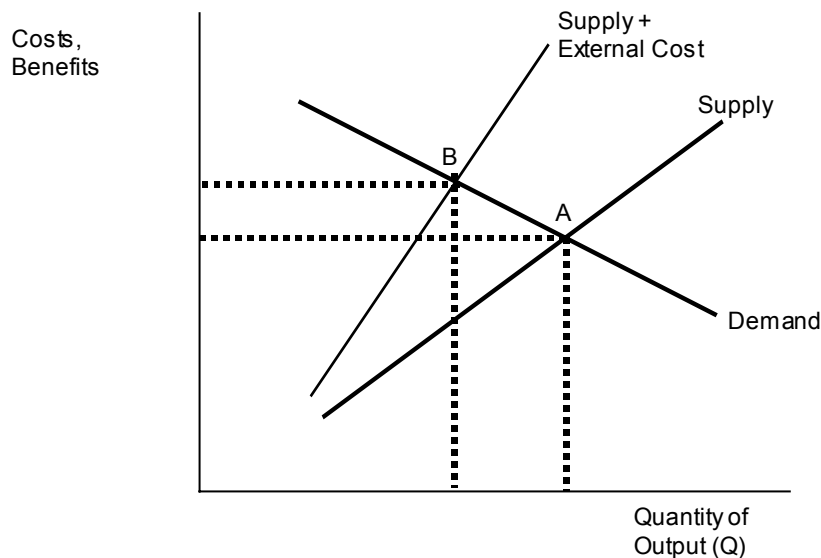
This is an increasingly important concept and focuses on changes in the amount of **consumer choice** available in markets together with the **quality of goods and services** available. For example - the opening up of the market for parcel deliveries has had an impact on price and output levels (these are changes in static efficiency). However we have also noticed the entry of new suppliers into the market, an increase in the level of capital investment and improvements in the quality and reliability of services in local, regional, national and international parcel deliveries - this is an improvement in dynamic efficiency.

A dynamically efficient economy is successful in improving existing products in a market and also at developing and new products. A fast pace of invention, innovation and research and development can lead to significant improvements in dynamic efficiency - consumers stand to gain from these developments.

### c) Social Efficiency

The socially efficient level of output and or consumption occurs when **social marginal benefit = social marginal cost**. At this point we maximise social economic welfare. The presence of externalities means that the private optimum level of consumption / production often differs from the social optimum.

In the diagram above the social optimum level of output occurs where the social cost of production (i.e. the private cost of the producer plus the external costs arising from externality effects) equal demand (a reflection of private benefit from consumption). A private producer who opts to ignore the negative production externalities might choose to maximise their own profits at point A . This divergence between



private and social costs of production can lead to market failure.

#### d) Technical Efficiency

Technical efficiency is best defined as producing an output at the minimum average cost level of output. Costs are minimised when efficiency and productivity is maximised

#### e) X-Inefficiency

Libenstein pointed to potential cost inefficiencies arising from a lack of effective competition within a market. These are known as X-inefficiencies and are often used as part of the case against pure monopoly. Companies that face little or no real competition often allow their fixed costs of production to rise - for example by running inefficient administration systems and allowing the build up of sizeable expense account systems that bear scant relationship to the output / performance of the company's employees.

## 12) MARKET FAILURE - EXTERNALITIES

### a) What is market failure?

Market failure can occur in a variety of ways - but the essential point is that the operation of the free market mechanism **fails** to bring about a socially efficient allocation of scarce resources. In theory, markets produce the goods and services we want in the right quantities and at the lowest possible cost. This is why markets are so powerful. But in the real world markets do not always work in the way theory predicts. It is possible for a free market to produce a **Pareto inefficient result** - i.e. the market fails.

The interaction of supply and demand through the price mechanism may fail to take into account the effects of negative consumption and production [externalities](#). Another possible cause of market failure arises from the exploitation of [monopoly power](#) by businesses in a specific industry or market. Failure can only manifest itself via the [immobility of factors of production](#) and also in the provision of [public](#) and [merit goods](#)

### b) What is an externality?

Externalities are **third party effects** arising from production and consumption of goods and services for which no compensation is paid. Externalities can cause **market failure**<sup>34</sup> if the price mechanism does not take into account the full social costs and benefits of production and consumption.

External costs and benefits are around us every day - the key point is that the free market mechanism may fail to take them into account when pricing goods and services. Often this is because of the absence of clearly defined **property rights** - for example, who owns the air we breathe, or the natural resources available for extraction from seas and oceans around the world?

**Property rights** confer legal control or ownership of a good. For markets to operate efficiently, property rights must be clearly defined and protected - perhaps through legislation and regulation.

*Consider these examples:*

- ☐ Pig farm waste pollutes a river leading to a loss of fish stocks for businesses downstream
- ☐ Teenage hackers send viruses on the Internet causing mail servers to be closed down
- ☐ Urban motorists cause gridlock on the roads
- ☐ Dog owners allow their "animals" to foul pavements
- ☐ Air pollution from road use causes a rise in premature deaths
- ☐ A government inoculation programme reduces the incidence of meningitis among young children and students
- ☐ The British Library opens up its vast library of resources to Internet users

### c) Difference between private cost and social cost

The existence of production and consumption externalities creates a divergence between **private and social costs of production** and also the private and social benefits of consumption.

Social Cost = Private Cost + External Cost

Social Benefit = Private Benefit + External Benefit

### d) Negative Externalities

When negative production externalities exist **social costs exceed private cost**. This leads to the private optimum level of output being greater than the social optimum level of production. The individual consumer or producer does not take the effects of externalities into their calculations.

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<sup>34</sup> More resources on market failure available from Biz Ed: [www.bized.ac.uk/stafsup/options/aec/topic5.htm](http://www.bized.ac.uk/stafsup/options/aec/topic5.htm)

### i) External costs from production

Noise pollution and atmospheric pollution from factories

Long-term environmental damage caused by depletion of our stock of natural resources

### ii) External costs from consumption

Consumers can create externalities when they consume goods and services. Examples include pollution from cars and motorbikes and externalities created by smoking and alcohol abuse. Negative consumption externalities lead to a situation where the social benefit of consumption is less than the private benefit.

#### External Benefit from Motoring

Output of the motor car industry generates employment and income in the economy

Motorcar industry creates hundreds of thousands of jobs in related complementary industries

Vehicle insurance

Repair and Maintenance

Petrol Retailing

Design industries

High levels of tax on petrol brings in large amounts of tax revenue for the Treasury each year

#### External Costs from Motoring

Traffic congestion reduces average speeds and lengthens journey times - an inefficient use of available road space

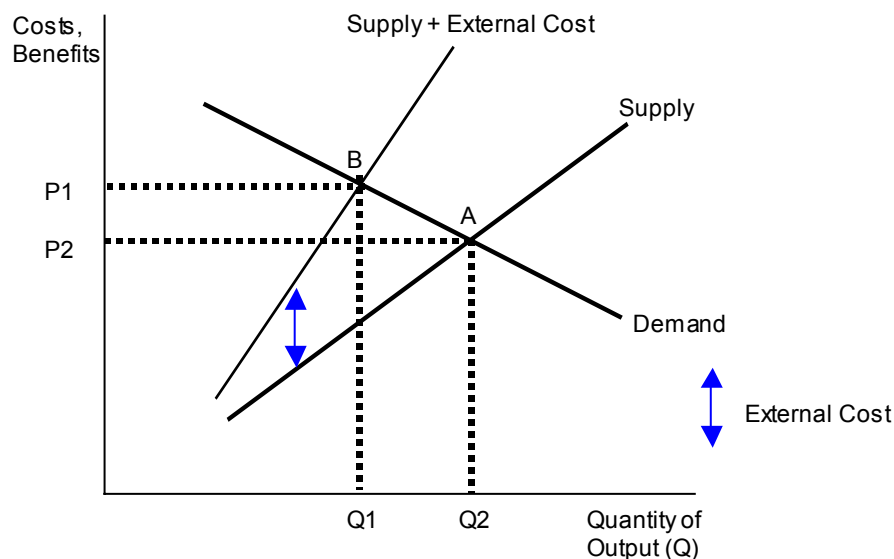
Slower journeys increases transportation costs for goods and services and adds to the overall cost of living in the economy - reduction in real living standards

Road congestion damages competitiveness of many UK businesses, may deter inward investment and damage the tourist sector in the long run

High accident rates in areas with congested traffic imposes extra costs on the National Health Service

Delays for emergency services

### iii) Illustrating Negative Externalities from Production

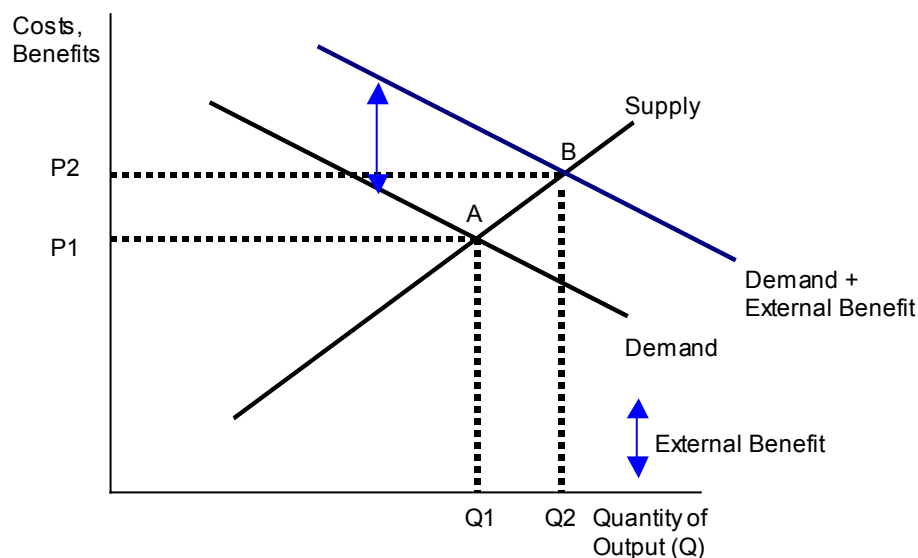


In the absence of externalities, the private costs of the producer are the same as the costs for society as a whole. But if there are negative externalities, we have to add these **external costs** to the firm's supply curve. This is shown in the diagram above. If the market fails to take into account the external costs, then output will be at Q2 and price P2. But from a **social welfare** viewpoint, we might want less output from production activities that create **economic bads**. A more efficient output would be Q1 with a higher price P1. There is **market failure** if externalities are not taken into account by the market mechanism.

### e) Positive externalities<sup>35</sup>

Positive externalities create additional external benefits beyond the people directly consuming a good or service (i.e. social benefits > private benefits). Examples of positive externalities include:

- ❑ **Industrial training by firms:** This can reduce the training costs faced by other firms, and has important effects on labour productivity and efficiency in the economy as a whole
- ❑ **Education:** A well-educated labour force can increase efficiency
- ❑ **Health provision:** Improved health provision and health care reduces absenteeism and creates a better quality of life and higher living standards. See the section on merit goods in the chapter on fiscal policy



Where positive externalities exist the good or service may be **under consumed** or **under provided** since the free market may fail to take into account their effects. This is because the social benefits of consuming the good > private benefits. In the diagram above, the normal market equilibrium is at P1 and Q1 - but if there are additional external benefits (i.e. positive externalities), the Q1 is an output below the level that will maximise social welfare. There is a case for some form of government intervention designed to increase consumption towards output level Q2 to increase total welfare.

### f) Policies to correct for externalities

How can we take into account some of the third party effects that necessarily arise? Is there anything that the government can do? The key is to internalise some or all of the external costs and benefits - i.e. make firms and consumer that create the externalities take them into account when making their decisions.

#### i) Pollution Taxes

One common approach to adjust for externalities is to tax those who create negative externalities. This is sometimes known as "**making the polluter pay**". Introducing a pollution tax increases the private cost of consumption or production and ought to reduce total demand and output for the good that is creating the externality. Taxes send a signal to polluters that our environment is valuable and is worth protecting.

Some economists argue that income from pollution taxes should be **ring-fenced** and allocated to projects that protect or enhance our environment. Governments of both political persuasions have been committed to using

<sup>35</sup> Worksheet on positive externalities from Biz Ed can be found at [www.bized.ac.uk/stafsup/options/m\\_fail\\_social.htm](http://www.bized.ac.uk/stafsup/options/m_fail_social.htm)

the tax system as a means of reaching environmental targets over the last decade. Examples of taxes that are changed to meet environmental objectives include.

- ☐ Duty on cigarettes and alcohol
- ☐ Linking the level of Vehicle Excise Duty to fuel consumption of cars (smaller engines pay less)
- ☐ Household & Industrial Waste disposal - the Landfill Tax was introduced in 1996
- ☐ The new Climate Change Levy for companies generating large amounts of carbon dioxide

#### ii) Landfill tax

On 1 October 1996, the landfill tax was introduced. This environmental tax is levied at two rates: £2 per tonne for inactive waste, which does not decay or contaminate land, and a standard rate of £11 per tonne for all other waste. The standard charge for the Landfill Tax will increase by £1 per tonne per year from 1 April 2000 until 1 April 2004, when the Labour government's waste strategy will be subject to review.

#### iii) Climate change levy

The climate change levy came into effect on 1 April 2001. The levy is charged on industrial and commercial use of electricity, coal, natural gas and liquefied petroleum gas, and the tax rate varies according to the type of fuel used. The levy is designed to help the UK move towards the government's domestic goal of a 20% reduction in carbon dioxide emissions between 1990 and 2010.

Energy-intensive sectors that have concluded climate change agreements that meet the government's criteria will be charged a reduced rate of climate change levy. This rate is equivalent to 20% of the standard rate. The levy is forecast to raise around £1 billion in 2001-02. The funds raised go into the general pot of tax revenue rather than being earmarked for funding of specific environmental projects.

#### iv) Problems with environmental taxes

If taxation is too high, in part a result of the **problem of assigning accurate monetary values to the external costs** created by producers and consumers, the result can be the expansion of grey markets where producers and consumers try to avoid the taxes. One of the effects of the Landfill Tax over the last four years has been an explosion in "fly-tipping" as producers seek to avoid paying the tax.

Taxation may not be directed correctly if it is **hard to pinpoint precisely who is causing the pollution** - such is the case along rivers where several industrial plants might be emitting effluents. Should producers be subject to a consistent tax regime when some are more at risk of polluting than others?

**Producers may be able to pass on the burden of the tax to the consumers** if the demand for the good is inelastic or the supply of the product is elastic. Higher taxes may cause cost-push inflation which itself may have detrimental effects on the economy - affecting those people who have had nothing to do with the pollution itself.

A further problem with using taxes to control externalities is that **some taxes have a regressive effect on people on low incomes**. Good examples to use would be the increased real level of duty on cigarettes and alcohol and the impact this has on households on below average incomes.

#### v) Subsidising positive externalities

Activities that lead to positive externality effects can be subsidised. This reduces the costs of production and encourages a higher output. For example the Government may subsidise state health care; public transport or subsidise investment in new technology for schools and colleges to help spread knowledge and understanding. There is also a case for subsidising schemes to encourage higher levels of training in the economy as a means to raise labour productivity and improve our international competitiveness.

## vi) Pollution Regulation

Government laws can be used. For example, the Health and Safety at Work Act covers all public and private sector businesses. Local Councils can take action against noisy, unruly neighbours and can pass by-laws preventing the public consumption of alcohol. Cigarette smoking can be banned in public places.

## vii) Pollution Permits

In recent years, some countries have moved toward [market-based incentives](#) to achieve pollution reduction. The new approach establishes a limited volume of **pollution rights**, distributed among firms that pollute, and allows them to be traded in a **secondary market**. The intent is to encourage **lowest-cost pollution reduction measures** to be utilized, in exchange for revenues from selling pollution rights.

The basic idea is fairly simple. Companies that are good at cutting pollution will have spare permits that they can then sell to companies who are not so good at it. So long as the total bank (or stock) of permits is reduced year by year by the government or an agency, cuts in pollution can be achieved most efficiently.

The [1997 Kyoto Summit](#) made strides towards the introduction of an international pollution permits system for individual countries. Most of the world's leading economies agreed at the Kyoto Climate Conference to limit emissions of carbon dioxide. The move opened the way for any countries that did not use all their agreed "quota" of pollution to sell the spare capacity to those that did.

The Kyoto Summit came under great pressure in the early months of 2001 because of the decision by the new Bush administration in the USA to [refuse to ratify the Kyoto Protocol](#).<sup>36</sup> But in July 2001, a revised agreement on implementing the main Kyoto policy decisions was made at the latest Conference on Climate Change. The USA remains in opposition to this agreement.

### Key points of the new deal on climate change

- ❑ Finance - funding for poor countries to develop new technology
- ❑ Mechanisms - tough systems in each country to verify and report carbon emissions
- ❑ Sinks - heavily forested countries can use their 'tree sinks' to offset greenhouse gases
- ❑ Compliance - countries that fail to keep to their greenhouse gas reduction targets should face legally binding consequences

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<sup>36</sup> United States Environmental Protection Agency: [www.epa.gov/](http://www.epa.gov/)



### 13) MARKET FAILURE (2) PUBLIC AND MERIT GOODS AND FACTOR IMMOBILITY

#### a) Public Goods <sup>37</sup>

The government spends billions of pounds each year on **public goods**. To understand the nature of these goods more clearly, and why the government is left to provide these for people throughout the economy, we must consider the characteristics of **private goods**

##### i) Private Goods and Services

A private good or service has three main characteristics:

- ☐ **Excludability:** Consumers can be excluded from consuming the product if they are not willing to pay for it (for example - a ticket to the theatre or a meal in a restaurant)
- ☐ **Rivalry:** One person's consumption of a product reduces the amount available for other people to consume - because scarce economic resources are used up in producing and supplying the good or service
- ☐ **Rejectability:** Private goods and services are rejectable - if you don't like the look of the soup on the college menu, you can reject the chance to consume it and use your money to buy something else.

##### ii) Characteristics of public goods

The characteristics of pure public goods are the opposite of private goods.

- ☐ **Non-excludability:** Goods cannot be confined to those who have paid for it. In this sense, non-payers can take a **free ride** and enjoy the benefits of consumption
- ☐ **Non-rivalry in consumption:** Consumption by one person does not reduce the availability of a good to others.

##### iii) Examples of public goods

Examples of public goods include flood control systems, street lighting and national defence. Public goods (in fact most of them are services!) are not normally provided by the private sector in an economy.

##### iv) The Free Rider Problem

The "**free rider**" principle says that you cannot charge an individual a price for the provision of a non-excludable good because somebody else would gain the benefit from consumption without paying anything. Consider the case of the provision of traffic wardens and safety signs on roads. One person's benefit from these services is not unique - other motorists benefit from the service as well - but they cannot be stopped and asked to pay for the benefits they derive.

##### v) Public goods and market failure

Why is there market failure with public goods? The main reason is that private sector producers will not supply public goods because they cannot be sure of making an economic profit. This is due to the characteristics of public goods. Consumers can take a free ride without having to pay for the good or service. The obvious solution is that these goods are **provided collectively** by the government, and **financed through taxation** of individual households and businesses.

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<sup>37</sup> Revision notes on government spending available here:  
[www.bized.ac.uk/stafsup/options/notes/econ214.htm](http://www.bized.ac.uk/stafsup/options/notes/econ214.htm)

## b) Merit Goods

Merit Goods are those goods and services that the government feels that people will under-consume, and which ought to be subsidised or provided free at the point of use.

### i) Merit goods and externalities

The public and private sector of the economy provide merit goods & services. Consumption is thought to generate [positive externality effects](#) - where the social benefit from consumption exceeds private benefit.

### ii) Examples of merit goods

[Health services](#) <sup>38</sup>, Education, Work Training programmes, Public Libraries, [Citizen's Advice Bureaux](#) and Inoculations for children and students

### iii) Financing merit goods

The government often provides merit goods "free at the point of use", financed through taxation. Examples include primary health care available to people through the [National Health Service](#), and books borrowed from local authority libraries. There is growing evidence of a widening in [health inequalities](#) in Britain - partly arising from an increase in relative poverty. Spending on the National Health Service is an important vehicle for reducing inequalities - but there will always be a divide between those who can afford prompt, good quality health care and millions of people who are wholly dependent on state provided health services.

### iv) Private Finance Initiative (PFI)

The need for extra finance of merit goods has brought to the top of the political agenda the debate about public versus private sector funding. The current Labour government is committed to using **public private partnerships (PPPs)** to inject extra finance for capital spending in education, health and transport. The [private finance initiative](#) gives the private sector responsibility for building and managing projects like roads and hospitals in return for a yearly fee. PPPs have been used by Labour to build large numbers of schools, hospitals and roads. More controversially, it is also the chosen route for part-privatising the London Underground and the air traffic control system

### v) De-merit goods

Merit goods are 'good' for you. Demerit goods are thought to be 'bad' for you. Examples might include alcohol, cigarettes and various drugs. The consumption of de-merit goods can lead to negative externalities which causes a fall in social economic welfare. The government normally tries to reduce consumption of de-merit goods. Consumers may be unaware of the negative externalities that these goods create - they have imperfect information.

Can cannabis be regarded as a de-merit good? Should it be legalised and then subject to taxation in a similar way to alcohol and tobacco? Background [reading available here](#).

### vi) Merit goods and market failure

Merit goods provide positive externalities but if left wholly to the private sector, it is likely that merit goods will be under-consumed. Partly this is because individuals do not understand or appreciate the social benefits that can result from consumption of education and health services to name just two examples.

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<sup>38</sup> Market failure in health care - try these resources for background: [www.oheschools.org/ohech3pg2.html](http://www.oheschools.org/ohech3pg2.html)

## vii) De-merit goods and market failure

De-merit goods create negative externalities which leads to a reduction in social economic welfare. The government may decide to intervene in the market for these goods and impose taxes on producers and / or consumers. Higher taxes cause prices to rise and should lead to a fall in demand. (See the revision notes in the previous section on [applications of price theory](#))

## Case Study: Economics of Health Care

In the market economy most goods and services are private goods and services. Health Care is a merit service that the population of the UK does not pay directly for as government is committed to providing health care directly through the tax system. The benefits to society of health services that could be under produced and consumed if left to the private sector, are well recognised by government.

Government are aware of the likely consequences of health being left to private suppliers, charging the public a direct charge for use. The average member of society would be unlikely to buy enough health care to meet their needs. The problem of imperfect information would lead some individuals to under provide for their future needs, and this would have an opportunity cost for society as a whole. Government overcomes this imperfect information and attempts to provide the required amount of health care that society needs.

Some economists on the political right regard the government intervention and their attitudes with regard to health care as forming part of "the Nanny State". They contrast the UK with the United States of America where health care is clearly a private good. The residents of the USA pay directly for health provision usually through insurance provision, and some argue that UK residents could also make informed and rational decisions related to health care if the National Health Service was privatised.

## c) Immobility of Factors of Production

Another cause of market failure is the immobility of factors of production. There are two main types of factor immobility, occupational and geographical immobility.

### i) Occupational Immobility

Occupational immobility occurs when there are **barriers to the mobility** of factors of production between different sectors of the economy. This can lead to factors remaining unemployed, or being used in ways that are not economically efficient.

**Land and Capital:** Some capital inputs are occupationally mobile - a computer can be put to productive use in many different industries. Commercial buildings can be altered to provide a base for many businesses. However some units of capital are specific to the industry they have been designed for.

**Labour** as a factor of production often experiences occupational immobility. For example, workers made redundant in the sheet metal industry may find it difficult to gain re-employment in the near term. They may have **job-specific skills** that are not necessarily needed in the growing industries in the economy. This implies that there is a **mismatch** between the skills on offer from the unemployed and those required by employers looking for extra workers. This is also called [structural unemployment](#) and is a major reason why there is a core of workers in the UK who find it difficult to find paid work. Clearly this leads to a **waste of scarce resources** and represents market failure.

### ii) Geographical Immobility

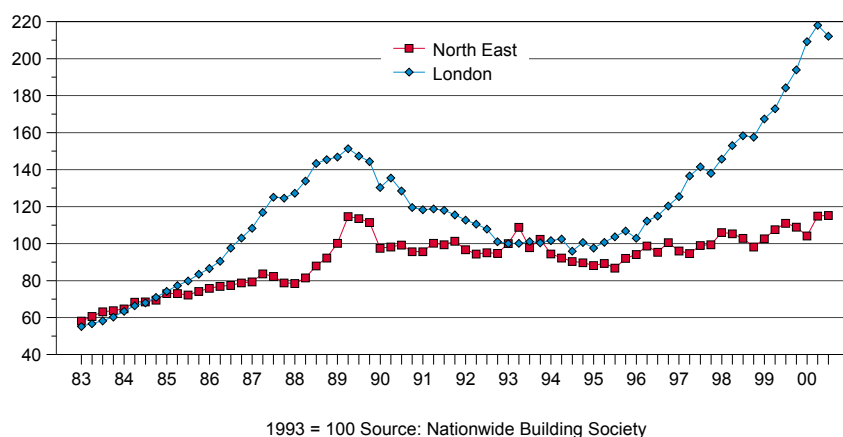
People may also experience geographical immobility - meaning that there are barriers to them moving from one area to another to find work. There are good reasons why geographical immobility might exist:

- ☐ Family and other social ties
- ☐ Costs involved in moving home

- ❑ Regional variations in house prices
- ❑ Differences in the general cost of living between regions

The growing **regional divide in house prices** is a major contributor to geographical immobility. The chart below shows the index of house prices for first time buyers in the North and London over recent years. The widening gap in average prices can make it virtually impossible for people from the North to consider moving south because they cannot afford to maintain their standard of living in the South East.

**INDEX OF HOUSE PRICES FOR FIRST TIME BUYERS**



Both occupational and geographical immobility mean that the economy is not allocating its resources to maximum efficiency - and this is a root cause of what economists call **market failure**.

### iii) Policies to improve mobility of labour

To reduce occupational immobility the government might:

- ❑ Invest in increased provision of training schemes for the unemployed - particularly those workers experiencing structural unemployment. See the [New Deal programme](#) in the chapter on unemployment
- ❑ Subsidise the provision of industrial training by private sector firms
- ❑ Raise total spending on education and move towards increased investment in vocational training for students

To reduce geographical immobility

- ❑ Reforms to the housing market designed to improve the supply and reduce the cost of rented properties
- ❑ Specific subsidies for people moving into areas where there are shortages of labour

## 14) THE DISTRIBUTION OF INCOME AND WEALTH

*The UK has the second highest child poverty rates in the EU. Italy has the highest rates of children living in below the poverty line at 19.5%, compared to 16.2% in Britain and 2.4% in Sweden. The highest child poverty rate was found in Russia, which had 23%, where the researchers found that child nutrition was often poor and more like parts of sub-Saharan Africa*

*Adapted from a BBC News Report, February 2001*

### a) Absolute and Relative Poverty

#### i) Absolute poverty

Absolute poverty measures the number of people living below a certain income threshold or the number of households unable to afford certain basic goods and services.

#### ii) Relative poverty

Relative poverty measures the extent to which a household's financial resources falls below an average income threshold for the economy. Although living standards and real incomes have grown because of higher employment and sustained economic growth over recent years, the gains in income and wealth have been unevenly distributed across the population.

There is little doubt that Britain has become a more unequal society over the last 20-25 years. Indeed a report published in July 2001 found that [inequality had continued to grow](#) during the first four years of the Labour Government, with as many as [one children in six in Britain living in poverty](#).<sup>39</sup>

For background research on poverty and inequality, the [Child Poverty Action Group](#) web site is highly recommended. See also the [Guardian Special Report on Child Poverty In Britain](#).

### b) The Poverty Trap

The poverty trap affects people on low incomes. It creates a **disincentive** to look for work or work longer hours because of the effects of the tax and benefits system. For example, a worker might be given the opportunity to earn an extra £50 a week by working ten additional hours. This boost to his/her gross income is reduced by an increase in **income tax** and **national insurance contributions**. The individual may also lose some **income-related state benefits**. The combined effects of this might be to take away over 70% of a rise in income, leaving little in the way of extra **net** or **disposable income**.

### c) Underlying Causes of Poverty

#### i) Disparities in wages and earnings growth

Wages and earnings in some jobs have grown much faster than others. Workers in industries enjoying fast growth and high profits have benefited from above-average increases in pay and earnings. Examples include business services, the financial sector and information, communication and technology. In contrast many public sector service jobs have seen a decline in relative pay levels.

Real earnings growth is fastest for those workers with **high-level skills** whose jobs are in demand. The situation is worse for workers in traditional manufacturing where employment has declined and real wages have fallen behind other jobs. The worst paid jobs are still found in low-skill service sector industries - often where there is little trade union protection.

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<sup>39</sup> The Joseph Rowntree Foundation is the main source of objective analysis on the scale of inequality in Britain. Their superb web site can be found at [www.jrf.org.uk](http://www.jrf.org.uk)

## ii) Falling relative incomes of those dependent on state benefits

State welfare benefits tend to rise in line with prices (they are index linked) rather than in line with the growth of earnings of those in work. Therefore, households dependent on welfare assistance see their relative incomes fall over time. The problem of **pensioner poverty** is particularly acute for those totally dependent on the basic state pension. Several pressure groups including [Age Concern](#) are lobbying for a [restoration of the link](#) between average earnings of people in work and the basic state retirement pension. The Labour Government has not as yet acceded to their demands - the financial cost of doing so is potentially huge.

## iii) Higher levels of unemployment

Unemployment is a key cause of poverty. Twice in the last twenty years we have seen mass unemployment in Britain and a large rise in relative poverty - the two trends are connected. A related problem is the increase in the number of workless households - households where no one is in paid employment and where members of the family are dependent on state welfare aid to survive.

## iv) Tax changes of the 1980s & 1990s

Changes to direct and indirect taxes may have contributed to and increase in relative poverty. Income tax rates have fallen over the last twenty years. The top marginal rate of tax fell from 83% in 1979 to 40% in 1988 (it has remained at this level for the last twelve years). The basic rate has come down from 33% in 1979 to 22% today. These tax reductions allow people in work to keep a higher proportion of their earned income. The benefits from lower taxes have flowed disproportionately to people on above-average incomes.

There has been a structural shift towards indirect taxes in recent years including higher rates of value added tax and higher excise duties on petrol, alcohol and cigarettes. Some economists argue that these tax changes have also worsened relative poverty. In particular the widening of the coverage of value added tax to household energy supplies and the hike in tobacco duties is thought to have had a regressive effect on the distribution of income.

## d) Policies to Reduce Poverty

The Labour government has said on many occasions that it wants to reduce poverty in the UK. A range of options is available if the government is concerned to reduce income and wealth differentials between households. Policies to reduce relative poverty normally focus on (a) changes to the tax and benefits system and (b) policies designed to increase employment and reduce unemployment.

### i) Changes to the tax and benefits system

Increases in higher rates of income tax would make the British tax system more progressive and reduce the post-tax incomes of people at the top of the income scale. The risk is that higher rates of direct taxation may act as a disincentive for people to earn extra income and might damage enterprise and productivity. At the 2001 General Election, both [Labour](#) and [Conservative](#) parties committed themselves to maintaining the top rate of income tax at 40%. The [Liberal Democrats](#) proposed a higher rate of 50% for people with annual earnings exceeding £100,000.

**Lower "starting rates" of tax** would help to reduce the poverty trap and encourage people to look for paid employment. One of the problems with this is that all taxpayers would benefit from lower starting rates of tax and increased tax allowances. Therefore it is an expensive way of alleviating relative poverty

### ii) A switch towards greater means-tested benefits

**Means testing** allows benefits to go to those in greatest need. This would help the welfare system to target help for those households on the lowest incomes. However means tested benefits are often unpopular with the recipients. And if benefits are withdrawn at a high rate as earned income increases, there is a risk that households on low incomes will be stuck in the poverty trap and will opt to remain out of work and in receipt of welfare payments.

### iii) Linking the state retirement pension to average earnings rather than prices

This policy would help to relieve relative poverty among low-income pensioner households. Their pension would rise in line with the growth of average earnings each year. However given the demographic pressures on the welfare state (not least the long run increase in the number of people of pension age) such a strategy would be extremely expensive and put great pressure on total government spending. Other areas of spending might suffer a reduction in funding. Or the overall burden of taxation might have to increase to fund a substantial increase in spending on state pensions.

### iv) Special employment measures (including [New Deal](#) and Welfare to Work)

Government employment schemes seek to raise employment levels and improve the employment prospects of the long-term unemployed. Many schemes have been tried in the past - the latest of which is Labour's **New Deal** strategy that focuses on reducing long-term unemployment among youth and older workers. The New Deal includes employment subsidies and employment training for participants on the scheme.

### v) Regional Policy Assistance

Relative poverty is often worse in areas of below average economic performance - where unemployment rates are well above the national average. The debate over the [North-South divide](#) has stayed high on the political agenda in recent years. The government may allocate increase funds for **regional policy initiatives** to attract new businesses into depressed areas and to improve the infrastructure of these regions. There are doubts though about the cost-effectiveness of regional policy funding.

### vi) Increased spending on education and training

The changing nature of the labour market makes it essential for workers to have the relevant **skills** to maintain their employability and increase their earnings potential. [Unemployment](#) is a major cause of poverty and structural unemployment makes the problem much worse.

### vii) The National Minimum Wage

The National Minimum Wage (NMW) was introduced in April 1999 at a level of £3.60 for adult workers. It is a **statutory pay floor** - employers cannot legally undercut the NMW. In March 2001 the government announced an increase in the NMW to £4.10 per hour for adult workers.

A minimum wage will help to reduce relative poverty for people who earn low wages. But only a small percentage of the employed labour force is directly affected by the minimum wage.

Since 1999, the beneficial impact of the minimum wage has been concentrated on the lowest paid workers in service sector jobs where there is little or no trade union protection. Female workers have been affected more than males - thus the NMW is making some contribution to closing the [long-term gender pay gap](#) in the British economy. The NMW may help to improve the incentives for people to actively **search for work** and prompt an increase in investment in worker training by businesses affected.

There is an argument that workers in all jobs deserve a [fair rate of pay for the job they do](#) and that a minimum wage should reduce **exploitation of lower-paid workers** by some employers. The trade union [Unison is campaigning for a substantial increase in the NMW to £5 per hour](#) (or even higher)

However there are several well-rehearsed arguments against the minimum wage as a strategy for reducing relative poverty. Firstly a minimum wage may **cost jobs** in some industries. To the extent that this worsens the living standards of those affected it has a negative impact on poverty.

Secondly there is evidence that the minimum wage boosts the incomes of middle-income households where more than one household member is in work. The greatest risk of relative poverty is among the unemployed, the elderly and among single parent families where the parent is no employed. These groups do not benefit directly from a minimum wage. It might be more efficient to introduce a guaranteed minimum income (for example through a negative income tax system or the Working Families Tax Credits) to boost the disposable incomes of the poorest households.

Some people argue that relative poverty is a fact of life - indeed no government policies can hope to eliminate it - merely to reduce the scale of relative poverty and inequality. The changing nature of our labour market, cyclical fluctuations within the economy and structural changes in employment mean that there will always be "winners and losers". Indeed attempts to reduce inequality may serve to penalise enterprise and distort incentives in the labour market.

#### Case Study: The Growing Divide Between Rich and Poor

A quarter of Britain's population is living below the breadline, according to the most comprehensive study ever undertaken into poverty and social exclusion in Britain undertaken by the Joseph Rowntree Foundation. In 1983, 14% of households lacked three or more necessities because they could not afford them; by 1999 this had increased to more than 24%.

A disturbing trend is the fact that poverty rates rose at a time when the majority of people were getting richer.

According to figures from the Office for National Statistics, the gap between rich and poor is now at its highest level for 10 years. This has led to a polarisation in society and created an underclass characterised by poor education, unemployment, bad health and a lack of access to services many of us take for granted, such as banking. In more than one-sixth of British households no one works and about a fifth of British adults have problems reading and writing and are innumerate.

According to a recent report by the [Organisation for Economic Co-operation and Development](#), Britain has one of the lowest levels of adult literacy in the industrialised world, with one in three young people leaving school at 16 with inadequate basic skills.

[Oxfam](#) describes Britain as 'one of the most poverty-stricken developed countries in the world'. The Government argues that statistics do not take into account the working family credit, minimum wage, a new 10% tax band and improving literacy rates in primary-school pupils. Yet it believes that poverty and social exclusion will only be eliminated with the active involvement of community organisations and business.



## 15) MACROECONOMICS - NATIONAL INCOME AND THE ECONOMIC CYCLE

### a) What is Macroeconomics?

**Macroeconomics** considers the **performance of the economy as a whole**. Many macroeconomic issues appear in the press and on the evening news on a daily basis. When we study macroeconomics we are looking at topics such as economic growth; [inflation](#); changes in employment and unemployment, our trade performance with other countries (i.e. the [balance of payments](#)) the relative success or failure of government economic policies and the decisions made by the [Bank of England](#).

Data response questions for AS economics exams on macroeconomics cover key trends in the economy up to about 1 or 2 years before the date of the examination. Students must develop a sound knowledge and awareness of the important macroeconomic trends and developments in the British economy over the last five or ten years. Become familiar with the key economic data and in interpreting its significance.

Good sources for the latest UK economic indicators are the [Treasury Web Site](#) and also the [Office for National Statistics](#) and also the [Bloomberg web site](#). The BBC Economics News page must also be visited on a regular basis for you to develop an understanding of the major economic forces shaping the UK. <sup>40</sup> [Business Strategies](#) also provides a weekly update on the health of the British economy. The [Ernst and Young Economic Outlook](#) is accessible and informative for specialist economists.

### b) Objectives of Government Economic Policy

Government management of the economy is always a key political issue - not least at election time, when the government must [defend its economic record](#) over the previous four or five years. Each government must set **targets** and **objectives** when it assumes power - and often, economic objectives lie right at the heart of a government's overall strategy.

*The Labour Government has several current objectives:*

- ☐ Stable low inflation with prices rising at a rate within the target range of 1.5% - 2.5% per year
- ☐ Sustainable growth - as measured by the rate of growth of real Gross Domestic Product
- ☐ Higher levels of investment and productivity - to improve international competitiveness
- ☐ High employment - the government wants to achieve full-employment
- ☐ Rising living standards and a fall in relative poverty
- ☐ Sound government finances (including control over government borrowing and national debt)

The key point is that Government through its economic policies, aims to **improve the economic welfare** of the country as a whole.

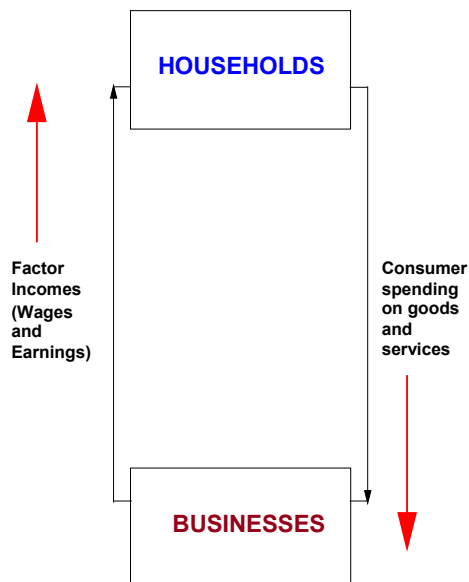
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<sup>40</sup> Dharshini David on the UK economy (real audio file)  
[http://news.bbc.co.uk/olmedia/cta/events01/ukpol/election/issues/david\\_economy.ram](http://news.bbc.co.uk/olmedia/cta/events01/ukpol/election/issues/david_economy.ram)

## c) The Circular Flow of Income and Spending

The British economy comprises millions of individual economic units - households, firms and government.

### THE BASIC CIRCULAR FLOW MODEL



Together their decisions generate spending, output and income - three ways of measuring the total economic activity. The **circular flow** of income shows flows of goods and services and factors of production between firms and households.

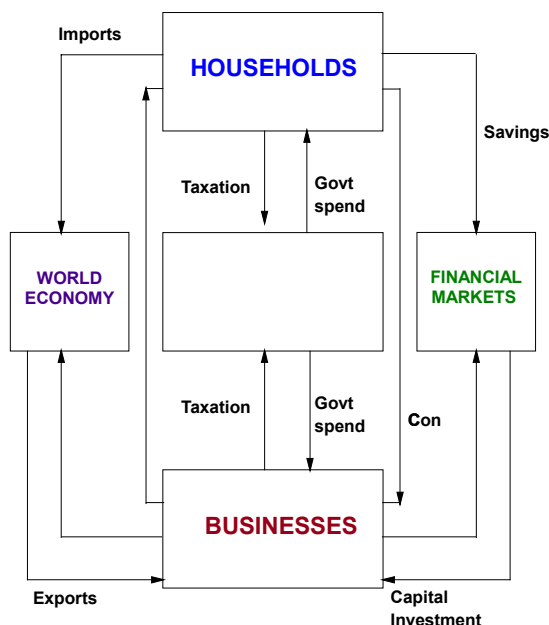
**Households** provide their labour for firms who produce goods and services. In return people in work receive payments, such as wages, which in turn are spent on the output of firms. Not all of current income is spent - some is saved. This represents a leakage from the circular flow.

In addition to consumer spending, **businesses** also carry out capital investment spending (e.g. on new plant & machinery and buildings). Investment demand is an injection of money to the circular flow of income, as it does not originate from consumers' current income.

**Government spending** on state provided goods and services is injected into the circular flow and taxation will leak from it.

**International trade** plays an increasingly important role in shaping the performance of the British economy. The value of exports sold overseas will be injected into the circular flow, whilst spending by UK consumers and businesses on imported products represent a leakage from the flow. (Goods and services are coming into the economy to satisfy domestic demand, but money to pay for them is flowing out of the economy).

### INCOME AND SPENDING FLOWS



## d) Measuring National Income

To measure how much **output**, **spending** and **income** has been generated we use **national income accounts**. These accounts measure the:

1. Total value of the **output** of goods and services produced in the UK
2. Total amount of **expenditure** taking place in the economy
3. Total amount of **income** generated through production of goods and services

**National Income** is a term used to measure the **monetary value of the flow of output of goods and services** produced within the economy over a period of time. Measuring the level and rate of growth of national income (Y) is important to economists when they are considering:

- ☐ The rate of economic growth and where the economy is in the business cycle
- ☐ Changes to overall living standards of the population
- ☐ Looking at the distribution of national income (i.e. measuring income and wealth inequalities)

## e) Gross Domestic Product (GDP)

GDP measures the value of output produced **within the domestic boundaries of the UK**. It includes the output of the many foreign owned firms that are located in the UK following the high levels of foreign direct investment in the UK economy in the 1980s and 1990s. [Read this article on 100 years of UK GDP](#)

There are three ways of calculating GDP - all of which should sum to the same amount since by identity:

**National Output = National Expenditure (Aggregate Demand) = National Income**

*Under the new definitions introduced in 1998, GDP is now known as **Gross Valued Added**.*

### i) The Expenditure Method (Aggregate Demand)

This is the sum of the final expenditure on UK produced goods and services measured at current market prices. The full equation for GDP using this approach is

$$\text{GDP} = C + I + G + (X-M)$$

C: [Household spending](#) (consumption)

I: [Capital Investment spending](#)

G: [General Government spending](#)

X: [Exports of Goods and Services](#)

M: [Imports of Goods and Services](#)

The table on the next page shows the components of gross domestic product over the last ten years. The data for each year has been adjusted for the effects of inflation - in other words, the data is shown in **real terms**. You can see from the table on the next page that [consumer spending](#) is the biggest single component of **AD**. In 2001, household spending (measured at constant 1995 prices) is forecast to exceed £10 billion per week.

#### UK Gross Domestic Product and its Components

Billion Pounds - 1995 Prices

	Household Spending	General Government Spending	Capital Investment	Changes in Stocks	Total Exports	Total Imports	Gross Domestic Product
1995	455	141	116	4.5	202	205	714
1996	471	143	122	1.8	218	224	732
1997	490	141	131	3.8	236	245	758
1998	509	143	144	4.2	242	266	778
1999	532	149	152	-1.4	252	288	796
2000	552	153	156	1.9	273	315	820
2001	567	159	162	1.8	289	340	838

Figures for 2001 are forecasts

Total for GDP may not add to the sum of its components because of rounding

The balance between exports and imports of goods and services is part of the UK's **balance of payments**.

## ii) The Income Method (Sum of Factor Incomes)

Here GDP is the sum of the **final incomes earned through the production of goods and services**.

### Main Factor Incomes

Income from employment and self-employment

Added to Profits of companies

Added to Rent income

= Gross Domestic product (by factor income)

Only factor incomes generated through the production of output are included in the calculation of GDP by the income approach. Therefore, we exclude from the accounts the following items:

- ☐ Transfer payments (e.g. the state pension, income support and the Jobseekers' Allowance)
- ☐ Private Transfers of money from one individual to another

Income that is not registered with the Inland Revenue (note here the effects of the Black or shadow economy where goods and services are exchanged but the value of these transactions is hidden from the authorities and therefore does not show up in the official statistics!)

## Case Study: Black market jumps to 13% of economy

Britain's shadow economy has reached record levels, costing the government the equivalent of more than 8p off the basic rate of income tax, according to a new study. More than £124 billion of goods and services - about 13% of the economy, compared with just 2% in 1970 - from second-hand cars to babysitting, will be bought this year without being declared to the taxman.

The main component of the shadow economy, accounting for £43.5 billion or 35% of the total, is the construction industry, closely followed by buying second-hand cars and other machines at nearly £15 billion or 12% of the total. The personal services industry, which includes prostitution, accounts for 12%, with the home-help sector taking 8% or nearly £10 billion a year. The other 33% includes categories such as waiters, farm workers and street traders.

Adapted from [The Economist](#)

## iii) The Output Method

This measures the value of output produced by each of the productive sectors in the economy using the concept of **value added**. Value added is the increase in the value of a product at each successive stage of the production process. We use this approach to avoid the problems of **double-counting** the value of intermediate inputs. The main sectors of the economy are the **service industries**, **manufacturing** and **construction**, and **extractive industries** such as **mining**, **oil** together with **agriculture**

## f) The Difference between GDP and GNP

**Gross National Product (GNP)** measures the final value of output or expenditure by UK owned factors of production whether they are located in the UK or overseas. GDP is only concerned with incomes generated within the geographical boundaries of the country. So output produced by Nissan in the UK counts towards our GDP but some of the profits made by Nissan here are sent back to Japan - adding to their GNP.

$$\text{GNP} = \text{GDP} + \text{Net property income from abroad (NPIA)}$$

**NPIA** is the net balance of **interest, profits and dividends (IPD)** coming into the UK from UK assets owned overseas matched against the flow of profits and other income from foreign owned assets located within the UK. In recent years following the abolition of **exchange controls** in 1979 there has been an increasing flow of direct investment into and out of the UK. Many foreign firms have set up production plants in the UK whilst

UK firms have expanded their operations overseas and become **multinational** (or trans-national) organisations.

### g) Measuring the Standard of Living

One of the main uses of national income statistics is as a guide to changes in average living standards in a country. The baseline measure of the standard of living is **real national output per head of population** or real GDP per capita. This is simply the total value of national output divided by the resident population.

National income data from many countries can be used to make **cross-country** comparisons of living standards. This requires converting GDP data into a common currency (normally the US dollar). A further adjustment is made for differences in the cost of living between countries - so that the purchasing power of each unit of currency has (approximately) the same **purchasing power**.

Comparative Economic Indicators (1999)

	UK	France	Germany	Italy	Spain	United States
GDP (US\$ bn)	1,440	1,436	2,108	1,173	597	9,256
GDP per head (US\$)	24,283	24,353	25,556	20,300	15,149	33,889
GDP per head (US\$, PPP)	22,485	23,285	23,495	22,700	18,538	33,889

Source: Adapted from [The Economist](#)

PPP: [Purchasing Power Parity](#)

The UK economy is about the same size as France (measuring GNP in dollars) and roughly half the size of the German economy. The United States and Japan are easily the biggest economies in the world. Our GDP per head is well ahead of Italy, although when an adjustment is made for exchange rates and differences in living costs, our GDP per head (adjusted for purchasing power parity) edged just below that of Italy in 1999.

It should be noted that GDP statistics have obvious and important limitations when measuring the standard of living. These arguments are covered in the A2 course.

### h) Money GDP and Real GDP

When we want to measure **real growth** in the economy we have to adjust for the effects of inflation. Real GDP measures the **volume of output produced within the economy**. An increase in real output means that AD has risen faster than inflation and therefore the economy is experiencing **positive economic growth**.

The table on the next page shows national output expressed at current prices (i.e. not adjusted for inflation) between 1995 and 2000. The **nominal** (or current) value of GDP has grown each year - indeed, in monetary terms, national output at the end of 2000 was 31% higher than at the start of 1995. But some of this is simply the result of higher prices in the economy. Making an adjustment for inflation (shown in the table below by the increase in the general price index) gives a figure for **real GDP** expressed at constant 1995 prices.

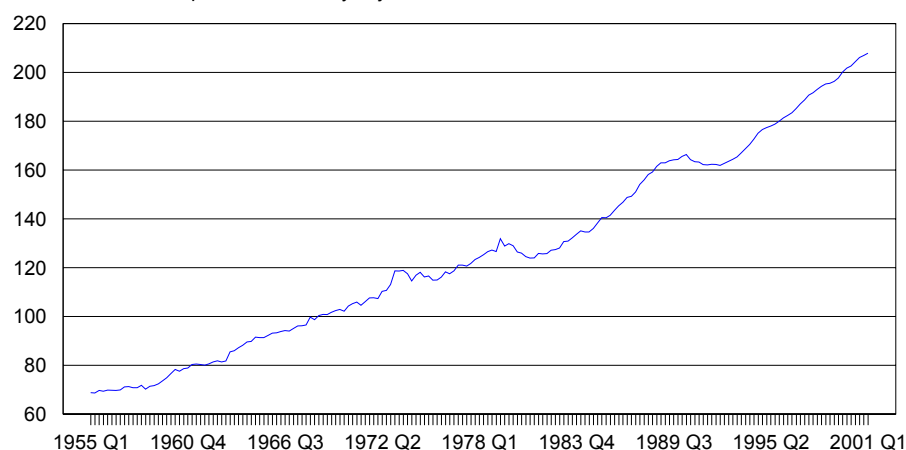
	Index of GDP at Current Prices (1995=100)	Price Index 1995=100	Index of Real GDP at Constant Prices (1995=100)
Year			
1995	100.0	100.0	100.0
1996	105.9	103.3	102.6
1997	112.8	106.3	106.0
1998	119.3	109.5	109.1
1999	124.8	112.0	111.5
2000	130.9	114.0	114.8

## i) Real GDP and the Trade Cycle

National output does not rise or fall at a uniform rate! Our economy experiences a **trade or business cycle** where the rate of growth of production, incomes and spending fluctuates over time. Statisticians calculate annual and quarterly movements in national output and these are then tracked to measure the **cyclical movement** of the economy. The level of UK real GDP between 1955 and 2001 is shown in the chart below.

### BRITAIN'S GROSS DOMESTIC PRODUCT (1955-2001)

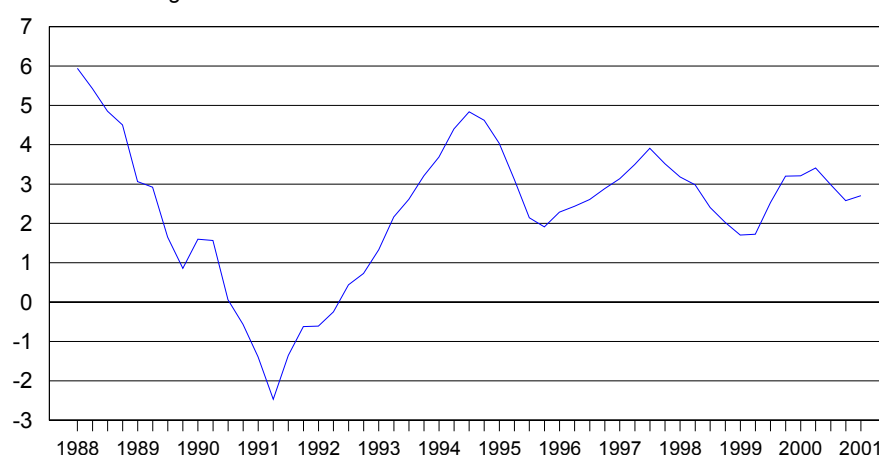
£ billion at constant prices, seasonally adjusted



When real GDP (or national output) is rising quickly the economy is said to be experiencing economic growth or reco. A good example of this was the economic boom in the late 1980s. The economy was also enjoying a **cyclical boom** in 1997-98 - although the rate of growth was not as fast as a decade earlier.

### THE ECONOMIC CYCLE SINCE 1988

Annual % Change in Real GDP



When real output falls or when the growth of output is below its long run trend rate - then economic recession exists. There have been three recessions since the early 1970s. The last recession occurred just under a decade ago when national output fell throughout 1991 and for most of 1992.

Since then the British economy has enjoyed a period of **sustained economic growth**.

Indeed the current **upturn** in the economic cycle is the longest period of economic growth for over thirty years. The chart below shows the percentage rate of growth of UK real national output over recent years.

## j) Stages of the Economic Cycle

### i) Economic Boom

A boom occurs when national output is rising strongly at a rate faster than the trend rate of growth (or long-term growth rate) of about 2.5% per year. In boom conditions, output and employment are both expanding

and the level of AD for goods and services is high. Typically, businesses use the opportunity of a boom to raise output and also widen their profit margins.

Characteristics of an economic boom:

- ☐ Strong and rising level of AD - often driven by fast growth of consumption
- ☐ Rising employment and real wages
- ☐ High demand for imported goods & services
- ☐ Government tax revenues will be rising quickly
- ☐ Company profits and investment increase
- ☐ Danger of demand-pull and cost-push inflation if the economy overheats

## ii) Economic Slowdown

A slowdown occurs when the rate of growth decelerates - but national output is still rising. If the economy continues to grow (albeit at a slower rate) without falling into outright recession, this is known as a **soft-landing**. The Bank of England has been trying to engineer a soft-landing for Britain on at least two occasions since it was given independence in the setting of interest rates in May 1997. Interest rates rose from 6% to 7.5% between the summer of 1997 and the spring of 1998; and the Bank raised interest rates again during the latter half of 1999 in a bid to reduce the rate of growth of demand. The UK economy experienced another slowdown in the first half of 2001 - indeed by the summer of 2001, many economists were raising fears that a UK and global slowdown might turn out to be much worse, [bringing about a recession](#).

## iii) Economic Recession

A recession means a fall in the level of real national output (i.e. the rate of economic growth is negative). National output declines, leading to a contraction in employment, incomes and profits. The last recession in Britain lasted from the summer of 1990 through to the autumn of 1992. When real GDP reaches a low point at the end of the recession, the economy has reached the **trough** - economic recovery is imminent. An **economic slump** is a prolonged and deep recession leading to a significant fall in output and average living standards.

Characteristics of an economic recession:

- ☐ Declining AD for British produced output
- ☐ Contracting employment / rising unemployment
- ☐ Sharp fall in business confidence & profits and a decrease in capital investment spending
- ☐ De-stocking and heavy price discounting from businesses left with excess capacity
- ☐ Reduced inflationary pressure and falling demand for imports
- ☐ Increased government borrowing because spending rises and tax revenues fall
- ☐ Lower interest rates from central bank

## iv) Economic Recovery

A recovery occurs when real national output picks up from the trough reached at the low point of the recession. The pace of recovery depends in part on how quickly AD starts to rise after the economic downturn. And, the extent to which producers raise output and rebuild their stock levels in anticipation of a rise in demand.

The last recession in the UK ended in the autumn of 1992. A much lower exchange rate following sterling's departure from the exchange rate mechanism, plus a sharp fall in interest rates provided a big stimulus to demand. National output grew by more than 3% in 1993 and over 4% in 1994 - a vigorous rebound from the effects of the 1990-92 recession.

## k) The Trend Rate of Economic Growth

The **trend rate of growth** is the long-term average rate of growth of GDP. For Britain the average rate of growth has been around 2.25% over the last twenty-five years. Actual growth from year to year will vary according to where the economy is in the business cycle. The long-run sustainable rate of growth depends on improvements in the [supply-side](#) of the economy. (See later notes on AD and Supply).



## 16) AGGREGATE DEMAND AND AGGREGATE SUPPLY

**Aggregate demand** and **aggregate supply curve analysis** provides a way of illustrating macroeconomic relationships and ideas. In this section we look at the meaning of AD and supply. And, we consider how changes in AD and AS affect **economic growth, employment and inflation**.

### a) Aggregate Demand (AD)

**Aggregate demand (AD)** is defined as the **total demand for goods and services** produced within the economy over a period of time. AD is the sum of planned expenditure for goods and services.

$$AD = C + I + G + (X - M)$$

**C:** Consumers' expenditure on goods and services: This includes demand for **consumer durables** (washing machines, motor vehicles) & **non-durable goods** (such as newspapers, food and beverages)

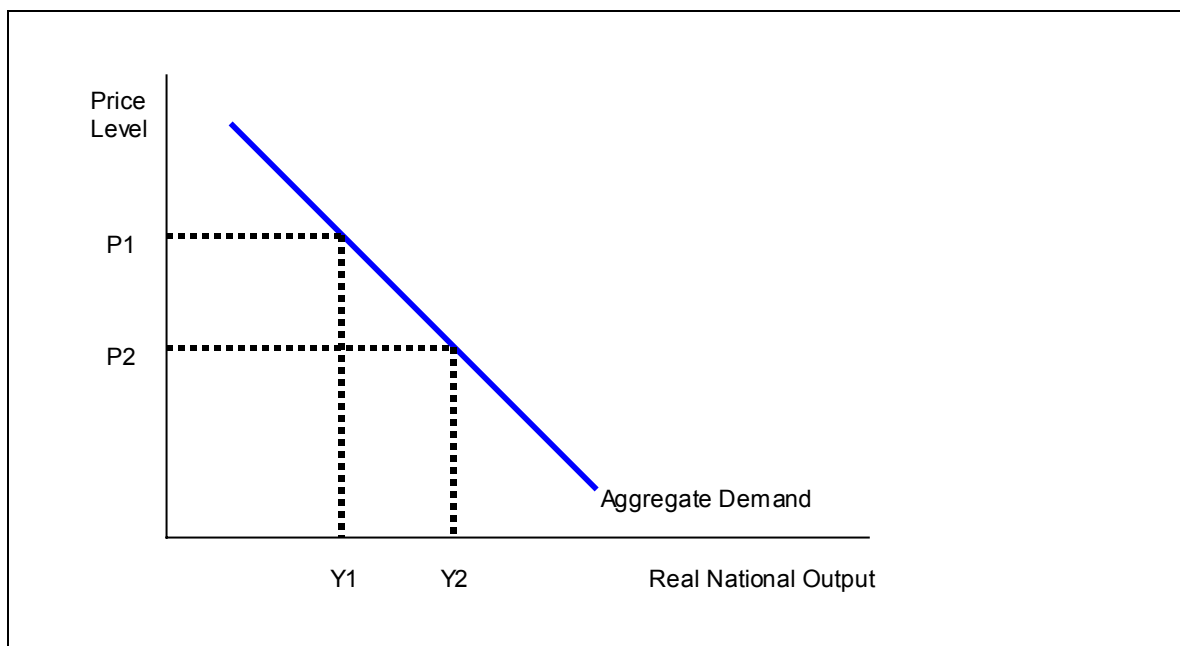
**I:** **Gross Capital Investment** - investment spending by companies on capital goods. Investment also includes spending on **working capital** such as **stocks** of finished goods and **work in progress**. Some textbooks call **stock-building - inventory accumulation** - in other words, spending by businesses on output that has not yet been sold, but which will meet consumer demand at some point in the future.

**G:** General Government Spending - Government spending on state provided goods and services including public and merit goods. Transfer payments in the form of social security benefits (pensions, job-seekers allowance) are not included as they are not a payment to a factor of production for output produced. A substantial increase in government spending would be classified as an expansionary fiscal policy.

**X:** Exports of goods and services - Exports sold overseas are an inflow of demand into the circular flow of income in the economy and add to the demand for UK produced output. When export sales from the UK are healthy, production in exporting industries will increase, adding both to national output and also the incomes of those people who work in these industries.

**M:** Imports of goods and services. Imports are a withdrawal (leakage) from the circular flow of income and spending. Goods and services come into the economy - but there is a flow of money out of the economic system. Therefore spending on imports is subtracted from the AD equation.

### i) The Aggregate Demand Curve



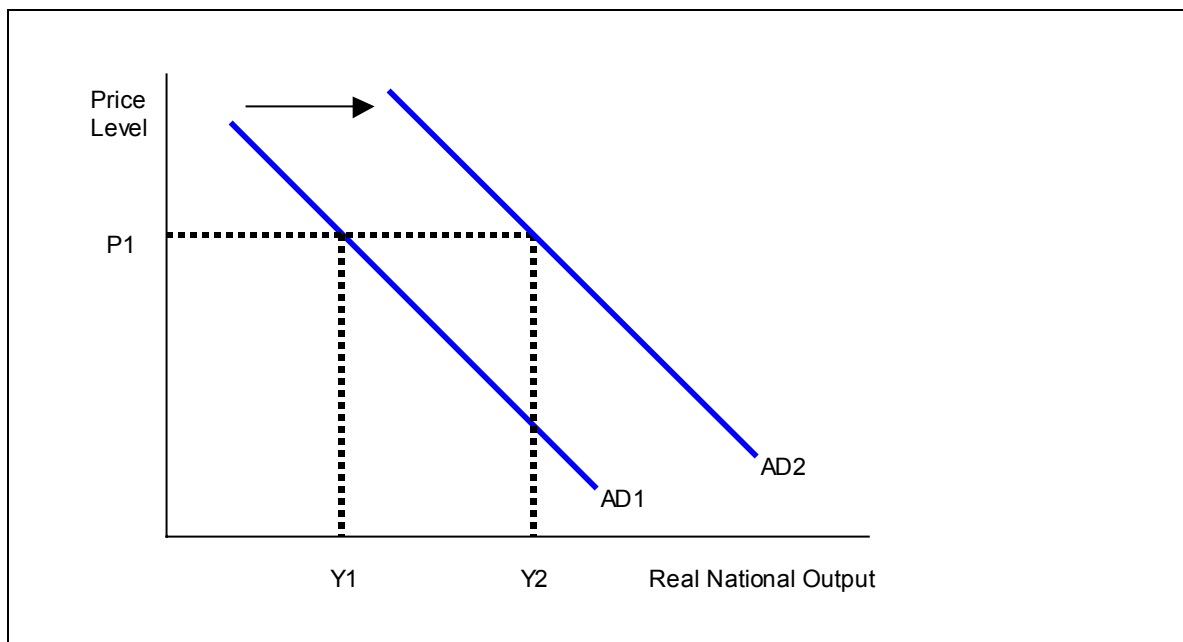
The **AD curve** is assumed to slope downwards from left to right because, if there is a fall in the general level of prices, this will lead to lower interest rates which in turn will stimulate an increase in consumer demand and capital investment spending by businesses.

A lower price level also leads to an increase in the **real value of money balances** that people hold. If you have £20,000 held as a cash balance, if the average level of prices starts to fall (for example because of improvements in technology across many industries) that £20,000 in nominal terms will buy you more goods and services **in real terms**. Of course whether you decide to spend this money on extra products is up to you - there may be an incentive to save when prices are falling.

## ii) Shifts in the Aggregate Demand curve

As with the theory of demand for individual products such as cheese, wine or DVD players, the AD curve can shift. But please remember that we are now dealing with **total demand** in the economy. Changes in the **components of AD** will cause a **shift** in the AD curve

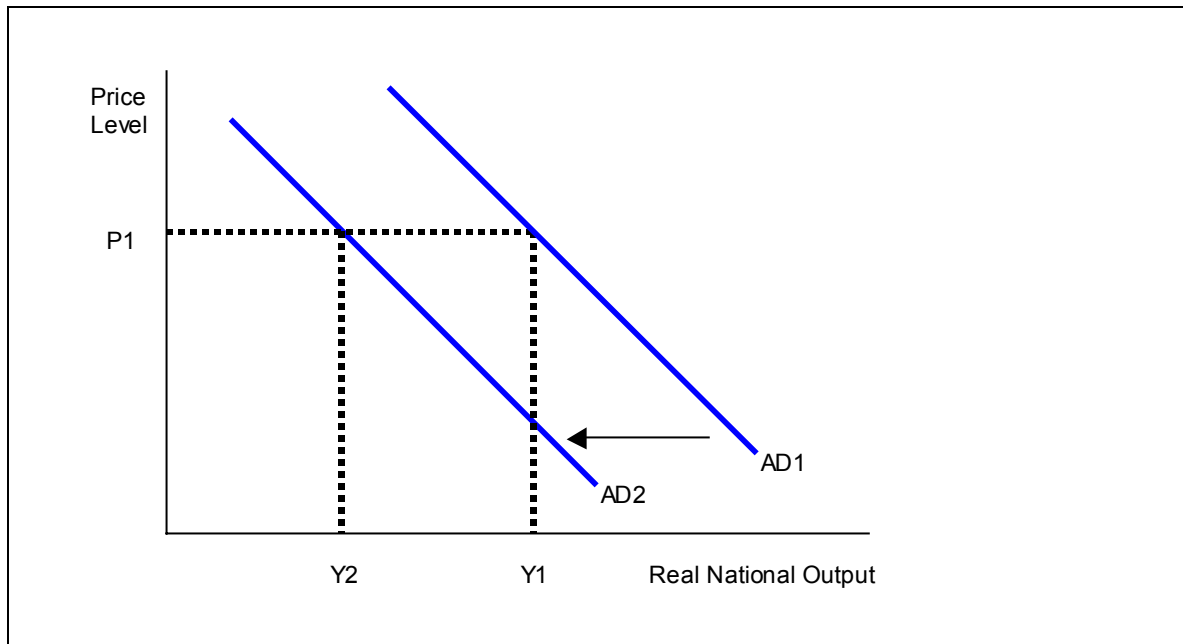
For example consider the diagram below where there has been a **sharp rise in consumer spending**. This might have been caused for example by a [fall in interest rates](#) or an [increase in consumers' wealth](#) because of rising house prices. The shift in AD means that more goods and services are being demanded at each price level.



The increase in AD might also have been caused by a decision by the government to **pump-prime** demand in the economy by increasing its [own spending](#) on transport projects, education or the National Health Service. Higher government spending is known as **expansionary fiscal policy**.

Another cause might have been a surge in exports sold overseas. Goods and services bought by overseas consumers leads to an **inflow of demand and income** into the economy - leading to higher AD for **UK produced goods and services**.

AD does not always increase each year. For example a slump in the **value of exports** of goods and services because of a recession in the United States, or a **fall in capital investment spending** by companies following a drop in business confidence would cause an inward shift in the AD curve. This is shown below.



When AD is falling there is a risk of a **recession**, or at least a slowdown in the rate of economic growth.

## b) Consumer Spending

Consumer demand accounts for nearly two thirds of total AD. Economists spend a lot of time investigating trends in consumer spending because they have a big impact on short-term growth in the economy. The table below shows the annual change in real household spending since 1990. Consumption fell during the last economic recession (in 1991 it declined by 1.8%) but since the mid 1990s, household spending has been strong, rising by more than 3% in real terms in each year from 1996-2000.

### i) What determines total consumer spending in the economy?

Many factors influence how much consumers are willing and able to spend on goods and services. Some of these factors are considered in the table below:

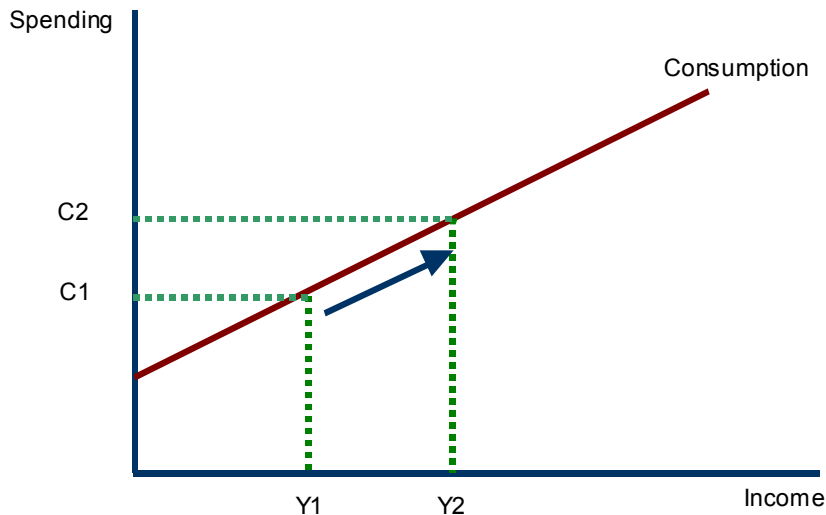
Factors Affecting Consumer Demand in the UK

	Household Spending	Real Household Disposable Income	Household Saving Ratio	Claimant Count Unemployment % of Labour Force	Consumer Confidence Index	Retail Sales % Change
	% Change	% Change	Per Cent			
1994	2.7	1.3	9.4	8.7	-12	3.7
1995	1.6	2.6	10.3	7.6	-11	1.2
1996	3.7	2.2	9.4	6.9	-4	3.1
1997	4	2.8	9.3	5.2	4	5.3
1998	4	0.1	5.8	4.5	-1	2.9
1999	4.5	3.6	5.2	4.1	1	3.5
2000	3.7	3.1	4.4	3.6	0	4.5
2001	2.9	3.1	4.9	3.3	n/a	n/a

Consumer Confidence (GfK Survey): A rise in the index shows an improvement in confidence  
 Figures for 2001 are forecasts or not yet available

## ii) The Keynesian Theory of Consumption

John Maynard Keynes<sup>41</sup> developed a theory of consumption that focused on the importance of people's current disposable income in determining their spending levels. There should be a positive relationship between disposable income (income net of taxes) and total household spending. This basic relationship is shown in the diagram below. A rise in income gives people more resources to spend. The rate at which

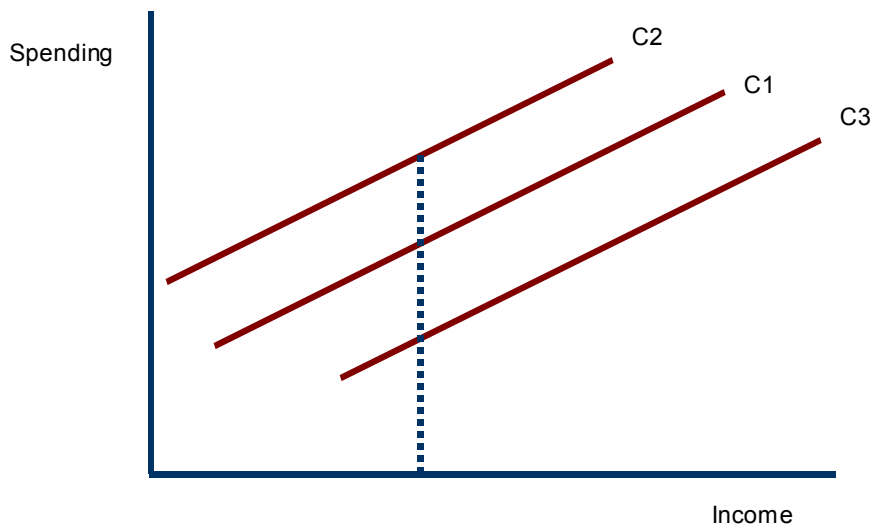


consumers increase their demand as income rises is called the **marginal propensity to consume**.

Changes in factors other than income cause a shift in the consumption curve. For example, the Bank of England might decide to raise interest rates. This should decrease household spending at each level of income (i.e. an downward shift in the consumption curve from  $C_1$  to  $C_3$ ). Or a sharp rise in house prices would increase net household wealth and lead to a rise in consumer confidence. This would cause an upward shift in consumption from  $C_1$  to  $C_2$ .

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<sup>41</sup> For more background reading on Keynes select [www.britannica.com/eb/article?eu=46281](http://www.britannica.com/eb/article?eu=46281)



The key factors that determine consumer spending in the economy are as follows:

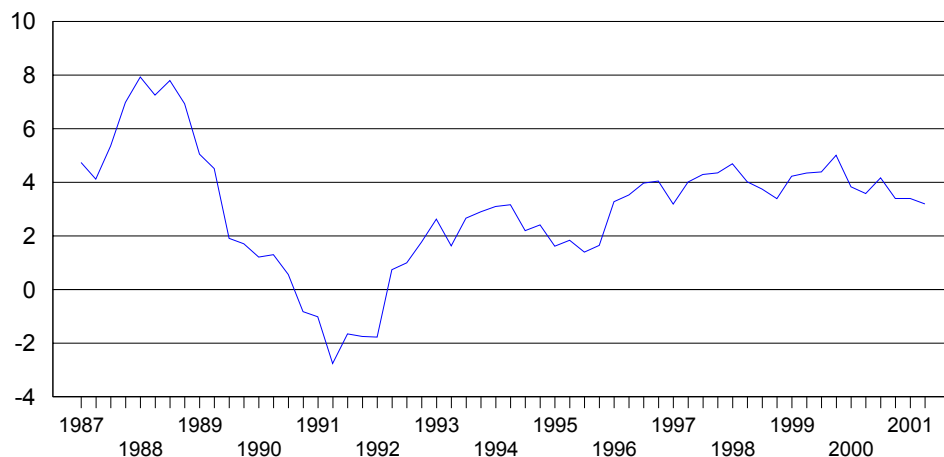
- ☐ Level of real disposable income
- ☐ Interest rates and the availability of credit
- ☐ Consumer Confidence
- ☐ Changes in household financial wealth
- ☐ Changes in total employment and unemployment

### iii) Recent trends in UK consumer spending

The chart below shows the annual growth of total household spending since 1987.

#### GROWTH OF HOUSEHOLD SPENDING

Annual % Change in Real Consumer Spending (at constant 1995 prices)



### iv) The Wealth Effect

Real household expenditure on goods and services is forecast to grow by nearly 3% in 2001. The continued strength of household spending is the result of several factors among them the high level of employment, relatively low interest rates and increasing real incomes for those in work. But many economists are pointing to the importance of **wealth** in sustaining a high level of demand from consumers.

Wealth represents the **financial value of a stock of assets** owned by people. For most people the majority of their wealth is held in the form of **property**, **shares** in quoted companies on the stock market, **savings** in banks, building societies and money accumulating in **occupational pension schemes**.

Since 1987, the total value of household net worth (defined as the value of financial assets minus liabilities (debts)) has grown from £1600 bn to £4334 bn in 1999. Measured as a multiple of disposable income, the net worth of UK households has grown from 5.9 in 1987 to 7.0 last year.

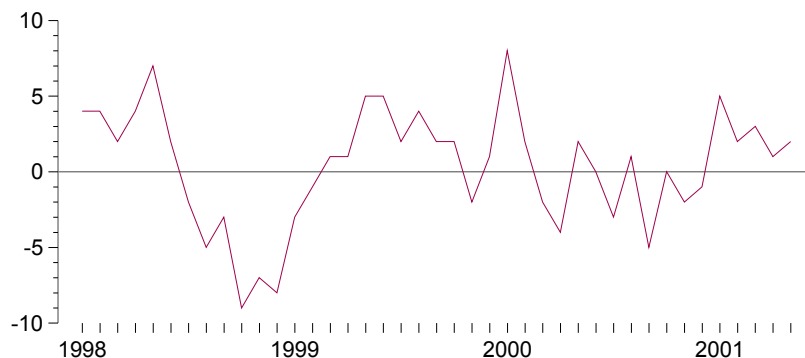
The late 1980s saw a remarkable (but short-lived) **housing boom** leading to an enormous increase in housing wealth. Many thousands of homeowners took advantage of the **capital gains** they had built up in their housing to borrow money to finance "big ticket" consumption. This was known as **equity withdrawal** and contributed heavily to the consumer boom in 1987-88. The housing market recession of the early 1990s provided a sharp downwards correction in housing wealth - but the rebound in house price inflation since 1997 has seen gross residential housing wealth head over £1750 bn (or 35% of total household assets).

Rising wealth from increased house prices and (until recently) a surging stock market has underpinned consumer demand over the last few years. The fall in the **personal sector savings ratio** is partly the result of an increase in consumer borrowing - some of it secured on the value of wealth and stimulated by the confidence that comes with rising wealth levels.

#### v) The Importance of Consumer Confidence

##### UK CONSUMER CONFIDENCE

Overall index of confidence



The willingness of people to make major spending commitments depends crucially on how confident they are about both their own financial circumstances, and also the general health of the economy.

Consumer confidence is quite volatile from month to month. Some of the fluctuations are seasonal - but the underlying trend is what really matters. Movements in the confidence index (such as

the one shown in the chart below) can be a useful **lead indicator** of changes in consumer spending.

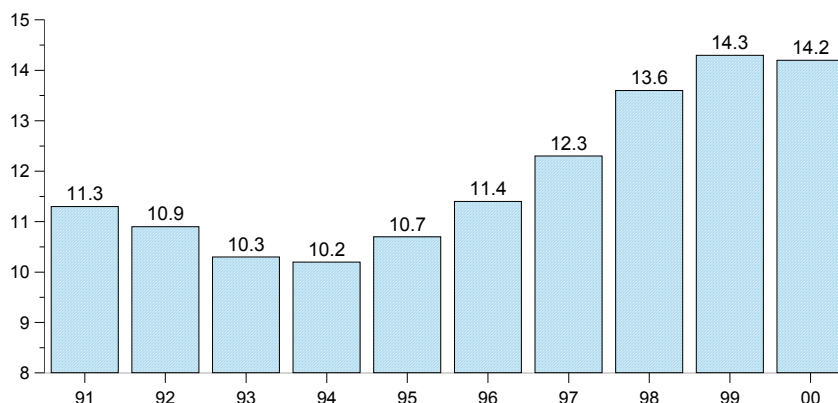
A rise in the index shows an improvement in confidence - a fall signifies a movement towards greater pessimism about people's expectations for their own finances and for the whole economy.

#### c) Capital Investment Spending

Fixed capital investment is spending on **capital machinery**, **buildings** and **technology** so that the economy can produce more consumer goods in the future. A broader definition of investment would also encompass spending on improving the **human capital** of the workforce - for example investment in training and education to improve the skills and competences of workers. Most economists agree that investment is vital to promoting the long run growth of the economy through improvements in **efficiency** and **productivity**.

## BUSINESS SECTOR INVESTMENT

% of GDP at constant prices



The chart above shows total business sector investment spending measured as a percentage of national output (GDP). Investment spending has been strong in the British economy in recent years - not least because economic growth has been sustained for nearly nine years, consumer spending has grown quickly and interest rates have been relatively low.

### i) Gross and Net Investment

Gross investment spending includes an estimate for **capital depreciation** since some investment is needed to replace obsolete and worn out plant and machinery. If **net investment** is positive, firms are expanding their **capital stock** giving them a higher **productive capacity**.

### ii) Economic Importance of Capital Investment

Firms invest to exploit potential **internal economies of scale**. This, together with **technological advances** that are built into new machinery, is vital in the long run to improving the UK's **international competitiveness**. It should be remembered that investment itself is a **component of AD**. Firms producing the capital goods benefit from increased orders. A rise in investment will therefore have important effects on both the demand and supply-side of the economy - including a positive **multiplier effect** on national income.

One way to remember the importance of investment is to consider the 3 Cs - **capacity**, **costs** and **competitiveness**. Higher investment should allow British businesses to lower their production costs per unit, increase their supply capacity and become more competitive in overseas markets.

### iii) Key Factors Determining Capital Investment Spending

Several factors influence how much UK businesses are prepared to commit to investment projects - among them we might consider:

**Real interest rates:** Interest rates affect the cost of borrowing money to finance investment. If the real rate of interest increases, the real cost of funding investment increases, reducing the expected rate of return on capital projects. A second factor is that higher interest rates raise the opportunity cost of using profits to finance investment.

**The rate of growth of demand:** Investment tends to be stronger when demand is rising, leading businesses to invest to expand capacity to meet this demand. Higher expected sales increase potential profits. The accelerator mechanism links investment to the rate of growth of consumer spending.

**Corporate taxation:** Corporation tax is paid on profits. If the government reduces the rate of corporation tax (or increases investment tax-allowances), then there is a greater incentive to invest. Britain has relatively low rates of company taxation compared to other countries inside the EU. This is one (of several factors) that

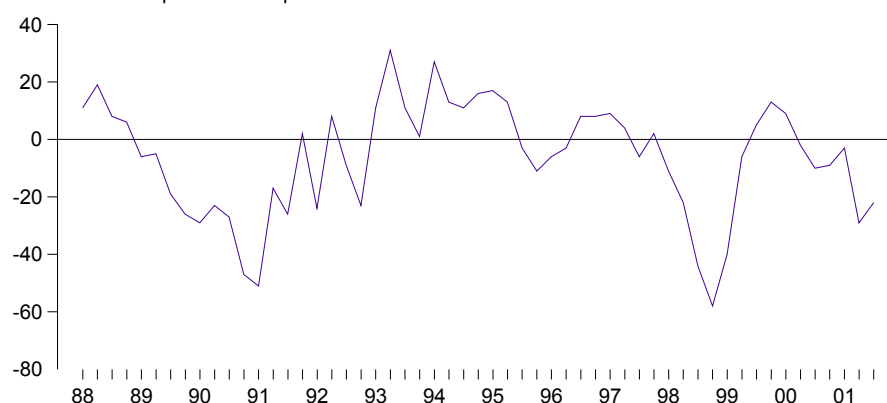
helps to explain why Britain has been such a favoured venue for inward investment during the last decade. [Foreign direct investment in the UK economy](#) reached record levels in 2000.

**Pace of technological change / degree of competition:** In markets where technological change is rapid, companies may have to commit themselves to higher levels of new investment in order to remain competitive. In highly competitive markets where there is a premium on a business keeping costs down but at the same time, achieving year on year gains in efficiency and quality of service, there is also an incentive to keep capital investment spending high.

**Business Confidence:** The overall state of business confidence or pessimism can be vital in determining whether to go ahead with a major investment project. When business confidence is strong (demand is expected to rise, the expected rate of return on capital is high), then planned investment will rise.

## CBI MANUFACTURING BUSINESS CONFIDENCE

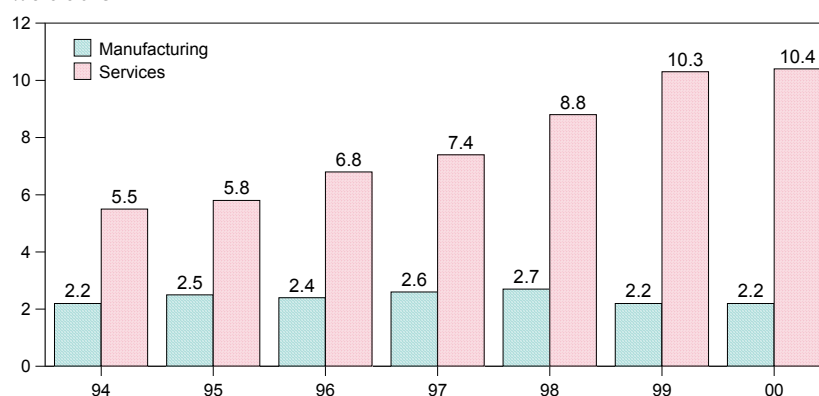
Net balance of optimists over pessimists



The [Confederation of British Industry](#) publishes a quarterly survey of confidence that gives economists an insight into likely trends in business investment in the industrial sector - although it must be remembered that over 70% of total GDP now comes from the service sector. In recent years, capital spending by service businesses has grown strongly - but manufacturing investment has weakened. Indeed capital spending collapsed by more than 15% in 1999 as manufacturing struggled to achieve any growth in output.

## MANUFACTURING AND SERVICE SECTOR INVESTMENT

% share of GDP

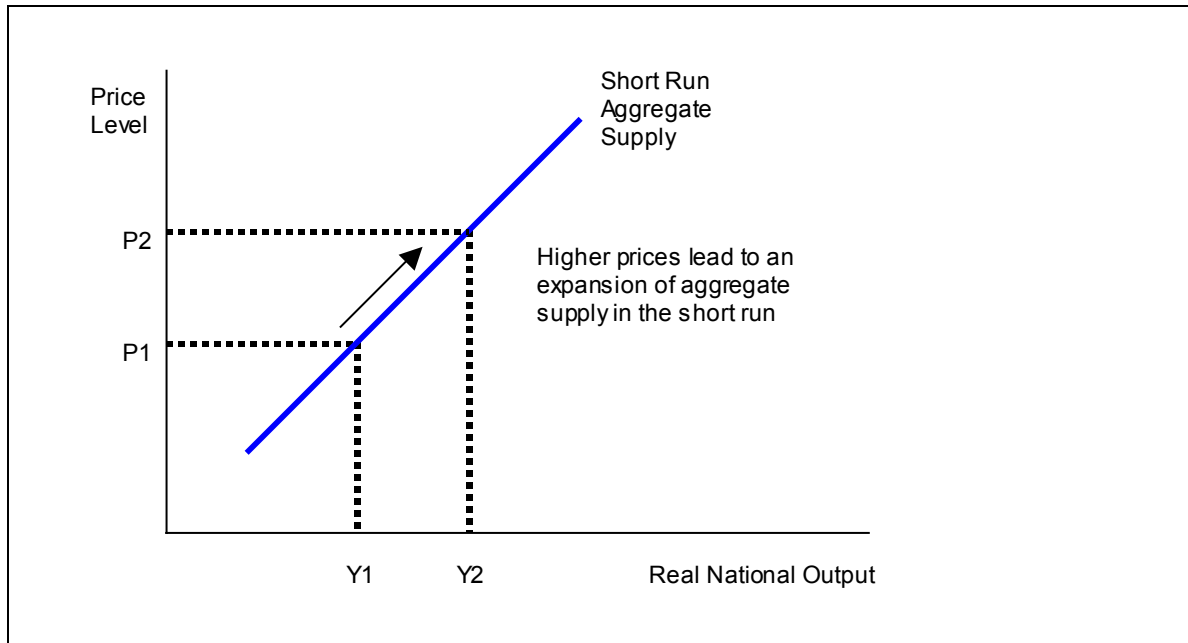


Investment demand depends critically on the general state of health of the economy. When growth is strong and when inflation is under control, then business investment invariably picks up (although there is often a time lag involved - it takes time for businesses to reach capacity constraints and give the go ahead for new projects. And the completion of new investment schemes inevitably is subject to the risk of delay). When the economy experiences a downturn, capital investment projects are often the first to be postponed or cancelled. Investment is one of the most volatile components of AD.



#### d) Aggregate Supply (AS)

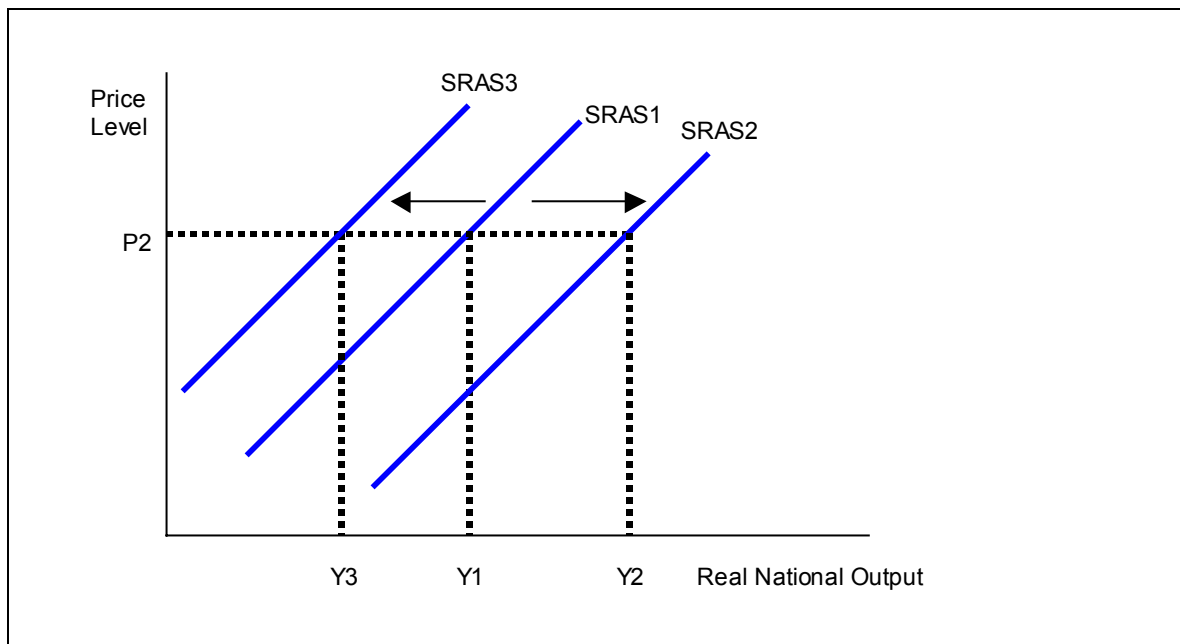
**Aggregate Supply (AS)** measures the **volume of goods and services produced** within the economy at a given overall price level. There is a positive relationship between AS and the general price level. Rising prices are a signal for businesses to expand production to meet a higher level of AD. An increase in demand should lead to an expansion of aggregate supply in the economy.



#### i) Shifts in the Aggregate Supply Curve

Shifts in the AS curve can be caused by the following factors:

- ☐ Changes in unit labour costs in the economy
- ☐ Changes to the costs of other factors of production (such as raw material costs and components)
- ☐ Changes to producer taxes and subsidies

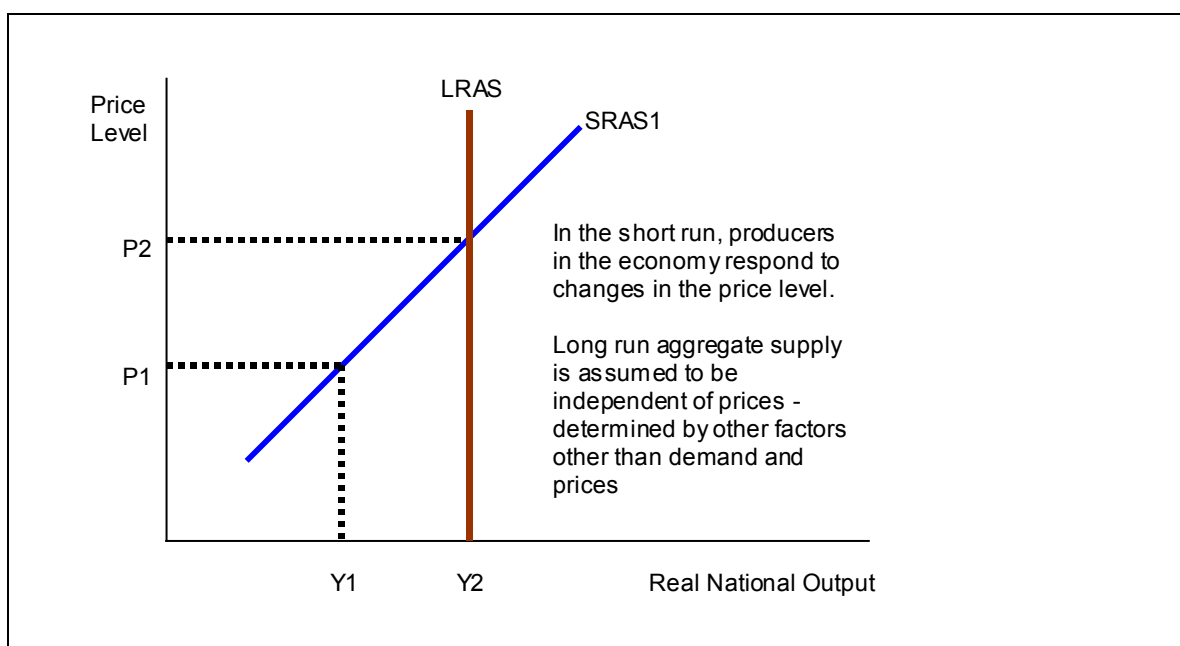


In the diagram above - the shift from SRAS1 to SRAS2 shows an increase in aggregate supply at each price level might have been caused by a fall in labour costs or a downward movement in raw material costs across a range of industries. Conversely higher production costs or an increase in indirect taxes placed on producers would cause an inward shift in the short run aggregate supply curve from SRAS1 to SRAS3. This leads to a lower level of national output at each price level.

#### e) Long Run Aggregate Supply

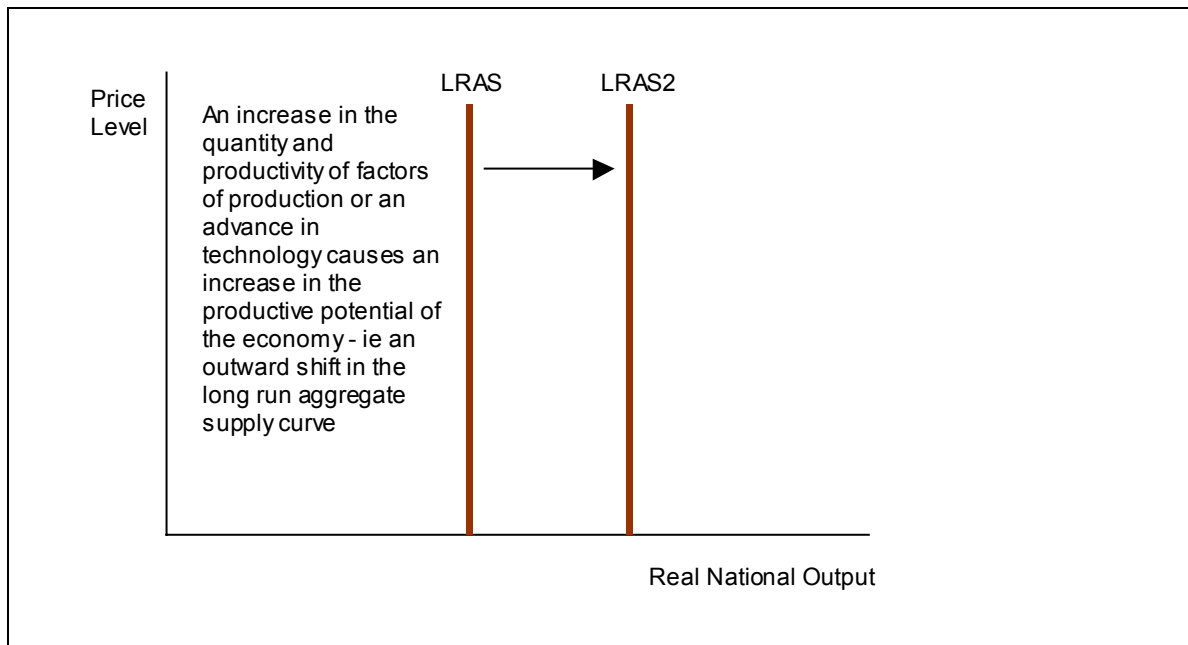
We need to make an important distinction between the short run aggregate supply available to meet demand in the economy and a nation's long run aggregate supply capability.

**Long run aggregate supply** is determined by the productive resources available to meet demand and also by the productivity of factor inputs (labour, land and capital). Changes in technology also affect the potential level of national output in the long run.



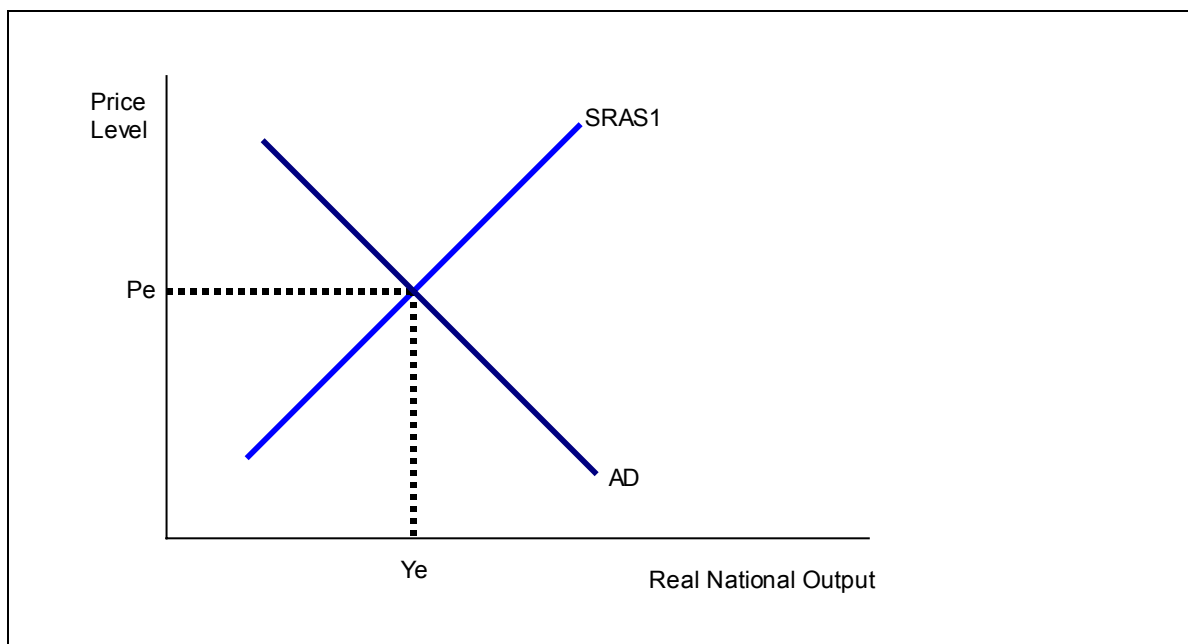
In the **long run** we assume that supply is independent of the price level - the productive potential of an economy (measured by LRAS) is driven by improvements in **productivity** and by an expansion of the **available factor inputs** (more firms, a bigger capital stock, an expanding active labour force etc). As a result we draw the **long run aggregate supply curve** as vertical. **Improvements in productivity** and efficiency cause the long-run aggregate supply curve to shift out over the years. This is shown in the diagram below

i) A Change in Long Run Aggregate Supply



f) Equilibrium Output for the Economy

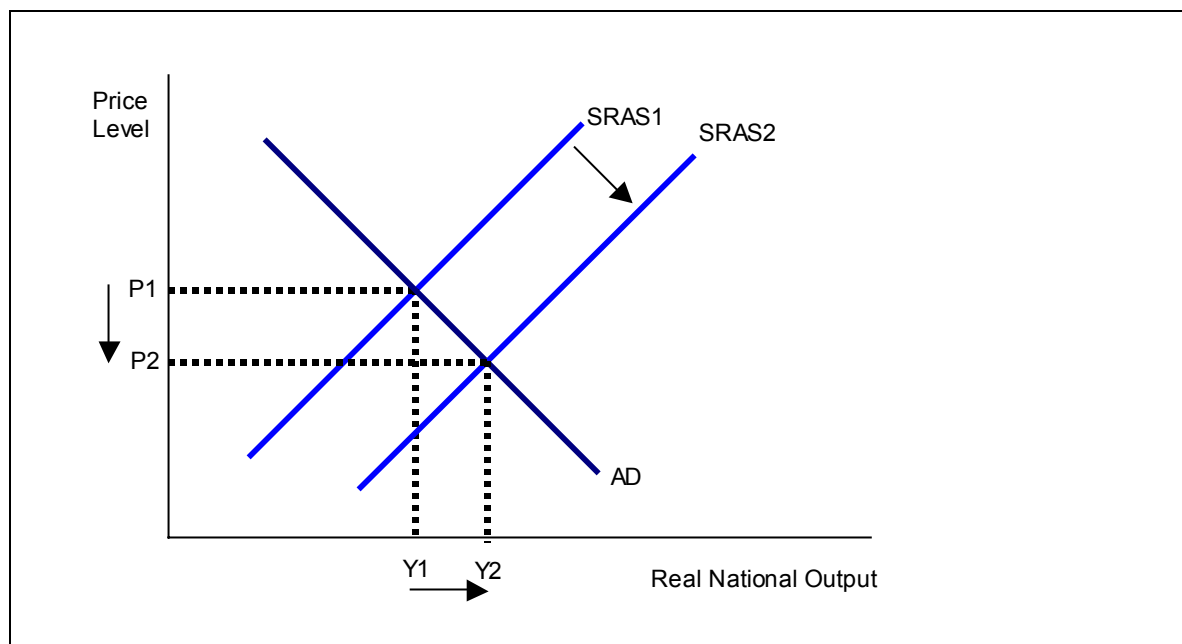
**Macro-economic equilibrium** in the short run is established when AD intersects with short-run aggregate supply. This is shown in the diagram below



At price level  $P_1$ , AD is equal to the aggregate supply of output. The output and the general price level in the economy will tend to adjust towards this equilibrium position. If the price level is too high, there will be an excess supply of output. If the price level is below equilibrium, there will be excess demand in the short run.

#### i) Impact of a change in aggregate supply

Suppose that increased efficiency and higher productivity together with lower raw material costs causes the short run aggregate supply curve to shift outwards. (Assume that there is no shift in AD). The diagram shows what is likely to happen. AS shifts outwards and a new macroeconomic equilibrium will be established. The price level has fallen and real national output (in equilibrium) has increased to  $Y_2$ .

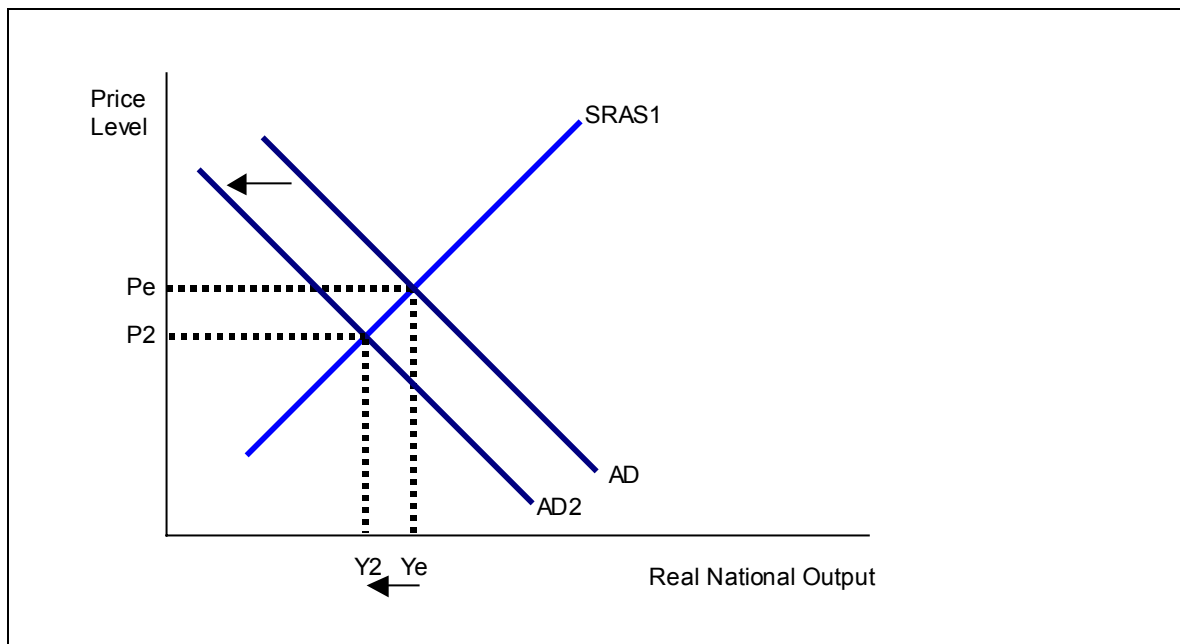


Aggregate supply would shift inwards following a rise in the unit costs of production in the economy. For example there might be a rise in costs perhaps caused by higher wages not compensated for by higher labour productivity.

**External economic shocks** might also cause the aggregate supply curve to shift inwards. For example a sharp rise in global commodity prices. If SRAS shifts to the left, assuming no change in the AD curve, we see a higher price level (this is known as [cost-push inflation](#)) and a lower level of real national output. During 2000, the world price of oil soared leading to a sharp rise not just in petrol prices for motorists but also the costs of oil-based raw materials used in many industries.

#### ii) Impact of a shift in aggregate demand

In the diagram below we see the effects on an inward shift in AD in the economy. This might be caused by a decline in business confidence (reducing planned investment demand) or a fall in exports following a global downturn. It might also be caused by a cut in government spending or a rise in interest rates

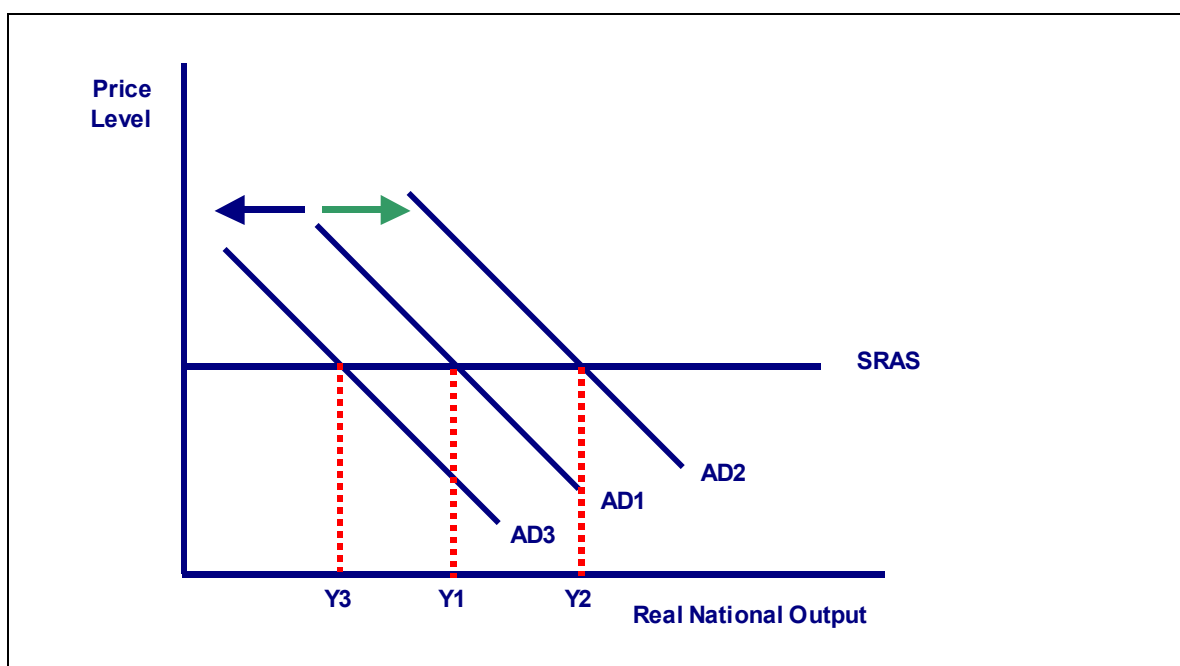


The result of the inward shift of AD is a contraction along the short run aggregate supply curve and a fall in the real level of national output (i.e. a recession). This causes downward pressure on the general price level.

If AD shifts outwards (perhaps due to increased business confidence, an upturn in another country, or higher levels of government spending), we expect to see both a rise in the price level and higher national output.

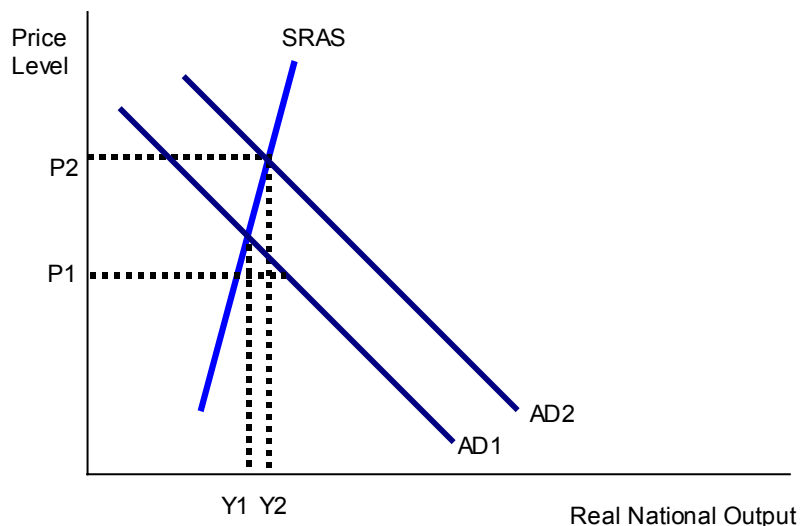
### iii) National Income Equilibrium when Aggregate Supply is Perfectly Elastic

When short run aggregate supply is perfectly elastic, any change in AD will feed straight through to a change in the equilibrium level of real national output. For example, when AD shifts out from AD1 to AD2 (shown in the diagram below) the economy is able to meet this increased demand by expanding output. The new equilibrium level of national income is Y2. Conversely when there is a fall in total demand for goods and services (AD1 shifts inwards to AD3) we see a fall in real output.



#### iv) National Income Equilibrium When Aggregate Supply is inelastic

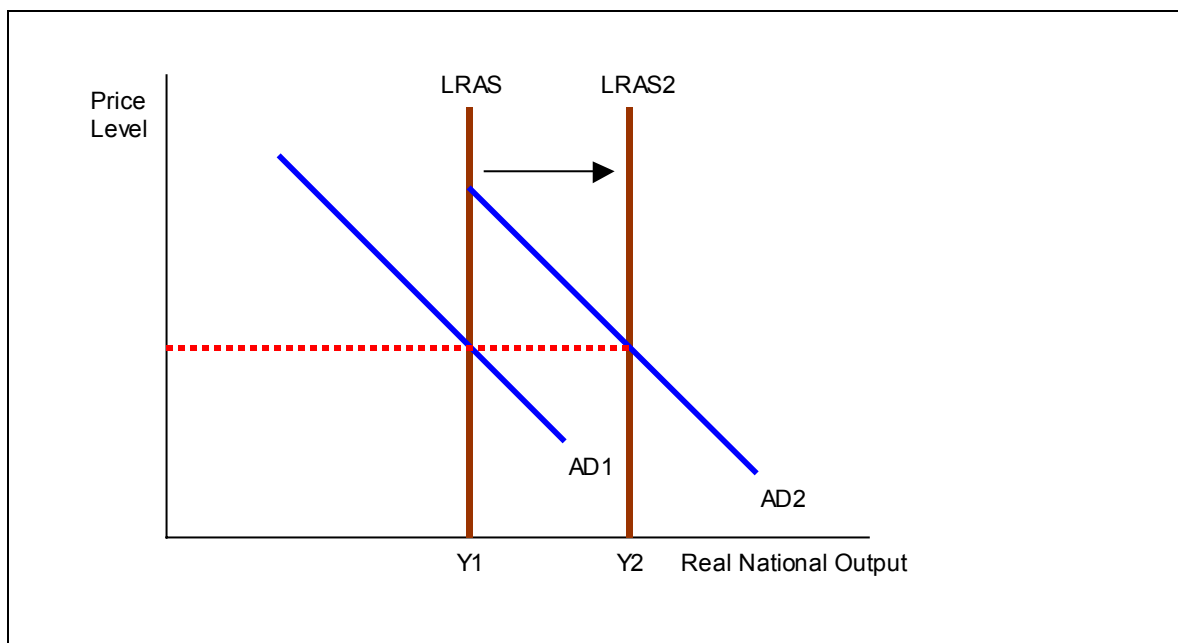
There may be occasions when in the short run, the economy cannot meet an increase in demand. This is more likely to occur when an economy reaches full-employment of factor resources. In this situation, the aggregate supply curve in the short run becomes increasingly inelastic. When AD rises, the economy finds it difficult to raise (expand) production. There is a small increase in real national output from  $Y_1$  to  $Y_2$ , but the main effect is to put upward pressure on the general price level. Shortages of resources will lead to a general rise in costs and prices. See the chapter on inflation and, in particular, the section on [demand-pull inflation](#)



#### v) Long Run Economic Growth

For an economy to experience sustained growth over the longer run it must shift out the **long run aggregate supply curve** by either increasing the supply of factors of production available (e.g. an increase in the labour supply, more land and more capital inputs); increasing the [productivity of those factors](#) or the economy might increase LRAS by achieving an improvement in the state of technology.

An outward shift in the LRAS is similar to an outward shift in the [production possibility frontier](#) that you considered in the early stages of your microeconomics course. The effects are shown in the diagram below. If LRAS shifts out the economy can operate at a higher level of AD and can achieve an increase in real national output without running into problems with inflation.



One of the main long-term economic objectives of the current Labour government is to raise the economy's productive potential and therefore provide a platform for faster economic growth in future years. For this to happen the economy needs to achieve a higher level of investment in new capital and new technology. And the quantity and productivity of the labour force also needs to increase over time.

### g) The Multiplier Effect

An initial change in AD can have a greater final impact on equilibrium national income. This is known as the **multiplier effect** and it comes about because injections of demand into the circular flow of income stimulate further rounds of spending.

### i) The Multiplier Process

Consider a £300 million increase in business investment. This will set off a chain reaction of increases in expenditures. Those who produce the capital goods that are ultimately purchased will experience an increase in their incomes. If they in turn, collectively spend about 3/5 of that additional income, then £180m will be added to the incomes of others. At this point, total income has grown by  $(£300m + (0.6 \times £300m))$ .

The sum will continue to increase as the producers of the additional goods and services realize an increase in their incomes, of which they in turn spend 60% on even more goods and services. The increase in total income will then be  $(£300m + (0.6 \times £300m) + (0.6 \times £180m))$ . The process can continue indefinitely. But each time, the additional rise in spending and income is a fraction of the previous addition to the circular flow.

### ii) The Multiplier and Keynesian Economics

The concept of the multiplier process became important in the 1930s when Keynes suggested it as a means to achieving full employment.<sup>42</sup> This demand-management approach, meant to help overcome a shortage of business capital investment, measured the amount of government spending needed to reach a level of national income that would prevent unemployment.

The higher the **propensity to consume**, the greater is the multiplier effect. The government can influence the size of the multiplier through changes in direct taxes. For example, a cut in the basic rate of income tax will increase the amount of extra income that can be spent on further goods and services.

Another factor affecting the size of the multiplier effect is the **propensity to purchase imports**. If, out of extra income, people spend money on imports, this demand is not passed on in the form of extra spending on domestically produced output. The multiplier process also requires sufficient **spare capacity** in the economy for extra output to be produced. If aggregate supply is inelastic, the full multiplier effect is unlikely to occur, because increases in AD will lead to higher prices rather than a full increase in real national output.

#### **h) The Accelerator Effect**

Planned capital investment by private sector business spending is linked to the growth of demand for goods and services. When demand is rising strongly, businesses may increase investment to expand their production capacity and meet the extra demand. This process is known as the accelerator effect. But a slowdown in demand creates excess capacity and may lead to a fall in planned investment demand.



## 17) SUPPLY SIDE ECONOMIC POLICIES

### a) What are Supply Side Economic Policies?

Supply-side economic policies are mainly micro-economic measures designed to

- ☐ Improve incentives for people to search for and accept work
- ☐ Increase the productivity of labour
- ☐ Increase the mobility of labour to reduce certain types of unemployment
- ☐ Increase the level of capital investment and research and development spending by firms
- ☐ Increase business efficiency by promoting greater competition within markets

### b) Supply Side Policies for Product Markets

Supply-side policies in the product market are designed to increase **competition**, and so **efficiency**. If the **productivity** of an industry improves, then it will be able to produce more with a given amount of resources, shifting the LRAS curve to the right. All of the following policies are, in some way or another, trying to increase the level of competition in product markets.

#### i) Privatisation.

Privatisation was the major supply side policy on the product market side during the 1980s and 1990s. It became one of the hallmarks of economic policy under Mrs Thatcher and John Major. The privatisation of various state-run industries (telecommunications, electricity, water, steel, gas, rail) was designed to break up state monopolies and create more competition. Many privatisations simply turned public sector monopolies into private sector monopolies, but there have been efforts to introduce competition into these industries.

The government also created **utility regulators** who have imposed strict price controls on many of these industries and who are now over-seeing the move towards competitive markets in areas such as gas and electricity supply and telecommunications. The web sites of the main utility regulators are shown in the table.

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[Office of Gas and Electricity Markets](#)

[Office of Telecommunications](#)

[Office of the Rail Regulator](#)

[Office of Water Services](#)

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#### ii) Deregulation

This is closely linked to privatisation. De-regulation means the **opening up of markets** to greater competition. The aim of this is to **increase market supply** (driving prices down) and **widen the choice** available to consumers. The discipline of increased competition should also lead to greater **cost efficiency** from producers - who are keen to hold onto their existing market share. Good examples of deregulation to use include: Urban bus transport, parcel deli services, mortgage lending, telecommunications, and gas and electricity supply.

#### iii) Commitment to free trade

The UK has signed up to trade agreements brokered by the **World Trade Organization**. Trade creates competition and should be a catalyst for improvements in cost and lower prices for consumers. The UK is also a full-paid up member of the **European Single Market** - promoting free trade and free movement of goods, services, labour and capital throughout the fifteen member nations of the EU.

#### iv) Measures to encourage small business start-ups

Small businesses are the lifeblood of the economy. According to the DTI, there were 3.7 million active businesses in the UK in 1999. The business stock is 1.3 million higher than in 1980. Most of the growth in the

business population between 1998 and 1999 has been in the 1-4 employee category. Nearly three-quarters of the increase in employment between 1995 and 1999 came from small and medium-sized firms, according to research published by the Small Business Service. A range of government policy initiatives have been launched designed to stimulate new businesses.

- ☐ Business start-up grants and Loan guarantee schemes
- ☐ Lower rates of corporation tax for smaller businesses
- ☐ Investment allowances and regional policy assistance for new business start-ups in some areas

#### v) Measures to increase corporate investment spending

[Capital investment spending](#) is unusual in that it adds to AD ( $C+I+G+(X-M)$ ) but also has an important effect on aggregate supply in the long run.

### c) Supply Side Policies for the Labour Market

The following policies are all designed to improve the quality and quantity of the supply of labour available to the economy. An expansion in the UK's total labour supply increases the **productive potential of an economy**. Increased quality will improve the productivity (efficiency) of labour.

#### i) Trade Union Reforms

Some of the legal protections enjoyed by the trade unions have been taken away - including restrictions on their ability to take industrial action and enter into restrictive practices agreements with employers. The result has been an increase in the **flexibility of the labour market**, a decrease in strike action in virtually every industry and a significant improvement in industrial relations in the UK.

#### ii) Increased Spending on Education and Training

Economists disagree about the scale of the **economic and social returns** from higher spending on education - but few deny that "investment in education" has the potential to raise the skills within the work force and improve the employment prospects of thousands of unemployed workers. The economic returns from extra education spending can vary according to the stage of economic development that a country has achieved. In 1999, research from the [London School of Economics](#) found that putting more money into education has a direct impact on improving economic performance. The report from the university's [Centre for Economic Performance](#) suggested that developing countries which increase education spending and achieve a higher-qualified workforce can expect "handsome dividends: for workers, firms and the state"

Government spending on education and training improves workers' **human capital**. Economies that have invested heavily in education are those that are well set for the future. Most economists agree, with the move away from industries that required manual skills to those that need mental skills, that investment in education, and the retraining of previously manual workers, is absolutely vital. It should also be noted that improved training, especially for those who lose their job in an old industry should improve the **occupational mobility of workers in the economy**. This should help reduce the problem of **structural unemployment**.

A well-educated workforce acts as a magnet for **foreign investment** in the economy. The Irish economy is a great example of how supply side reforms designed to increase the qualifications and skills of the labour force, together with favourable tax rates for companies and workers - has encouraged a huge flow of inward investment from overseas (in particular from the United States).

The Chancellor of the Exchequer Gordon Brown announced in his July 2000 Comprehensive Spending Review that the education budget over the next four years would increase by an annual average of 6.6%. This will lead to an increasing share of British national income taken up by education spending.

#### iii) Income Tax and the Incentive to Work

Income tax is paid directly from earned income. Economists who support supply-side policies believe that lower rates of tax provide a short-term boost to demand, and they also improve **incentives** for people to work longer hours or take a new job - because they get to keep a higher percentage of the money they earn.

In the 1980s the Conservative government cut income tax rates across the board - but the greatest tax reductions were handed out to higher income groups. The highest **marginal rate of tax** was reduced from 80% in 1979 to 60% by 1987 and then 40% in 1988. The top rate of tax has remained at this level since then.

The **basic rate of tax** has come down more gradually from 33% in 1979 to 22% today. Attention has focused in recent years on lower income households. In the mid 1990s, a lower starting rate of tax of 10% was introduced and the band of income on which this is paid has been widened in recent Budgets. Cutting tax rates for lower paid workers may help to reduce the extent of the **unemployment trap** - where people calculate that they may be no better off from working than if they stay outside the employed labour force.

Do lower taxes really help to increase the active labour supply in the economy? It seems obvious that lower taxes should boost the incentive to work because tax cuts increase the reward from a job. But some people may choose to work the same number of hours and simply take a rise in their post-tax income! Millions of other workers have little choice over the hours that they work.

#### iv) Reform of the Benefits System

Lower taxes and benefit reforms are seen to go hand in hand in a bid to sharpen the incentives to take paid work. In recent years the government has altered the benefit system in several ways:


- ☐ A reduction in the value of unemployment benefits compared with average earning
- ☐ The introduction of the Working Families Tax Credit (WFTC) - a tax credit that is paid through the weekly wage packet to families on low incomes with at least one person in employment
- ☐ More stringent tests of eligibility for benefits (including evidence of an active search for work for those people wanting to claim the Jobseekers' Allowance)

#### v) The National Minimum Wage

The introduction of a [national minimum wage](#) seeks to boost the incentive for people to actively search for work. Over 2 million people in traditionally low paid jobs have seen their pay levels affected directly since the minimum wage was launched.

#### vi) Welfare to Work

Welfare to Work is the current Labour government's flagship programme for getting people off state benefits and into work. This includes the **New Deal** scheme targeted at reducing long-term unemployed.



#### d) The Importance of Productivity for the Economy

When economists and government ministers talk about **productivity** they are referring to how productive labour is. To become more productive is to produce more output from the same number of worker hours. But productivity is also about other inputs into production. So, for example, a company could increase productivity by investing in capital machinery which embodies the latest technological progress, and which reduces the number of workers required to produce the same amount of output.<sup>43</sup>

The government's objective is to improve labour and capital productivity in the British economy.

Consider this statement from Gordon Brown in his November 2000 Commons Statement:

*The Government's Target - Higher productivity to sustain economic growth*

*The Government's central objective is to achieve high and stable levels of growth and employment. Even small increases in the rate of growth can have large positive effects on total output if they are sustained over a period of years. Increasing trend growth in the UK will enable sustainable increases in income per head and is therefore central to raising the prosperity of the country.*

*Pre-Budget Statement, November 2000*

#### i) Measuring Productivity

**Labour Productivity** can be measured by calculating output per worker or output per hour worked.

The table below shows an index of real Gross Domestic Product (i.e. national output adjusted for the effects of inflation) together with two indicators of productivity - GDP per worker employed and output per worker in manufacturing industry. A rise in the index shows an improvement in productivity.

National Output and Productivity			
Seasonally adjusted, 1995=100	Real GDP	GDP Per worker	Manufacturing Productivity
1996	102.5	101.5	99.1
1997	105.9	103.0	99.9
1998	109.1	104.4	99.8
1999	111.5	105.9	103.3
2000	115.0	108.4	107.2

Source: National Institute Economic Review, October 2000, Office for National Statistics

#### ii) The Advantages of Higher Productivity

Higher labour and capital productivity can provide the economy with a number of advantages over time.

**Lower average costs:** Improvements in labour and capital productivity allow businesses to produce output at a lower average cost. These cost savings might be passed onto consumers in the form of lower prices, encouraging an expansion of demand, higher output and possibly an increase in employment.

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<sup>43</sup> Progress Towards a More Productive Economy: [www.hm-treasury.gov.uk/budget2001/associated/productivity.html](http://www.hm-treasury.gov.uk/budget2001/associated/productivity.html)

**Improved competitiveness in international markets:** Productivity growth and lower unit costs are key determinants of the international competitiveness of British firms in domestic and overseas markets. From improved productivity, businesses can develop (or protect) a **competitive advantage** in markets where there is intense price and non-price competition from overseas suppliers.

**Higher profits:** Efficiency gains resulting in rising productivity are a source of larger profits for companies. These profits might be re-invested through higher capital investment or research and development.

**Higher real wages:** In the long run there is a positive relationship between improvements in labour productivity and the real wages paid to labour as a factor of production. Millions of employees in the modern labour market have some element of performance-related pay in their overall earnings package.

**Long Run Economic Growth:** It is clear that the capacity of the economy to produce goods and services depends on the stock of factor resources available (i.e. the active labour supply, the stock of capital inputs and natural resources) plus the productivity of those factors. The Treasury recently published a study of the determinants of long-run growth for the UK. The trend growth for real GDP of 2.5% per year is based on an assumption of 2% year on year improvements in productivity. (The remainder of the growth comes from increasing levels of employment)

If the British economy can raise the rate of growth of productivity then the sustainable growth of national output can also pick up. This has implications for living standards, unemployment and tax revenues and government spending

### iii) The Productivity Gap

To what extent does productivity in the UK lag behind that of our leading competitors in the global economy?

A government report published in November 2000 highlighted the relatively slow growth of UK labour productivity compared with major trading nations such as France, Germany and the United States.

Mary O'Mahony from the National Institute of Economic and Social Research (NIESR) also found evidence of this in her detailed study into UK productivity trends. The NIESR report found that trend productivity growth in the UK was falling behind that of France and Germany leaving the economy with an absolute productivity gap. McKinsey, the US Management Consultants also found evidence of a productivity gap between Britain and the rest of the world in [their 1999 research report](#).

### iv) Factors Behind the Productivity Gap

No one factor on its own is sufficient to explain the differences in efficiency. Some of the more widely quoted reasons are summarised below:

**Relatively low rates of capital investment** - the government believes that the productivity gap is partly the result of a long-term investment gap, i.e. the failure of the British economy to invest a sufficient share of national income in capital accumulation - to raise the stock of physical capital available to the workforce. Although private sector business investment has grown rapidly in the last few years (much of it linked to investment in information, communication and technology) there is still a shortfall to make up to raise capital intensity to levels in the United States and leading countries in Western Europe.

**Low rates of spending on research and development** - The percentage of GDP allocated to R&D spending has been on a downward trend for some years. The UK now devotes much less of GDP to research spending and this inevitably impacts on the pace of innovation and the speed with which technological developments are incorporated into production processes.

**Skills of the labour force** - another long-run focus is on the educational skills of the labour force (i.e. the quality of human capital) including basic literacy and the quality of job specific training. Although governments of both political persuasions have made numerous attempts to reform the education system over the last two decades, and pumped increasing sums of money into improved vocational and academic education, Britain still has one of the highest rates of functional illiteracy among adults, together with fewer workers with higher skills (at degree level or above) compared to the United States and fewer workers with intermediate and vocational skills compared to Germany and Japan.

**Breadth of the product ranges produced by British businesses** - some analysts believe British businesses produce too wide a range of products for sale in domestic and overseas markets. This limits the economies of scale that comes from intensive large-scale production of a smaller spread of products.

**Over-regulation of industry and commerce and a lack of competition** - the 1999 McKinsey Report highlighted a lack of competitive pressures in some industries (notably retailing) as a source of inefficiency and low productivity growth. Their analysis called on the government to stiffen the competition policy regime and take further steps to make markets more contestable. Opening up markets to the discipline of competition was seen by the McKinsey study as a necessary supply-side economic strategy to bring new businesses into markets and weed out inefficiencies.

#### v) Productivity in the UK Car Industry

A good example of the differences in productivity between the UK and our European competitors is shown by the annual assessment of productivity in the automotive industry.

*Nissan and Toyota's British car factories were the most efficient in Europe in 2000, followed by plants run by Ford and General Motors in Germany, according to the [World Markets Research Centre's \(WMRC\) annual European Automotive Productivity Index](#). Honda's British operation at Swindon, often seen as a efficiency trail-blazer, slumped from second place in the 1999 index to 26. In 2000, productivity slumped to 55 cars per employee compared with 83 in 1999.*

*Nissan, at its Sunderland factory in the North-East of England, was way out ahead in the productivity race with a 7% increase in 2000 to a rate of 101 cars built per employee. Nissan made 327,701 Micras, Almeras and Primeras last year.*

Clearly one of the issues flagged up by this report is that Britain has some of the most productively efficiency car plants in the EU - but also some of the worst. This two-speed car industry suggests that there are structural reasons behind productivity differences.

Those industries with the **most up-to-date capital machinery**, together with **advanced managerial skills** and **highly qualified and well-trained workforces** tend to achieve much higher levels of productivity.

The availability of large-scale **green-field, full-integrated production plants** and **good industrial relations** are also at the heart of achieving year on year improvements in output per person employed.

## 18) ECONOMIC GROWTH

### a) What is Economic Growth

**Economic Growth** is an increase in the **real level of national output** - measured by the **annual percentage change in real GDP**. It is also defined as a long-term expansion of the **productive potential** of the economy. Sustained growth should lead higher **real living standards** and **rising employment**.

### b) Advantages of Economic Growth

Sustained economic growth is a key objective of government economic policy - not least because of the benefits that flow from a growing economy.

**Employment:** Growth stimulates higher employment. The British economy has been growing since autumn 1992 and we have seen a [large fall in unemployment](#) and a rise in the number of people employed.

**Fiscal Dividend:** Growth has a positive effect on Government finances - boosting tax revenues and providing the government with a growing sum of money available to finance spending projects. In his March 2001 Budget, Gordon Brown was able to forecast a huge [budget surplus](#) for the 2000-2001 financial year, because of the high level of tax revenues the Treasury has received from a growing economy.

Brown has announced significant increases in government spending on health, education and transport - three of the government's priority areas - largely funded from the increased tax revenues that growth generates. But this hike in spending is based on a forecast that the economy will continue to grow and generate the tax revenues required to finance it.

**Accelerator Effect:** Rising demand and output encourages further investment in new capital machinery - this new investment helps to sustain the growth in the economy by increasing long run aggregate supply.

**Business Confidence:** Economic growth normally has a positive impact on company profits & business confidence - good news for the stock market and also for the growth of small and large businesses alike

Improves living standards for people in work who are enjoying increases in their real incomes

### c) Disadvantages of Economic Growth

**Inflation risk:** If the economy grows too quickly there is the **danger of inflation** as demand races ahead of the ability of the economy to supply goods and services. Producer then take advantage of this by raising prices for consumers. [See the revision section on inflation](#).

**Environmental concerns:** Fast growth can create [negative externalities](#) (increased pollution and congestion) which damages overall social welfare. Growth that damages the environment can have a negative effect on the quality of life and the sustainable rate of growth for an economy. Many of the world's most valuable finite resources are being extracted at increasingly rapid rates - but this questions the whole long-term sustainability of growth. Renewable resources are also being depleted because of over consumption. Examples include the destruction of rain forests, the over-exploitation of fish stocks and loss of natural habitat created through the construction of new roads, hotels, retail malls and industrial estates.

The conventional national income accounts have not, until recently, made any adjustment for the environmental impact of economic growth. Critics argue that because of this omission, the national income statistics misrepresent the rate of economic growth and improvement in social welfare. For example, no explicit allowance made for **environmental depletion** or money spent on correcting environmental damage that is actually recorded as an addition to GDP (defensive spending). GDP only records marketed transactions - there is no market for many **environmental resources** and it is also difficult to place monetary values on them.

Some economists believe that an over-reliance on economic growth through the damage inflicted on our eco-structure, threatens the whole future of the global economy. Others believe that economic growth itself provides a gateway through which environmental improvements can be developed and financed.

**Inequalities of income and wealth:** Not all of the benefits of economic growth are evenly distributed. We can see a rise in national output but also [growing income and wealth inequality](#) in society. There will also be



regional differences in the distribution of rising income and spending. Although average living standards may be rising, the gap between rich and poor can widen (as it has in the UK over the last twenty years) leading to an increase in relative poverty.

**Imbalanced growth:** Economic growth is rarely balanced between **regions** and across **industries**. For example, between 1992-2001, Britain has enjoyed 36 successive quarters of growth since the trough reached in the second half of 1992, since when GDP has expanded by 28.9 percent. Over the period services output has grown 37.4%, while industrial production has risen a more modest 14.6%.

#### d) Long Run Economic Growth

Long-term economic growth comes from increasing the **quantity** and **quality** of the **factors of production**.

Some countries grow because of rich natural **resources of land**. Saudi Arabia has exploited its oil reserves. The UK, too, is rich in natural resources. North Sea oil contributed up to 2-3% a year in the 1980s to national income although this declined in the 1990s. Exploitation of natural resources is one pathway to economic growth although much depends on the **market value** of these **finite resources**.

**Labour is an important source of growth.** An increasing population can boost growth, but that may not mean that income per head is growing. The main sources of growth per head of the population are from **increasing the quality of the workforce**, through **better education, training and experience**. Increasing the stock of capital and making more efficient use of it is another source of growth. Equipping workers with better machines is likely to make those workers more productive - each worker will be able to produce more in the same time.

#### e) Economic Growth and the Production Possibility Frontier

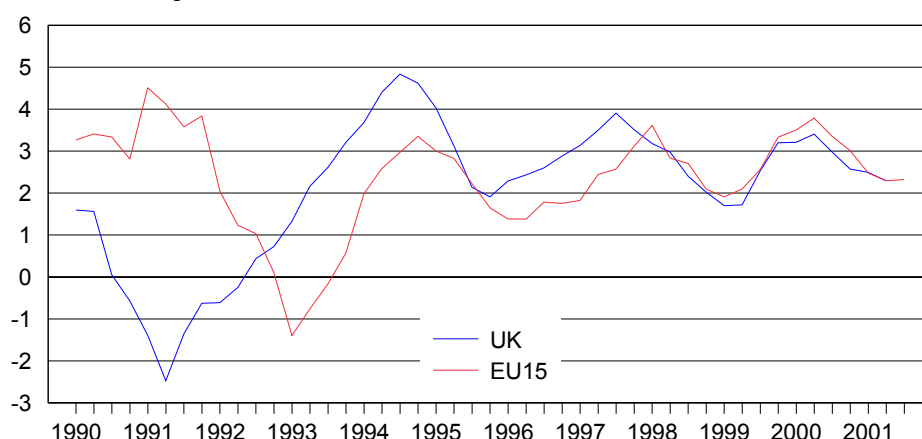
An increase in **productive potential** is shown by the outward shift in the PPF. Refer back to Chapter One on the [PPF](#) and how it might shift outwards over time. **Innovation** is vital for an economy to increase its potential output. Improvements in production processes can lead to higher output from existing resources.

#### f) Why do some countries grow faster than others?

In the short term, growth reflects where a country is in its **economic cycle**. The cycles of individual countries are rarely totally aligned with each other. Consider the growth record of Britain countries inside the EU.

### EUROPEAN UNION AND UK ECONOMIC GROWTH

Annual % Change in Real GDP



The European economy was still growing whilst Britain was experiencing the pain of a deep and prolonged recession in 1990-92. But as the UK climbed into a reco phase, the EU was heading into recession territory in 1993. Fortunately for British exporters, the low value of sterling meant that the European recession didn't do too much damage to our overseas sales. Since the mid-1990s the economic growth cycles of the UK and the average of the 15 member nations of the EU has come more closely into line.

Other factors that help to account for differences in growth include:



- ❑ The endowment and exploitation of natural economic resources differs between countries
- ❑ Fast growing countries achieve rapid improvements in labour productivity. Other countries find it difficult to improve their productivity performance
- ❑ There are large differences in levels of investment in machinery, technology and buildings between countries - high investment is a major source of increased efficiency and growth

A similar picture of divergences in economic cycles is shown in the chart below. This tracks the annual rates of growth for the UK, the United States, Japan and the eleven (now 12) member nations of the Euro Zone. During the late 1990s, the United States (already the largest in the global economy) experienced fast growth - even by its own historical standards. Indeed in 2000, real GDP in the USA expanded by an astonishing 5%.

Japan, in contrast, suffered a sharp recession in 1998 and has subsequently struggled to recover. Its long-term trend growth rate is closer to 3 or 4% per year. So an annual growth barely rising above 1.5% is, in effect, a persistent recession for Japan. The gap between her actual and potential GDP continues to widen each year. The US economy has slowed sharply in the first half of 2001 - although not yet sufficiently to experience a full-blown recession.

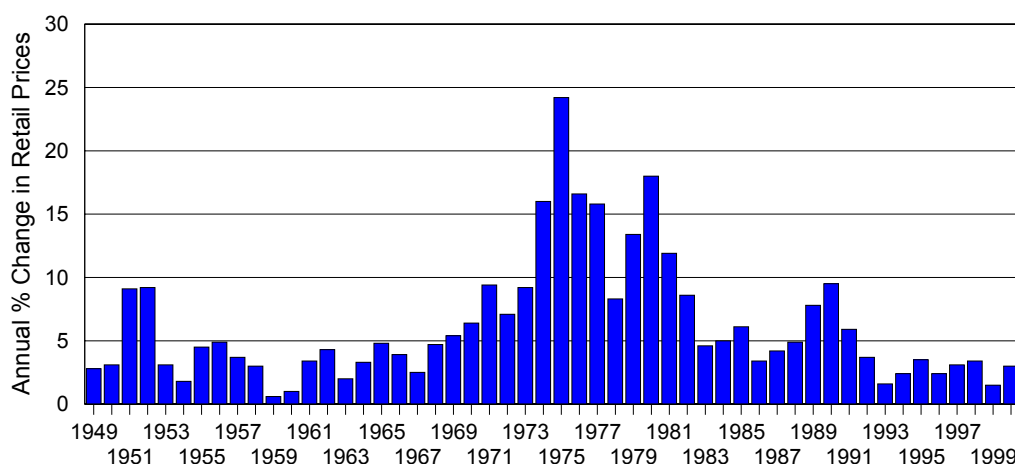
## 19) INFLATION

### a) What is Inflation?

Inflation is the **annual rate of change of the general price level**, or a sustained increase in the average price level. We focus here on the overall level of prices throughout the economy, rather than prices in one particular market. It is quite possible for prices to be falling in audio-visual equipment or textiles, but for there to be general price inflation across a wide range of goods and services.<sup>44</sup>

### b) Measuring Inflation - the Retail Price Index

#### 50 YEARS OF RETAIL PRICE INFLATION IN THE UK



The **Retail Price Index (RPI)** is the main domestic measure of inflation in the UK. It measures the average change from month to month in the prices of goods and services purchased by most households in the UK. The **spending pattern** on which the index is **weighted** is revised each year, mainly using information from the Family Expenditure Survey. The expenditure of certain higher income households, and of pensioner households mainly dependent on state pensions, is excluded. When spending patterns change, the weightings used in calculating the retail price index are altered. The index is compiled using a representative selection of more than 600 separate goods and services for which price movements are regularly measured in 146 areas throughout the UK. Some 130,000 separate price quotations are used each month in compiling the index, which is published each month.

#### i) Headline Inflation

The **headline rate** - all items in the retail price index are counted in this measure of inflation

#### ii) Underlying Inflation (RPIX)

The **underlying rate**, which excludes mortgage interest costs, the one favoured by the Treasury - this is the rate that is the subject of the inflation target. A purer version of the underlying rate is known as the **core inflation rate**. This measure excludes not only mortgage costs but also taxation (known as RPIY),

<sup>44</sup> Incomes Data Services provides updated information on UK inflation trends at [www.incomesdata.co.uk](http://www.incomesdata.co.uk)

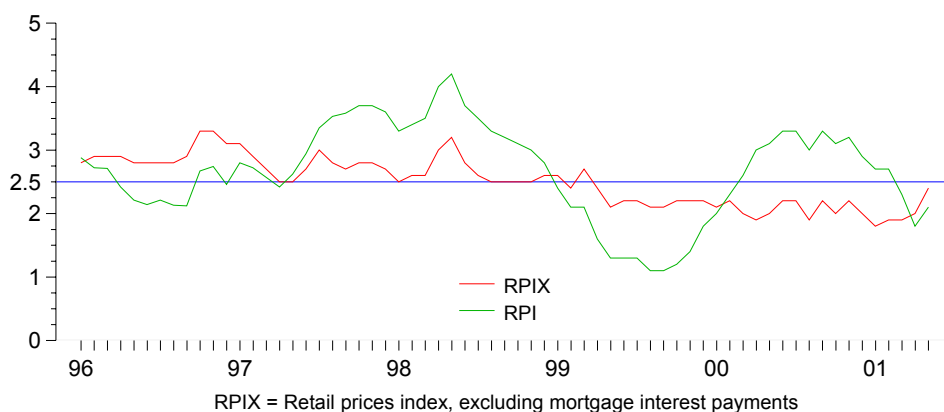
### c) The Inflation Target

The Government's target for inflation is 2.5% (plus or minus 1%). It is the job of the **Bank of England** to set interest rates so that AD is controlled and the inflation target is reached. The chart below shows the rate of inflation in the UK over recent years. Since the Bank of England was made independent inflation has stayed within target range - the economy has enjoyed a sustained period of low inflation.

It takes time for changes in interest rates to affect AD and then a further delay before changes in demand for

#### UNDERLYING AND HEADLINE INFLATION

Percentage increase in price on a year earlier



goods and services impact on economic growth and the rate of inflation. Therefore interest rates decisions taken today are made with the aim of keeping inflation under control over the next two years. This is called a **"forward-looking" monetary policy** and seems to have worked well in recent years. Underlying inflation has stayed close to the target rate since May 1997.

(All figures are annual percentage change)	1998	1999	2000
<b>The Retail Price Index</b>			
Retail Price Inflation (All items RPI)	3.4	1.6	2.9
Underlying Inflation (RPIX) Excluding mortgages	2.7	2.3	2.1
Harmonised Index of Consumer Prices (HICP)	1.5	1.3	0.8
<b>Components of Retail Price Inflation</b>			
Goods Price Inflation	1.7	0.8	0.3
Services Price Inflation	3.2	3.5	3.5
Petrol Price Inflation	4.3	8.5	14.1
Producer (Output Prices)	0.5	1.2	2.6
Unit Labour Costs (ULCs)	3.3	3.0	1.9

### d) The Price Level and the Value of Money

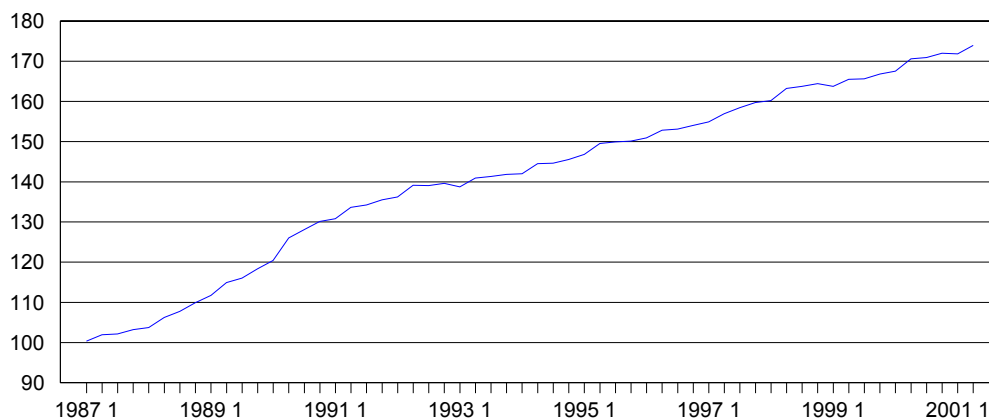
There is an inverse relationship between the price level and the internal purchasing power of money. For example 100 pence in 1914 is now worth just 2 pence in terms of the amount of goods and services that money can buy. 100 pence in 1970 is now worth only 11 pence at today's prices.

The faster the rate of inflation in an economy, the quicker the real purchasing power of money falls. This is why high rates of inflation are bad news for savers and for those people whose money incomes fail to keep pace with inflation.

The chart above tracks the all-items retail price index for Britain since 1987 (the base year for the index).

## THE RETAIL PRICE INDEX

Index of Retail Prices 1987 = 100



Over the period shown, prices have increased (on average) by 74%. The RPI increased by 40% between 1987 and 1993. Since then the economy has enjoyed a period of **relatively low inflation** compared with our recent economic history. The price level has continued to rise, but more slowly. Money has held its value better in the second half of the 1990s in contrast to the first half of the last decade.

### e) Recent Trends in International Inflation

Inflation vary to a great extent across the world - the table below shows the average rate of consumer price inflation for selected countries between 1980-1999 (the data is taken from the economics research team at JP Morgan). Britain experienced high and volatile inflation in the 1970s and 1980s but the last decade has seen a return to low, stable rates of price inflation - similar to our experiences in the 1950s and 1960s. The costs of inflation depend in part on how fast prices are rising in Britain relative to other countries.

Country	Average Rate of Consumer Price Inflation (%)
Japan	1.9
Germany	2.7
United States	4.3
UK	5.6
South Africa	12
Poland	70
Argentina	449
Brazil	554

### f) Hyperinflation

**Hyperinflation** is extremely rare. Recent examples include [Argentina](#), [Brazil](#), [Georgia](#) and [Turkey](#) (where inflation reached 70% in 1999). The classic example of hyperinflation was of course the [rampant inflation in Weimar Germany between 1921 and 1923](#). When hyperinflation occurs, the value of money becomes worthless and people lose all confidence in money both as a **store of value** and also as a **medium of exchange**. Often drastic action is required to stabilize an economy suffering from high and volatile inflation - and this leads to political and social instability. The [International Monetary Fund](#) is often brought into the process of implementing economic reforms to reduce inflation and achieve greater financial stability.

## g) Price Deflation

Even when the rate of inflation is positive, the prices of some goods and services will be falling. The economy is always experiencing changes in **relative prices** as demand and supply conditions alter in individual markets. For example, prices of audio-visual equipment, personal computers and [new and second hand cars](#) have been falling, whilst the relative price of cigarettes and fuels has increased in recent years because of rising levels of indirect taxes applied on these goods. **Price deflation** is when the rate of inflation becomes negative. I.e. nominal prices are falling and the value of money is increasing. Some countries have experienced general price deflation in recent years - good examples to consider include [Japan](#) and [China](#).<sup>45</sup>

## h) Main Causes of Inflation

### i) Cost Push Inflation

Cost-push inflation is when firms respond to **rising production costs**, by raising their prices in order to maintain their **profit margins**. Higher costs shifts a firm's supply curve upwards and lead to an increase in price. For the economy as a whole, when there is a *general* increase in costs there will be a *general* increase in prices. There are many reasons why costs might rise:

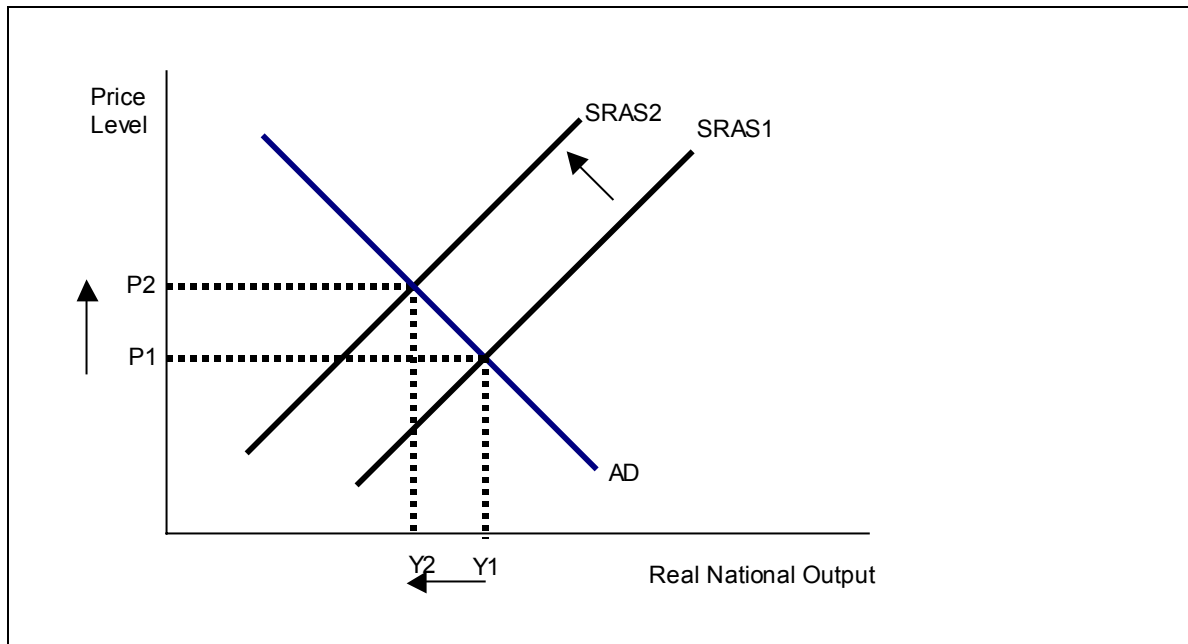
- ❑ **Rising imported raw materials** costs perhaps caused by inflation in other countries or by a fall in the value of the pound in the foreign exchange markets.
- ❑ **Rising labour costs** - caused by wage increases, which are greater than improvements in productivity. This cause is important in industries, which are **labour-intensive**. If wages account for 25% of a firm's total costs then a 10% increase in the total wage bill will cause the firm's total costs to rise by 2.5%. Firms may decide not to pass on this to their customers (they may be able to achieve some cost savings in other areas of the business) but in the long run - wage inflation does tend to move closely in line with general price inflation in the economy.
- ❑ **Higher indirect taxes imposed by the government** - for example a rise in the specific duty on alcohol and cigarettes, an increase in fuel duties or a rise in the standard rate of Value Added Tax. These taxes are levied on producers who, depending on the price elasticity of demand and supply for their products can opt to pass on the burden of the tax onto consumers.

Cost-push inflation can be illustrated by an inward shift of the **short run aggregate supply curve**. This is shown in the diagram below. The fall in aggregate supply causes a contraction of real national output together with a rise in the general level of prices.

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<sup>45</sup> Japan's deflationary less for the West:

[http://news.bbc.co.uk/hi/english/business/newsid\\_1251000/1251031.stm](http://news.bbc.co.uk/hi/english/business/newsid_1251000/1251031.stm)



Cost inflation is more likely when unemployment is falling to low levels. In these circumstances there will be **shortages of skilled labour**. This means that businesses may have to offer higher pay to attract and retain their best workers when they are looking to expand their output.

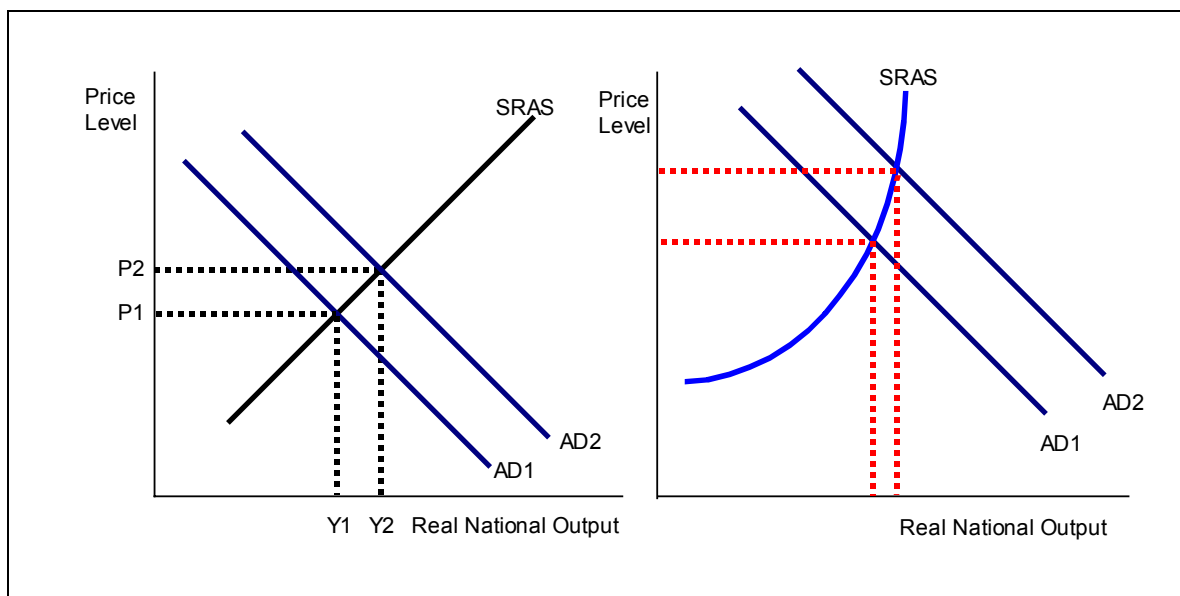
## ii) Demand Pull Inflation

Demand-pull inflation is likely when there is full employment of resources and aggregate supply is inelastic. In these circumstances an increase in AD will lead to a general increase in prices.

AD might rise for a number of reasons:

- ❑ **A depreciation of the exchange rate** increases the price of imports and reduces the foreign price of UK exports. If consumers buy fewer imports, while foreigners buy more exports, AD in the economy will rise. If the economy is already at full employment, it is hard to increase output and prices are pulled upwards.
- ❑ **A reduction in direct or indirect taxation.** If direct taxes are reduced consumers will have more disposable income causing demand to rise. A reduction in indirect taxes will mean that a given amount of income will now buy a greater real volume of goods and services.
- ❑ **Rapid growth of the money supply** as a consequence of increased bank and building society borrowing if interest rates are low and consumer confidence is high.
- ❑ **Rising consumer confidence and an increase in the rate of growth of house prices** - both of which would lead to an increase in total household demand for goods and services
- ❑ **Faster economic growth in other countries** - providing a boost to UK exports overseas. Remember that export sales provide an extra flow of income and spending into the UK circular flow. Exports are counted as an injection of AD

The effects of an increase in AD on the price level can be shown in the diagram below. Higher prices following an increase in demand lead to higher output and profits for those businesses where demand is growing. The impact on prices is greatest when SRAS is inelastic (see the right diagram below)



### iii) Wages and Prices - The Wage Price Spiral

**Demand-pull inflation** can lead to **cost-push inflation** if wages follow prices higher. For example a booming economy might see a rise in inflation from 3% to 5% due to an excess of AD. Workers will seek to negotiate higher wages to protect their real incomes - there is a danger that this will trigger a **wage-price spiral** that then requires **deflationary economic policies** such as higher interest rates or an increase in direct taxation.

### iv) Anticipated and Unanticipated Inflation

When inflation is volatile from year to year, it becomes difficult for individuals and businesses to correctly predict the rate of price inflation that will happen in the near future. When people are able to make accurate predictions of inflation, they can **anticipate** what is likely to happen and take steps to protect themselves.

For example, people can bid for increases in money wages so as to maintain their real wages. Savings can be shifted into accounts offering a higher rate of interest, or into assets where capital gains might outstrip general price inflation. Companies can adjust their prices; lenders can adjust interest rates. Unanticipated inflation occurs when economic agents (people, businesses and governments) make errors in their inflation forecasts. Actual inflation may end up well below, or significantly above **expectations**.

### i) Economic Consequences of Inflation

Inflation can be a problem because it creates a range of **economic and social costs**. In assessing the costs of inflation, we must be careful to distinguish between different degrees of inflation, since **low stable inflation** has less of a damaging effect on the economy than **hyperinflation** where prices are out of control.

- ❑ **Money loses its value and therefore people lose confidence in money** as the value of savings is reduced. This is particularly the case with rapid inflation
- ❑ **Inflation can get out of control** - price increases lead to higher wage demands as people try to maintain their living standards. Businesses then increase prices to maintain profits. Higher prices then put further upward pressure on wages. This process is known as a wage-price spiral.
- ❑ Consumers and businesses on fixed incomes lose out because their real incomes fall
- ❑ **Employees in poor bargaining positions lose out** - for example people in low paid jobs with little or no trade union protection may see the real value of their pay fall when inflation is high. In this sense, inflation can cause an arbitrary redistribution of income.

- ❑ **Inflation can favour borrowers at the expense of savers** - because inflation erodes the real value of existing debts. And the rate of interest on loans may not cover the rate of inflation. When the real rate of interest is negative, savers lose out at the expense of borrowers.
- ❑ **Inflation can disrupt business planning** - although businesses are aware of what has happened to prices in the past, they cannot be certain what will happen in the next few months and years. Budgeting becomes difficult and this may reduce planned investment spending. Lower investment has a detrimental effect on the economy's long run growth potential.
- ❑ **Inflation is a possible cause of higher unemployment** - particularly if one country experiences a much higher rate of inflation than another, leading to a loss of international competitiveness and a subsequent worsening of their international trade performance. If inflation in the UK economy is significantly above that of our major trading partners, British exporters may struggle to maintain their share in international markets and import penetration into our domestic economy would be expected to grow. Both factors could lead to worsening balance of payments problems.
- ❑ **Rising inflation is associated with higher interest rates** because the independent Bank of England seeks to control inflation by raising the level of base interest rates - this reduces economic growth and can lead either to a slowdown or recession.

## j) Policies to Control Inflation

Inflation can be reduced by policies that **slow down the growth of AD** or boost the rate of growth of **aggregate supply (AS)**. The main **anti-inflation controls** available to a government are:

### i) Fiscal Policy

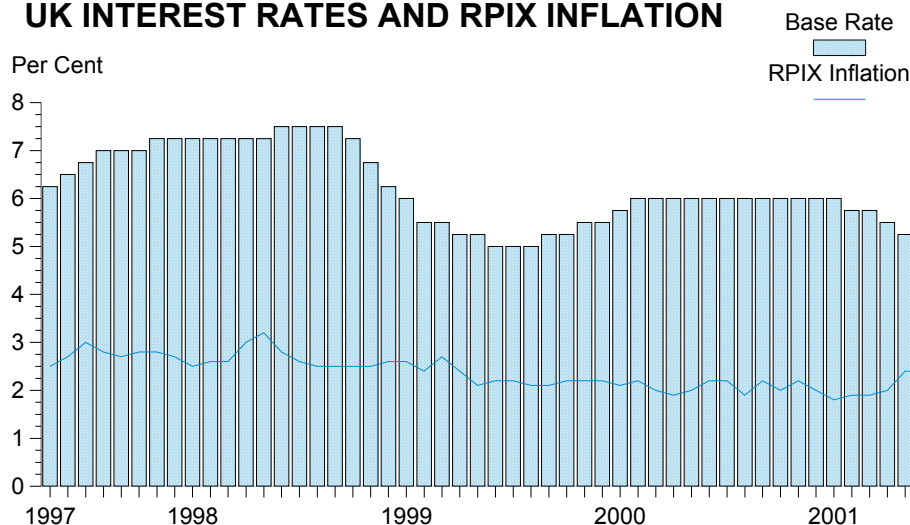
Fiscal policy involves manipulating levels of government expenditure and taxation. If the government believes that AD is too high, it may opt to reduce its own spending. Or it can raise direct taxes, leading to a reduction in disposable income. Increasing VAT is also an option since higher prices will curb spending. But higher VAT adds to producer's costs and can lead directly to higher retail prices.

### ii) Monetary Policy

Monetary policy now involves changes in interest rates to influence the rate of growth of AD. A tightening of monetary policy involves **higher interest rates** to reduce consumer and investment spending. Monetary Policy is now in the hand of the **Bank of England** -it decides on interest rates each month. When the risks of inflation are small, the Bank is likely to cut interest rates and therefore allow a faster rate of growth of demand for goods and services.<sup>46</sup>

The Bank raised interest rates in 1997-1998 because it feared the economy was growing too strongly and that

## UK INTEREST RATES AND RPIX INFLATION





there was a risk of higher inflation. In 1999 it cut rates because of a global economic slowdown, and in the latter part of 1999 it increased rates again to reduce the rate of growth of demand as it became clear that the economy was once again growing strongly. Interest rates stayed constant from February 2000 through to February 2001 as the Bank concluded that inflation pressure was fairly neutral. The Monetary Policy Committee was cutting interest rates during the spring and summer of 2001 as retail price inflation stayed well below the target rate. In practice, interest rates have varied within a narrow band of 5.00% - 7.5% during the first four and a half years since the Bank was made independent.

### Fiscal and Monetary Policies are complementary

Monetary and fiscal policy should be seen as **complementary** methods of reducing inflation. It is essential in reducing inflation that a tightening of monetary policy is not contradicted by a simultaneous loosening of fiscal policy. A balance of policies is required. Getting that balance right is difficult. Both the Bank of England and The Treasury employ specialist economists who are experts in assessing economic trends and building a picture of the overall **inflation risk**. Outside academic research organisations such as the [National Institute of Economic and Social Research](#) and city-based economics desks all produce voluminous work on the background to the UK economy and prospects for inflation and interest rates.

#### iii) Direct price and wage controls

Direct controls on prices and wages were last used in a significant way during the high inflation of the late 1970s and early 1980s. They have not been used to any significant degree in recent years because successive governments have been happy to let wages rates be set according to market conditions and encourage more competitive pressure into a wide range of markets and industries.

#### iv) Supply side policies

Supply side economic policies are designed to increase total supply of goods and services in the economy. See the revision notes on supply side economics for more detailed explanations of these policies.

The most appropriate way to control inflation is for the Government and/or the Bank of England to keep control on how fast AD is increasing in the economy. And to seek to expand the economy's productive capacity so that more output can be supplied at lower cost.

However, there is no guarantee that inflation will not reappear (all economies are subject to external shocks such as a rise in oil prices or other unforeseen events in other countries.)

#### v) Problems in Forecasting Inflation

Inflation can never be forecast with perfect accuracy. The overall inflation measure is the result of millions of pricing decisions made by businesses large and small. The calculation of the retail price index although extremely thorough, is always subject to error and omission. Furthermore, the nature of the inflation process makes it difficult to forecast, even when inflationary conditions in the economy appear to be benign.

External economic shocks can make forecasts inaccurate. For example, a sharp jump in world oil prices (an inflationary shock) or deep falls in global share prices (a deflationary shock), both have big feedback effects through the economic system. The exchange rate might also fluctuate leading to volatility in the prices of imported goods and services.

The last few years has seen inflation in Britain falling to levels well below expectations! Can this period of low, stable inflation persist? Or will we see once more a return to the high and variable inflation experienced in the 1970s and 1980s?

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<sup>46</sup> Bank of England Quarterly Inflation Bulletin: [www.bankofengland.co.uk/Links/setframe.html](http://www.bankofengland.co.uk/Links/setframe.html)

## 20) UNEMPLOYMENT AND EMPLOYMENT IN THE LABOUR MARKET

### a) Measuring Unemployment

Officially, the unemployed are people who are registered as **able**, **available** and **willing** to work at the going wage rate in a suitable job but who cannot find work despite an **active search** for work. There is a long-running debate about the [accuracy of the unemployment figures in the UK](#).

#### i) The Claimant Count

The [Claimant Count](#) measure of unemployment counts only those people who are eligible to claim the **Job Seeker's Allowance**. The JSA was introduced in October 1996 replacing unemployment benefit. Claimants who satisfy the criteria receive the JSA for six months before moving onto **special employment measures**. One problem with the claimant count is that it misses out many people who are interested in finding work and who might have searched for work in the recent period - but they don't meet all of the criteria for claiming and therefore are not included in the monthly unemployment count.

#### ii) The Labour Force Survey

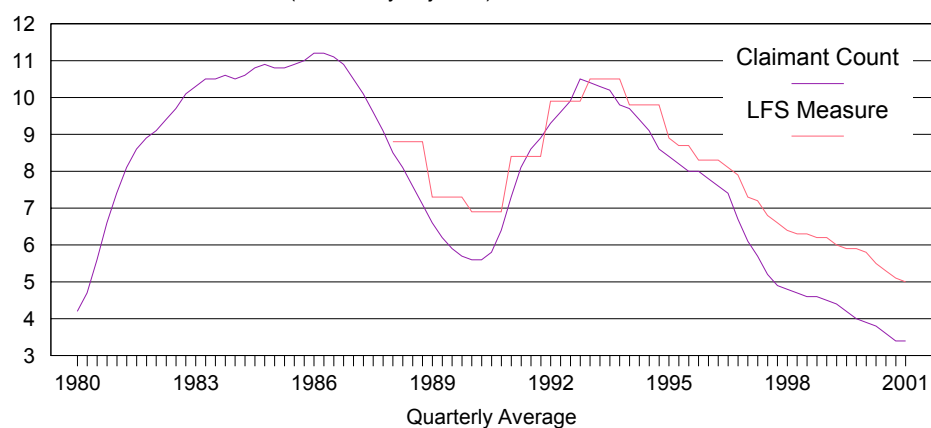
The [Labour Force Survey](#) covers those who have looked for work in the past month and are able to start work in the next two weeks. The claimant count only includes those who are unemployed and claiming benefit. As such it excludes a number of people who are classed as unemployed under the ILO definition - for example women seeking work whose partners are on means tested benefit. On average, the labour force survey measure has exceeded the claimant count total by about 400,000 in recent years.

#### iii) Recent Trends in UK Unemployment

The chart below shows the [unemployment rate](#) for the UK using the **claimant count measure** for each quarter since the start of 1980 and also for the Labour Force Survey measure since 1988. Twice in the last twenty years we have seen mass unemployment in the economy. But over the last eight years there has been a sustained fall in the number of people out of work. By summer of 2001, the official unemployment total was 975,000 - or 3.2% of the labour force. This is the lowest rate of unemployment in the UK for over twenty-five years. Our unemployment rate [compares favourably with many other industrialised economies](#).

## CLAIMANT COUNT AND LFS MEASURES OF UNEMPLOYMENT

Per Cent of the Labour Force (Seasonally Adjusted)



### The UK Labour Market

000's unless otherwise specified

	Total Employment	Claimant Unemployment	Claimant Unemployment Rate (%)	LFS Unemployment	LFS Unemployment Rate (%)	Labour Supply
1990	28787	1674	5.6	2518	8.8	30461
1991	27872	2331	7.8	2107	7.3	30203
1992	27110	2779	9.3	2005	6.9	29889
1993	26926	2861	9.7	2445	8.4	29787
1994	27144	2567	8.7	2830	9.9	29712
1995	27384	2273	7.6	2996	10.5	29658
1996	27659	2057	6.9	2796	9.8	29716
1997	28181	1546	5.2	2026	7	29728
1998	28629	1338	4.5	1828	6.3	29967
1999	28915	1236	4.1	1765	6	30152
2000	29053	1078	3.6	1621	5.5	30131
2001	29127	993	3.3	1502	5.1	30119

## b) Main Causes of Unemployment

Unemployment is multi-causal <sup>47</sup> The main categories of unemployment are explained briefly below:

### i) Frictional:

Frictional unemployment is **transitional unemployment** due to people moving between jobs: For example, **newly redundant workers** or **workers entering the labour market** (such as university graduates) may take time to find appropriate jobs at wage rates they are prepared to accept. Many are unemployed for a short time whilst involved in job search. **Imperfect information in the labour market** may make frictional unemployment worse if the jobless are unaware of the available employment opportunities. Some of the frictionally unemployed may opt not to accept jobs if they believe the tax and benefit system will reduce significantly the net increase in income from taking paid work. When this happens there are **dis-incentives for the unemployed to accept work**.

### ii) Structural:

Structural unemployment occurs when people are made unemployed because of **capital-labour substitution** (which reduces the demand for labour) or when there is a **long run (structural) decline in demand** in their particular industry. Structural unemployment exists where there is a **mismatch** between their skills and the requirements of the new job opportunities. Many of the unemployed from heavy manufacturing industry (e.g. in coal, steel and heavy engineering) have found it difficult to gain re-employment without an investment in **re-training**. This problem is one of **occupational immobility**. The Labour Government's **"Welfare to Work"** programme funded by the Windfall Tax on privatised utilities has attempted to reduce long-term unemployment by increasing the **human capital** of the unemployed and improving their **employability** in the eyes of potential employers. See later notes in this section for details of the [New Deal Programme](#).

### iii) Seasonal:

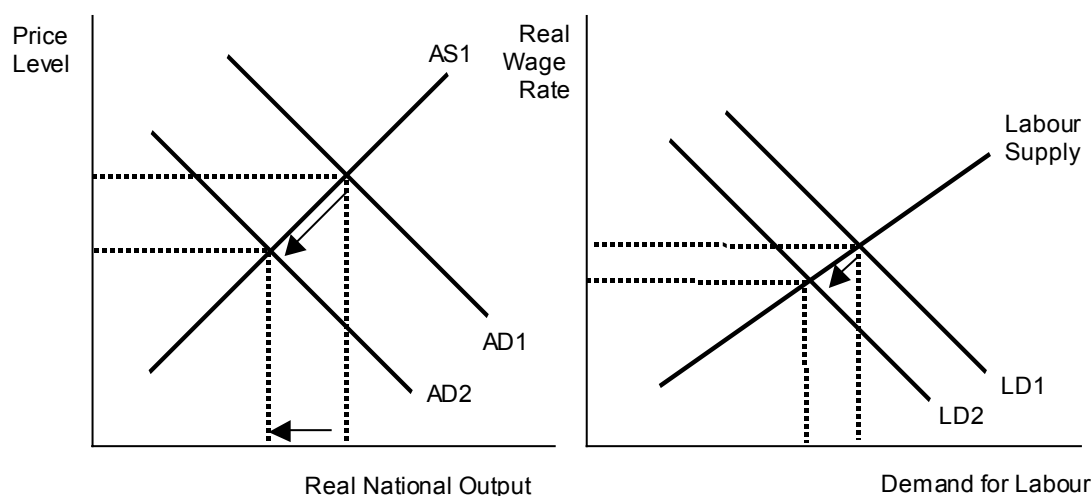
Certain industries see **seasonal changes in demand and employment**. Examples include leisure & catering, retailing, agriculture and construction. The published unemployment figures each month are given a seasonal adjustment to reflect this feature of employment in our labour market.

### iv) Cyclical unemployment:

Cyclical unemployment is **involuntary unemployment** due to a lack of **AD** for goods and services. This is also known as **Keynesian "demand deficient" unemployment** and is associated with the transition of the economy through the **business cycle**. When there is an **economic recession** we expect to see a rising level of unemployment because of plant closures and worker lay-offs. This is due to a fall in demand leading to a contraction in output across many industries.

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<sup>47</sup> For causes of unemployment try  
<http://bized.ac.uk/virtual/economy/policy/outcomes/unemployment/unempth3.htm>



A fall in aggregate demand leads to a contraction in real GDP and a decline in total employment

During the last **economic recession** (1990-1992) total employment fell from nearly 28.8 million to just under 27 million. And, the unemployment rate measured by the Claimant Count jumped from an average of 5.6% in 1990 to 9.7% in 1993. The worse the economic downturn, the higher is cyclical unemployment. Although many workers find new jobs when an economic recovery kicks in, for many thousands of people, a period of unemployment caused by insufficient AD can lead to much longer periods of unemployment if their existing skills are no longer required in the new growth sectors of the economy.

#### v) Classical unemployment:

Classical unemployment (also known as **real wage unemployment**) is thought to be the result of real wages being above their market clearing level leading to an excess supply of labour. Some economists believe that the introduction of the national minimum wage risks creating additional unemployment in industries where average wage rates are closer to the NMW level, and where international competition from low-labour cost producers is severe. As yet, there is little convincing evidence that the minimum wage has created rising unemployment on the scale that was feared (and predicted) by some economists and politicians.

#### vi) Voluntary and Involuntary Unemployment

An important distinction is to be noted between **voluntary unemployment** (when a worker chooses not to accept a job at the going wage rate) *and* **involuntary unemployment** (when a worker would be willing to accept a job at the going wage but cannot get an offer).

#### vii) Hidden unemployment

The hidden unemployed are part of the population of working age but for one reason or another, they are not picked up by either of the two official measures of unemployment

### c) Economic Consequences of Unemployment

To many economists, persistent unemployment in the economy is a sign of **market failure**. Consider this assessment from the academic think-tank [Demos](#).

*Chronic unemployment results because the institutions that make up the labour market have failed to keep pace with rapid shifts in technologies, demographics and industrial requirements. Schools are not producing enough employable school leavers. Adult opportunities to learn are inadequate, while childcare support for parents who work is woeful. The labour market has failed in its central task of generating jobs and matching people to them.*

Twice in the last twenty years, [unemployment has risen the three million](#). Unemployment means the **under-utilisation of scarce economic resources** and has important economic and social costs.

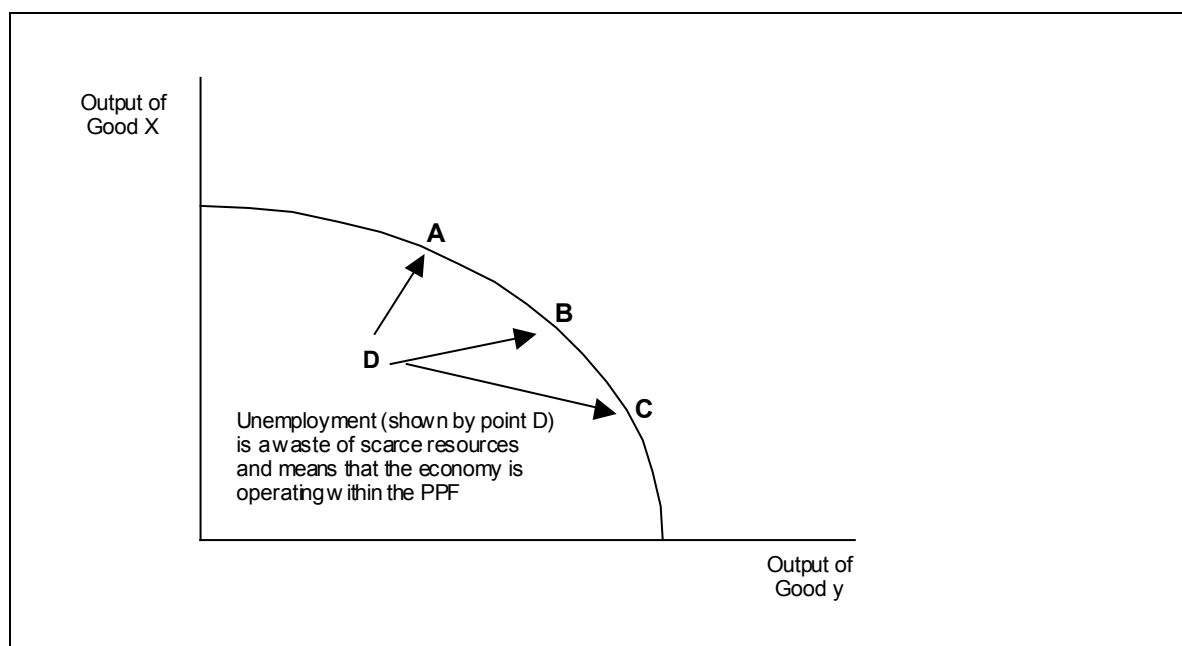
- ❑ Unemployment is a **waste of scarce resources** leading to a **loss of potential output**. The economy is operating below the maximum output it could achieve.
- ❑ Redundancies waste resources used in **training and educating workers**. The longer each person's period of time out of work, the greater the loss of skill and motivation
- ❑ High unemployment affects **government finances**. There is increased spending on unemployment benefits and other welfare payments plus falling tax revenues from income tax, national insurance and VAT.
- ❑ There is a link between unemployment and consumer spending. As consumer confidence falls the willingness of people to spend declines and people build up their savings.

#### i) Long Term Unemployment

**Long-term unemployment** is an economic disaster. It damages individuals because they lose their self-respect and employers lose interest in them. Those who have been unemployed for a short time have a good chance of leaving unemployment, while those who have been unemployed for a long time have a much lower chance. Employers do not consider the long-term unemployed to be probable candidates for vacancies. It is therefore possible to have a large number of vacancies coexisting with high unemployment if many of the jobless have been out of work for a long time

#### d) Unemployment and the Production Possibility Frontier

The underemployment of resources means that the economy is operating well within the boundaries of the production possibility frontier - an example of an allocative inefficient allocation of resources.

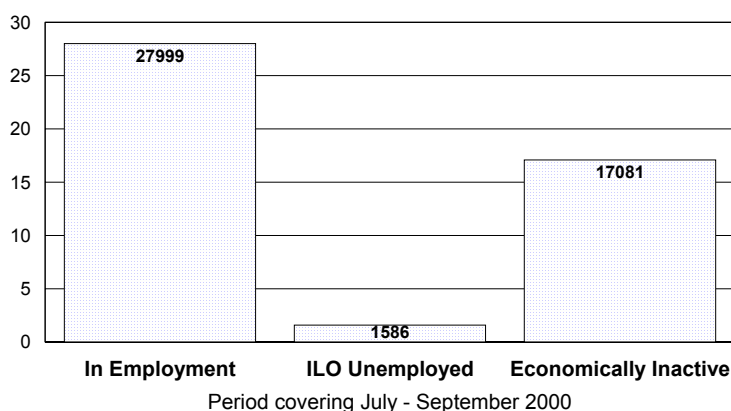


#### e) Social Costs of Unemployment

Rising unemployment is linked to **economic and social deprivation**. There is some relationship with crime, and social dislocation (increased divorce rates, worsening health and lower life expectancy). Areas of high unemployment see falling real incomes and a worsening in inequalities of income and wealth. In the UK, even though by the end of the 1990s, unemployment had fallen to historically low levels, there were still regions with unemployment rates substantially above the national average.

## f) The Economically Inactive

### LABOUR FORCE SURVEY SUMMARY



The **economically inactive** are defined as those people of working age who are not actively searching for paid work or who are not in a job. The chart above (taken from the summer of 2000) shows the scale of economic inactivity in the UK. Although nearly 28 million people were in work in the three months to the end of September 2000, over 17 million people were counted as inactive. Many of these people are parents looking after

children, students in full-time education or people who have taken early retirement and are not actively searching for work. Other groups include the long-term sick and disabled.

But there is also another substantial group of people who are **benefit dependent** - they are not counted as unemployed because they are not looking for work - but they are likely to be on other forms of state benefit such as income support and housing benefit. Many have effectively given up the search for employment (so called "**discouraged workers**") because they have been unemployed for so long.

**Economic inactivity** is clearly a waste of the scarce resources available to any economy. The government is seeking to improve the incentives for these people to find work through **tax and benefit reforms**. Examples of these reforms include the **New Deal** and the **Working Families Tax Credit**.

## g) Policies to Reduce Unemployment

In the long term, effective policies to reduce the total level of unemployment need to encourage

- ☐ An improvement in the employability of the labour supply - so that the unemployed have the right skills to take up the available job opportunities. Policies should focus on improving the occupational mobility of labour
- ☐ An improvement in the incentives for people to search and then accept paid work - this may require some reforms of the tax and benefits system
- ☐ A sustained period of economic growth so that new jobs are being created - this requires that AD is sufficiently high for businesses to be looking to expand their workforces

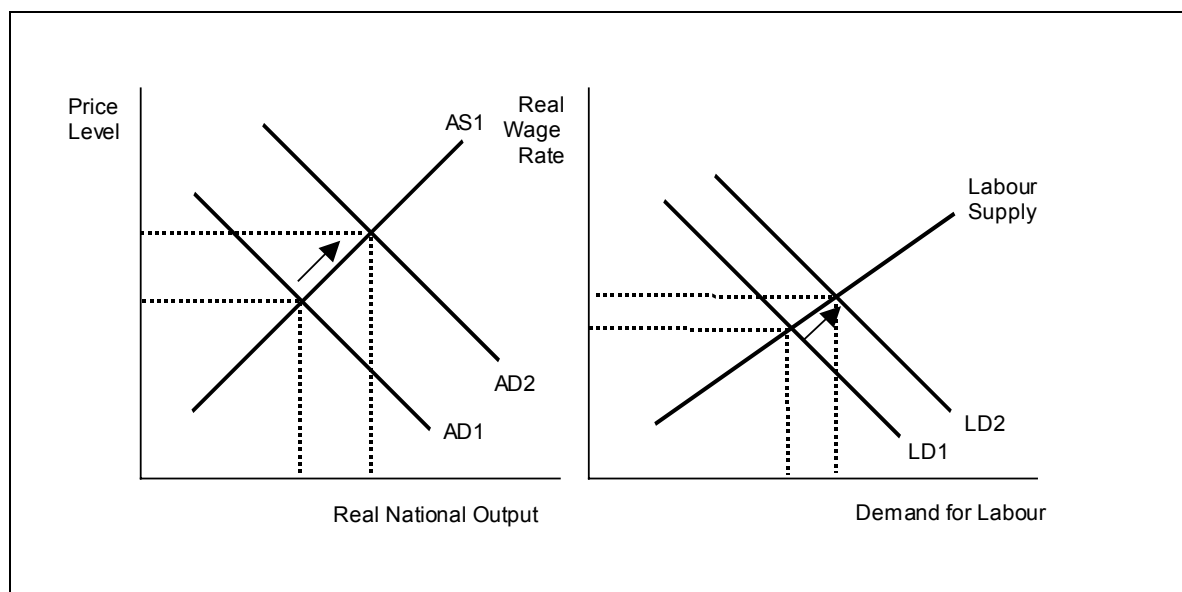
### i) Improving skills and reducing occupational immobility

Policies should provide the unemployed with the **skills** they need to find re-employment and improve the incentives to find work. Structural unemployment is the result of workers being **occupationally immobile** - improvements in education and training will increase the **human capital** of these workers, and therefore give them a better chance of taking the new jobs that become available in the economy.

### ii) Reflating Aggregate Demand

The government can also use **macro-economic policies** to increase the level of **AD**. These policies might involve lower interest rates or lower direct taxes. It might also **encourage foreign investment into the economy** from foreign multinational companies. In the diagram below we see an increase in AD leading to an expansion of aggregate supply. Because of the increase in demand for output, the demand for labour at each wage rate will grow - leading to an increase in total employment.

Not e increase in demand and production has to be met by using more labour. Each year we expect to see a rise in **labour productivity** (more output per worker employed). And, businesses may decide to increase production by making greater use of capital inputs (machinery and technology).



### iii) Benefit and Tax Reforms

Reducing the real value of unemployment benefits might increase the incentive to take a job. Targeted measures are designed to help the long-term unemployed find work (**Welfare to Work & New Deal**)

### iv) Employment subsidies

Government subsidies for those firms that take on the long-term unemployed will create an incentive for firms to increase the size of their workforce. Employment subsidies may also be available for overseas firms locating in the UK.

### CASE STUDY: HAS NEW DEAL BEEN A SUCCESS IN REDUCING UNEMPLOYMENT?

Labour's flagship policy for tackling unemployment is not as successful at creating new jobs as the party has claimed, according to a new study. Labour claims more than 250,000 young people have found work through the New Deal since 1998. But the [Institute of Fiscal Studies](#) (IFS) has found just 17,000 young people a year are finding jobs as a direct result of the scheme. The rest would have found a job without it. And it costs £4,000 for each job created.

The IFS believes the social benefits of the New Deal "probably outweigh its costs." Furthermore, savings in unemployment and housing benefit and extra National Insurance contributions created when people are taken off unemployment benefit, add up to an overall annual saving for taxpayers of £50m.

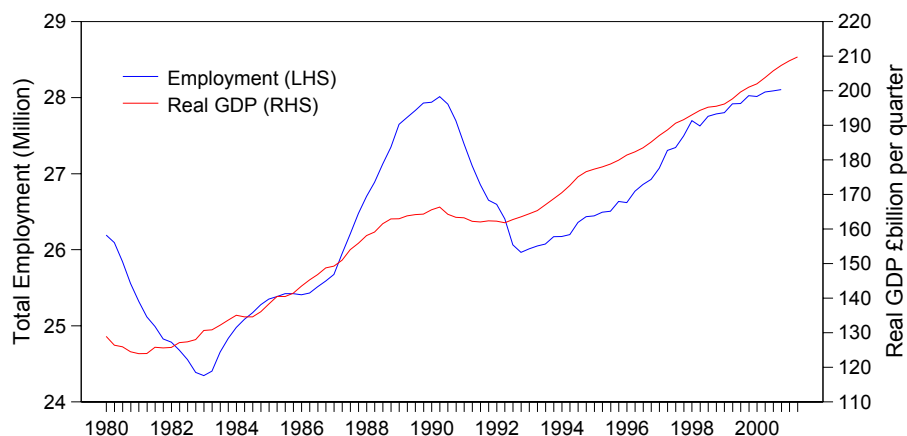
The New Deal is a major cornerstone of Labour policy. The New Deal works by offering subsidised jobs and training to the long-term unemployed. It differs from previous job creation schemes, in that people who refuse to comply can have their benefits stopped. According to the government's own figures, more than 40% of the jobs gained through the New Deal are short-term or unsustained. In addition, Labour has been experimenting with a demand-led approach to job creation. It recently struck a deal with private companies including Microsoft, Oracle and IBM, to help train 5,000 long-term unemployed people and single parents to be IT technicians, an area where there is a recognised shortage of skilled labour. And it plans to extend training to four other areas, including construction, catering, financial services and retailing.



## h) Economic Growth and Unemployment

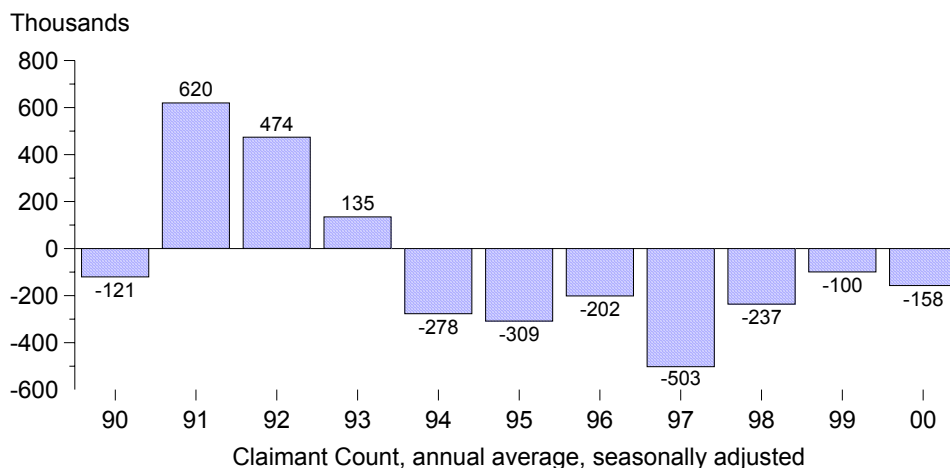
A growing economy creates jobs for people entering the labour market for the first time. And, it provides employment opportunities for people currently unemployed and looking for work.

### ECONOMIC GROWTH CREATES JOBS!



The chart above shows the level of real national output (GDP) and total employment since 1980. In the last two recessions (1980-81 and 1990-92), the number of people in work fell sharply. But a period of sustained economic growth (as experienced by the UK from 1993-2001) has led to a significant increase in employment levels. Indeed by the summer of 2001, employment in the British economy was at record levels. This has helped reduce the official measures of unemployment to a level not seen for over twenty-five years.

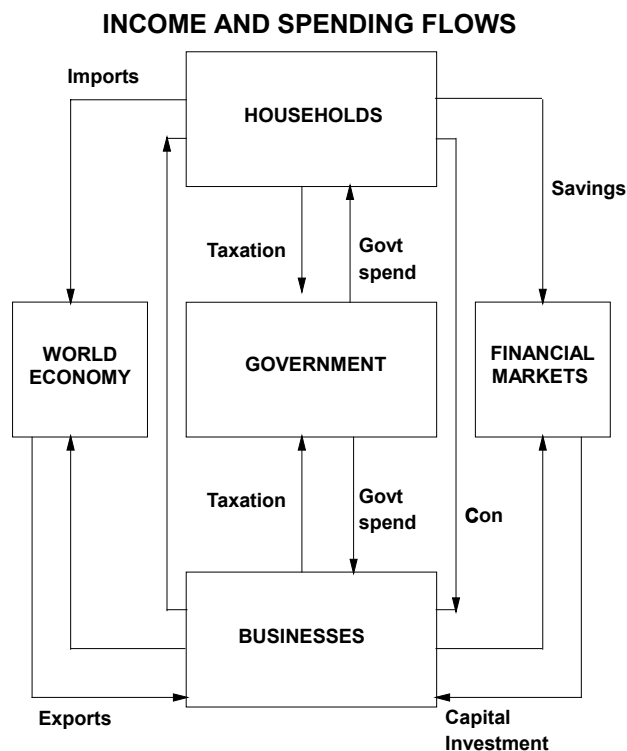
### ANNUAL CHANGE IN UK UNEMPLOYMENT



As the chart above shows, claimant count unemployment in the UK has fallen in each year since 1994. The greatest fall came in 1997, a year of strong economic growth and also the year in which the Job Seekers' Allowance was introduced - making it harder for some people to claim the benefit.

### i) Consequences of Falling Unemployment

The effects of changes in unemployment can be seen by referring back to the circular flow of income and spending. Consider a large fall in unemployment as the economy recovers from a recession.



As more people find paid work, the total income flowing into households will grow. This will help to finance a rise in **consumer demand** for goods and services - a large proportion of which will flow into the business sector in the form of spending.

Higher consumer demand will boost output and profits for many businesses across the economy. This will stimulate more **capital investment spending** (i.e. the **accelerator effect**) and further increases in employment. Falling unemployment therefore adds to demand and creates a **positive multiplier effect** on incomes, demand and output.

Rising employment and spending will also have an effect on the UK's **balance of payments**. When incomes and spending are growing, there is an increase in the demand for imports. Unless this is matched by a rise in export sales, the trade balance in goods and services will worsen.

The government is a major beneficiary from a period of falling unemployment. With more people in work paying income tax, national insurance and value added tax, the

government can expect a large rise in tax revenues. And, their finances are boosted further by a reduction in social security benefits.

### j) Explaining Falling Unemployment Since 1993

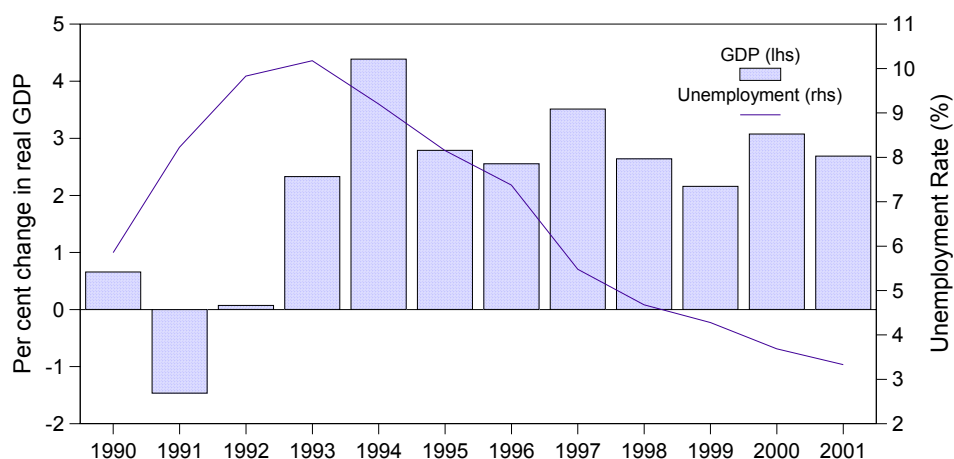
The main explanation behind the decline in unemployment since 1993 has been **sustained real economic growth** at or above the long-run trend growth of real GDP. Labour is a **derived demand** - so a period of rising production generates a higher **demand for labour**. These employment-creation effects have not been uniform throughout regions and industries. Employment in **manufacturing** has fallen over the last three years. It has been the **booming service sector** that has provided the bulk of the new jobs.

Other factors that have helped bring down the unemployment rate include:

- ❑ **Demographic factors** - notably a slower growth of the population of working age than at a similar stage of the last cycle in the early 1980s. This has led to a slowdown in the numbers of people of working age entering the UK labour market.
- ❑ **Expansion of higher education** - there is a trend for more young people to delay their entry into the labour market and choose instead to remain in full-time post-16 further and higher education.
- ❑ **"Discouraged Worker Effects" due to structural unemployment**. Many workers have given up active job search; left the formal labour market, become economically inactive and moved onto permanent sickness and invalidity benefits. The Welfare to Work programme attempts to reintegrate some of these people back into the labour market.
- ❑ **Employment creation from foreign investment into the economy** - the UK economy has been successful in attracting billions of pounds worth of **inward investment from overseas companies**. A high proportion of this investment has gone into building factories in the UK and this has created thousands of new jobs - often in areas of above average unemployment. Overseas firms created more than 71,000 jobs in the UK during 2000 following a big increase in the number of inward investment projects.

- ❑ **New Deal** has also helped to take thousands of people off the unemployment register since the Labour Government launched it in the spring of 1998.
- ❑ **The effects of increased investment in worker training** by present and past governments over the last fifteen years seem also to have reduced some of the structural unemployment problem. Labour shortages have not risen to the same extent as the last time when unemployment was such a small proportion of the labour force
- ❑ **Increased flexibility in the labour market** has made it easier for businesses to hire workers and match desired labour input to planned production. The number of part-time workers on short-term contracts has grown. There has also been greater functional flexibility built into many industries - with workers expected to perform a number of tasks within the business.

## ECONOMIC GROWTH AND UNEMPLOYMENT

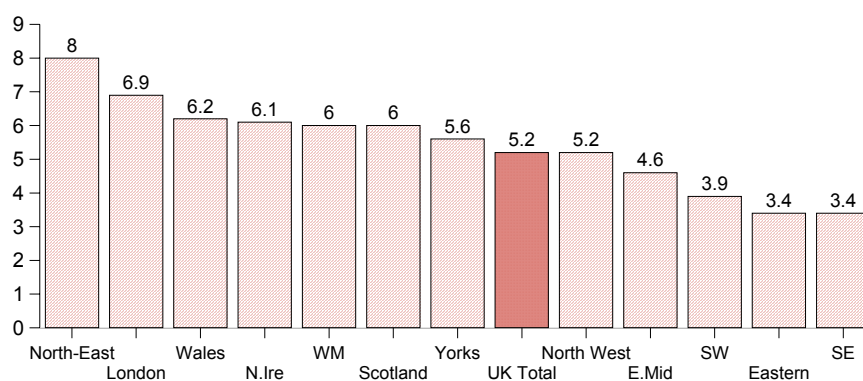


### k) Full Employment

The sustained fall in unemployment has encouraged optimism that Britain can reach full-employment in the near future. Indeed, in some regions and towns and cities, full-employment is already a reality.

## REGIONAL UNEMPLOYMENT IN THE UK

% of labour force



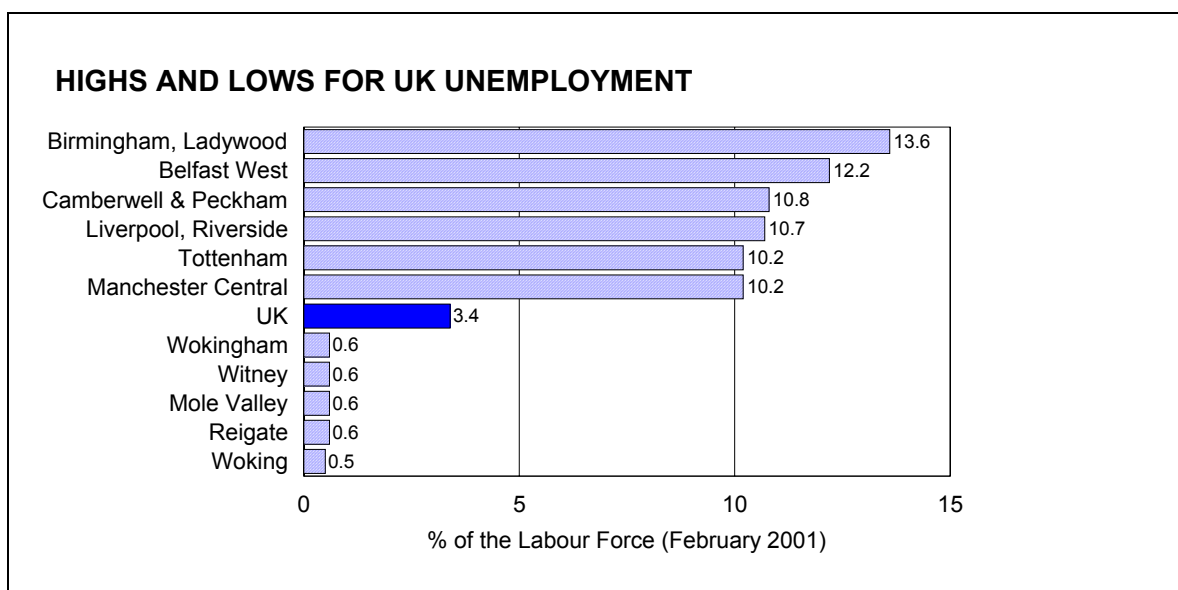
Labour Force Survey Unemployment Rate (per cent) - Dec 2000 - Feb 2001

What is full-employment?

Economists agree that unemployment cannot fall to zero since there will always be **frictional unemployment** caused by people moving into the labour market and others switching between jobs. Full-employment might be defined as when the **labour market has reached a state of equilibrium** - i.e. when those who are willing and able to work at going wage rates are able to find work. Another interpretation of full-employment is when the total of people out of work matches the number of unfilled job vacancies. The problem with this is that estimates of the scale of job vacancies vary considerably. The true number of jobs available is probably three times the official published figure.

### i) How close is the UK to reaching full-employment?

According to the claimant count measure, there are now under a million people unemployed (3.2% of the labour force). Assuming that full-employment is achieved when 2% of the labour force is out of work - the UK economy will have to create many more new jobs for full-employment to be achieved. Many of the unemployed are out of work for structural reasons. In some towns in the UK, the claimant count unemployment rate is already below 1% - undoubtedly a situation of full-employment for these localities. The chart on the next page shows the Parliamentary Constituencies with the highest and lowest unemployment rates during Spring 2001. In towns such as Wokingham and Woking, the low rate of unemployment is creating problems for employers wanting to take on extra workers.



At the other end of the scale, in many towns unemployment is over three times the national average. And the true situation may be much worse as many people in areas of economic deprivation are not actively searching for work. Consider [Ebbw Vale in Wales](#) - badly affected by the loss of thousands of jobs in the steel industry.

### ii) Skills Shortages

The prospect of reaching full-employment is diminished by the continuing problem of [skills shortages](#). In 2000, a major government report highlighted a **skills deficit** in many areas of the UK labour market.<sup>48</sup> Skills shortages have been a recurrent problem in highly skilled manufacturing jobs, but the problem has widened to new economy businesses and also the public services (including education and the NHS)

*Literacy, numeracy and skills levels in the UK are so poor that a quarter of employers struggle to fill job vacancies. A study by the national Skills Task Force backs up previous research by suggesting that nearly one in five adults - about seven million - have a lower level of literacy than the average 11 year old.*

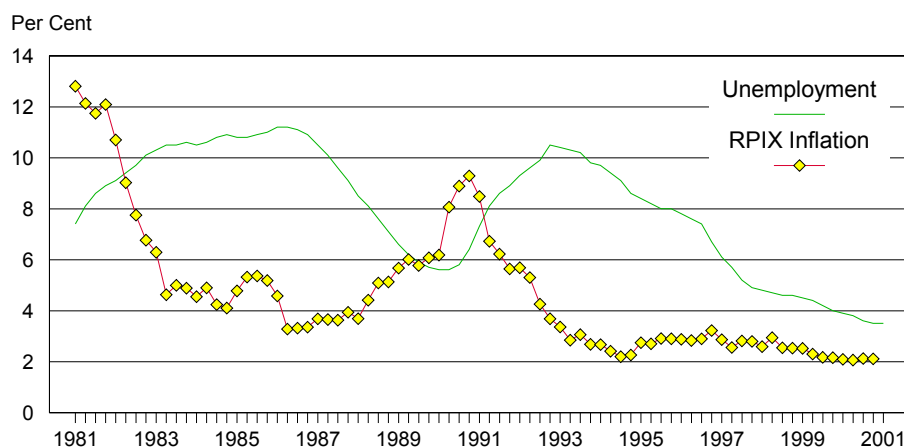
*Because of skills shortages, employers are lowering their expectations when recruiting people and cutting back on capacity and quality level. The report finds that a quarter of adults are "functionally innumerate", and that one in three have less than five GCSE exam-passes. And it says employers believe almost two million of their staff is not fully proficient at their jobs*

<sup>48</sup> Department for Education and Skills [www.dfes.gov.uk/index.htm](http://www.dfes.gov.uk/index.htm)

### iii) The risk of wage inflation

Another obstacle to reaching full-employment is the risk that wage and price inflation will pick up as more people find work and total spending in the economy causes businesses to raise prices. When unemployment is falling, there is pressure on firms to bid up wages both to attract and retain staff. Labour shortages that cause acceleration in wage inflation might persuade the Bank of England to increase interest rates. This would slow down the economy and the rate of new job creation might suffer as a result.

#### UNEMPLOYMENT AND RPIX INFLATION 1981-2000



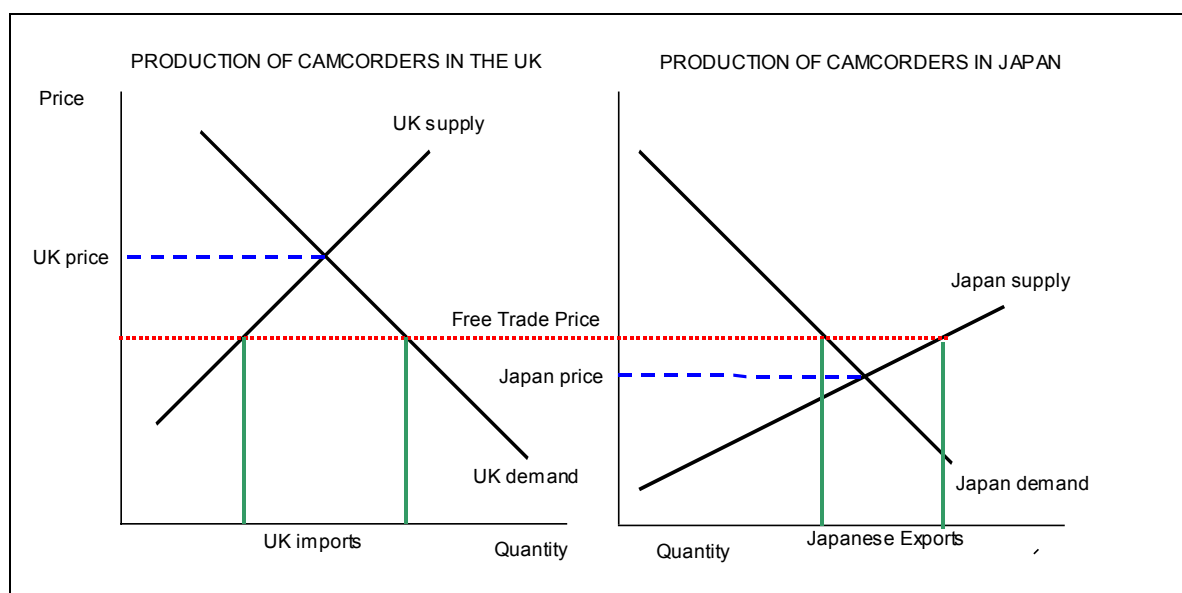
There is a **trade-off** between unemployment and inflation - eventually falling unemployment will create inflationary pressure in the economy. But the experience of recent years is that unemployment and inflation have continued to fall together. This suggests that the British economy has experienced an **improved trade-off** between these two important objectives.

Part of the explanation for this is that the labour market has become more flexible. It is better able to match the unemployed with the new jobs, and the economy has been able to attract sufficient new workers into the labour force to meet a rising demand for labour. Inflation has also been kept low through the impact of new technology and more intense competition in many markets. The strong exchange rate has helped to keep costs under control and has put the squeeze on British firms seeking to export or those facing competition from imports.

## 21) INTERNATIONAL TRADE AND THE BALANCE OF PAYMENTS

### a) The Advantages of International Trade

- ❑ Britain needs to export goods and services to finance imports of products we cannot supply in this country. Exports represent an injection of demand into the [circular flow of income](#)
- ❑ There is a potential improvement in **economic welfare** if countries specialize in the products in which they have a **comparative advantage** and then trade with other nations
- ❑ Trade allows firms to exploit [economies of scale](#) by operating in larger markets - the EU has over 450 million consumers with a massive purchasing power. Economies of scale lead to lower average costs - a gain in efficiency that might be passed onto consumers through lower prices
- ❑ International [competition](#) stimulates [higher allocative and productive efficiency](#) - particularly for domestic monopolies.
- ❑ Free trade provides greater choice for consumers and competition helps keep prices down
- ❑ Imports can help to **satisfy excess demand** from consumers - acting as a safety valve for the economy. A trade deficit during an boom helps to reduce [demand-pull inflation](#)
- ❑ Trade in ideas stimulates **product and process innovations** that generates better products



The diagram shows Japan can produce camcorders at lower costs - its supply curve is lower than the UK. This means that Japan has a **comparative advantage** in producing camcorders. In the absence of international trade between the two countries, British consumers would have to buy at a higher equilibrium price than Japanese consumers. Since Japan is more efficient, it makes sense for Japan to specialise in production of camcorders and export their surplus output to the UK at a lower free trade price. At the intermediate price shown in the diagram, (the free trade price) Japan sells exports to the UK for a higher price but this is still lower than the UK equilibrium price. Japan receives revenue from the sale of these exports. UK consumers can now buy more camcorders at a lower price and have more choice in the market

In this simplified analysis, are ignoring transportation costs between the two countries and we are assuming that the resources that were previously allocated to producing camcorders in the UK can be reallocated to other industries (i.e. resources are assumed to be occupationally mobile).

## b) Globalization <sup>49</sup>

Not all countries benefit from trade - particularly those with poor international competitiveness. If a country is not benefiting from participating in free international trade, it is more likely to want to introduce some form of import control or protectionist measure. There is an enormous debate at the moment about the costs and benefits of globalization, although there is disagreement about [what globalization actually means!](#)

## c) The World Trade Organization (WTO)

The [World Trade Organisation](#) helps to promote free trade by persuading countries to abolish import tariffs and other barriers to open markets. The WTO was established in 1995 and was preceded by another international organisation known as the [General Agreement on Tariffs and Trade \(GATT\)](#). Membership of the WTO has expanded to 142 countries (Moldova is the latest country to have joined the WTO).

It has evolved into a complex web of agreements covering everything from farm goods and textiles to banking and intellectual property. The WTO is the only international agency overseeing the rules of international trade. It helps to settle trade disputes between governments.

Advocates of free trade say the gains in economic welfare are substantial. Critics of the WTO say the poor have just got poorer as a result of free trade. They say that the rich countries have maintained protectionist policies, and that poorer countries do not have the type of manufacturing infrastructure and economies of scale to enjoy the benefits of free trade.

Supporters point to the World Bank's view that developing countries will grow twice as fast as industrialized countries in the first decade of the new millennium.

Increasingly, the global economy is being concentrated into enormous **trading blocs** where free trade is encouraged within each bloc, but a range of import controls are established for goods and services entering a trade bloc. See this [BBC online special for an explanation of this](#).

In July 2001, Gordon Brown proposed setting up a [transatlantic free trade zone](#) between Europe and the United States. He claimed that such a zone could boost transatlantic trade by as much as £150bn (\$250bn). In a free trade zone, all goods traded between EU countries and the US would be free of tariffs and custom duties.

## d) Import Controls

Import controls are **barriers to the free movement of goods and service** that seek to distort the pattern of trade between countries. In recent years, there has been a long running dispute between the EU and the USA over [bananas](#), [beef](#), cashmere and steel. <sup>50</sup> A variety of import controls can be introduced.

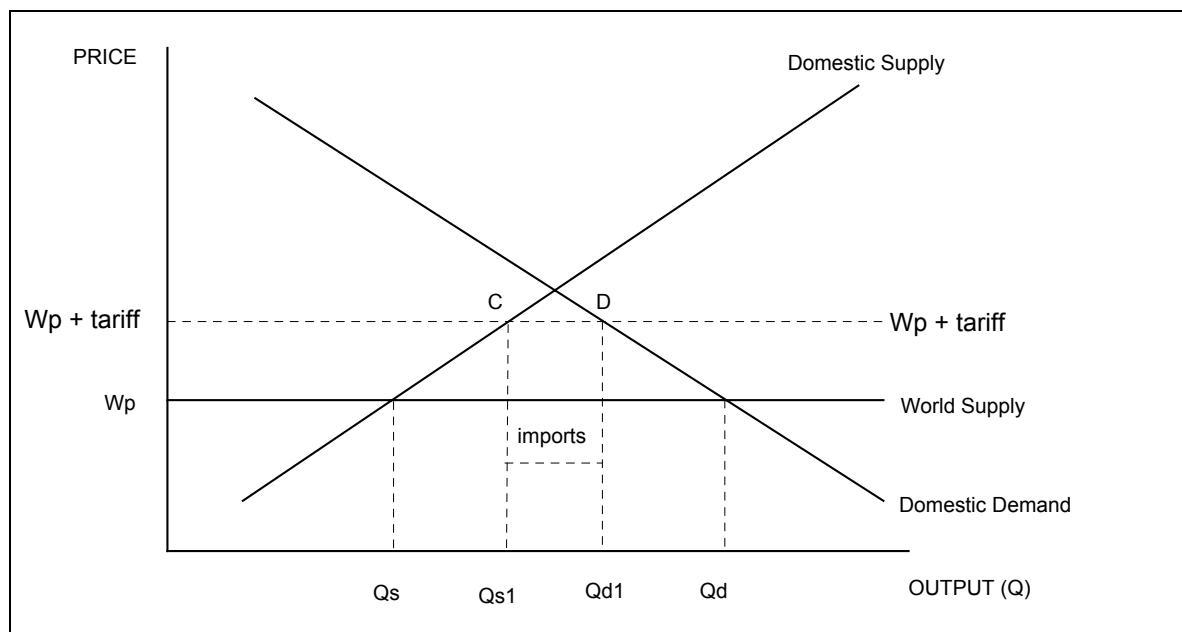
## i) Tariffs

A **tariff is a tax on imports** and is used to **restrict imports** and **raise revenue** for the government. We assume in the diagram below that producers from other countries can supply the good at a constant price of  $W_p$  - their supply curve is perfectly elastic. If the market price is  $W_p$ , output  $Q_s$  is produced by domestic firms and  $Q_d$  will be the demand from home consumers. Because  $Q_d > Q_s$ , imports will satisfy the excess demand.

A tariff is placed on the value of imports. This raises the price of imports and as a result, domestic demand contracts and domestic supply expands. Home producers can supply more at the new higher price. The tariff gives domestic firms a competitive boost. The volume of imports has reduced.

<sup>49</sup> Guardian Special Report on Globalisation: [www.guardian.co.uk/globalisation/](http://www.guardian.co.uk/globalisation/)

<sup>50</sup> USA International Trade Commission: [www.usitc.gov/](http://www.usitc.gov/)



The effect of the tariff depends on the **price elasticity of demand** and the **price elasticity of supply**. A tariff will have a greater effect the more elastic the demand and supply. If the demand is inelastic then the imposition of a tariff will have little effect on the level of imports. The introduction of tariffs by one country can lead to **retaliation** responses from other countries. This retaliation can lead to damaging **trade-wars**.

## ii) Import Quotas

An import quota directly reduces the quantity of a product that is imported and indirectly reduces the amount of money that the export producers receive. The main beneficiaries of quotas are the domestic producers who face less competition.

## iii) Voluntary Export Restraint

A voluntary export restraint is similar to an import quota. With a VER, the exporting country voluntarily restricts the number of goods that it ships to its trading partner. Foreign exporters must purchase licences from its government and then exports its allotted amount.

## iv) Export Subsidy

An export subsidy is a payment to a domestic producer who exports a good abroad. If receiving an export subsidy, a firm can remain competitive abroad by exporting up to the foreign price (because the subsidy will cover some of the difference) yet receive the higher price domestically. The effects of a subsidy are the opposite of those of a tariff. In the spring of 2001, a trade dispute arose between Canada and Brazil about [trade-distorting export subsidies](#) by the Canadian Government to its firms when selling aircraft to the USA.



## e) Economic Case For Import Controls

### i) Infant Industry Argument

Certain industries possess a **potential comparative advantage** but have not yet exploited potential **economies of scale**. **Short-term protection** from foreign competition allows the industry to develop its comparative advantage. The danger is that the industry, free of the disciplines of competition, will never achieve full efficiency.

### ii) Protection against "dumping"

'Dumping' refers to the sale of a good below its cost of production. In the short term, consumers benefit from the low prices of the foreign goods, but in the longer term, undercutting of domestic prices will force the domestic industry out of business and allow the foreign firm to establish itself as a monopoly. Once this is achieved the foreign owned monopoly is free to increase its prices and exploit the consumer.

### iii) Externalities and Import Controls

Protectionism can deal with **de-merit goods** such as alcohol, tobacco and narcotic drugs that have adverse social effects. Protectionism can safeguard society from the importation of these goods, by **imposing high tariff barriers** or by **banning the importation of the good** altogether.

### iv) Non Economic Reasons

Countries may wish not to **over-specialise** in the goods in which they possess a comparative advantage. One of the potential dangers of over-specialisation is that unemployment may rise quickly if an industry moves into structural decline as new international competition emerges at lower costs. The Government may also wish to protect against high levels of imports to **protect domestic employment**. Protection may also be used to prevent trade with certain countries on **political grounds**. The UK government currently has trade sanctions with numerous countries, including Iraq and Nigeria.

## f) Problems with Import Protection

- ☐ Trade barriers restrict competition leading to a loss of economic welfare and increased inefficiency because of higher prices and less consumer choice
- ☐ Firms that are protected from competition have little incentive to reduce production costs. These disadvantages must be considered carefully by governments
- ☐ There is the danger that one country imposing import controls will lead to retaliatory action by another leading to a decrease in the volume of world trade

A summary of the effects of three different import control policies on consumers and producers together with the impact on government revenue is shown in the table below:

Effects of Import Controls

	Tariff	Export Subsidy	Import Quota	Voluntary Export Restraint
Producer Surplus	Increases	Increases	Increases	Increases
Consumer Surplus	Falls	Falls	Falls	Falls
Government Revenue	Increases	Falls	No change	No change

## g) The Balance of Payments

### i) What is the Balance of Payments?

The BOP records financial transactions between the UK and the Rest of the World. BOP figures tell us about how much is being spent by UK consumers and firms on imported goods and services, and how successful UK firms have been in exporting to other countries and markets <sup>51</sup>

### ii) The Importance of Exports

An increasing share of Britain's national output each year is exported overseas. Export earnings are an injection of **AD** into the circular flow. If British companies can successfully sell their goods and services overseas, the rise in exports boosts national income and should have a positive **multiplier effect** on the national economy. Exports are particularly important for manufacturing industry (where exports are a high % of total industrial production).

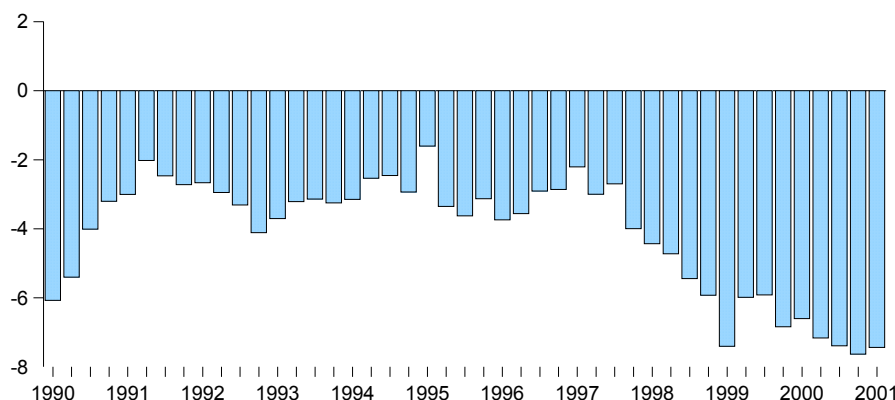
Many thousands of jobs depend directly on the performance of the export sector and even more are affected in supply industries. The relative success of failure of export industries is particularly important for certain regions of the UK. When export sales dip (for example as a result of a global economic downturn or the impact of the strong exchange rate), output, employment and living standards come under threat.

### iii) Trade in Goods

Trade in goods includes exports and imports of oil and other energy products, manufactured goods, foodstuffs, raw materials and components. Until recently this was known as visible trade - i.e. exporting and importing of tangible products. The chart below shows the quarterly **balance of trade in goods** for the UK between 1990-2001.

#### UK TRADE BALANCE IN GOODS

quarterly balance (exports - imports), £ billion



Since 1986 the net balance of trade in goods has been in deficit. The heaviest trade deficits have occurred during the boom years of the late 1980s and in 1998-99. In 2000 the trade gap in goods reached a record level of £28 billion. In the first quarter of 2001, the trade deficit reached a record level.

<sup>51</sup> Does the Balance of Payments matter? Read

[http://news.bbc.co.uk/1/hi/english/business/newsid\\_1408000/1408328.stm](http://news.bbc.co.uk/1/hi/english/business/newsid_1408000/1408328.stm)

Trade Balances In Goods							
(£ Million, Exports - Imports)	1994	1995	1996	1997	1998	1999	2000
Food, beverages and tobacco	-3786	-4143	-5497	-5120	-5985	-6584	-6135
Basic materials	-2973	-3507	-3757	-3527	-3114	-3145	-3730
Oil	3941	4331	4823	4549	3045	4233	6161
Other fuels	-788	-542	-516	-371	-420	53	513
Semi-manufactures	367	-1763	-1482	-915	-1658	-2178	-2247
Finished manufactures	-8167	-6311	-6846	-6709	-12499	-18241	-23026
Unspecified goods	315	211	189	183	94	-305	-165
<b>Total trade balance</b>	<b>-11091</b>	<b>-11724</b>	<b>-13086</b>	<b>-11910</b>	<b>-20537</b>	<b>-26167</b>	<b>-28809</b>

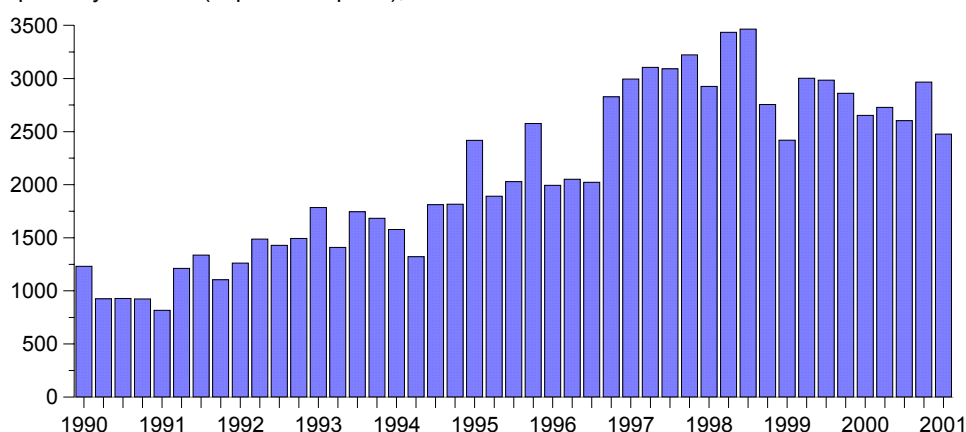
The balance of trade in finished manufactured goods has soared since 1997 largely as a result of the strength of the exchange rate, the high level of consumer demand for manufactured goods and structural problems facing British manufacturing industry. Large sections of UK industry have experienced a loss of world market share, together with an increasing level of import penetration into the UK domestic market.

#### iv) Trade In Services

Trade in services includes the exporting and importing of intangible products - for example, Banking and Finance, Insurance, Shipping, Air Travel, Tourism and Consultancy. The quarterly balance of trade in services for the UK since 1990 is shown in the chart below.

### UK TRADE BALANCE IN SERVICES

quarterly balance (exports - imports), £ billion



Britain has a strong trade base in services. Thirty per cent of total export earnings come from services. And, the balance of trade in services has been positive for over fifteen years. Indeed in 1999 the UK became the second largest exporters of services in the world. Strong surpluses are common in financial and business services and hi-tech knowledge services. But we normally run a deficit in international travel and transportation. There was a £5.6 billion deficit in travel in 1998 in part because of the fast growth of demand for overseas holidays as average living standards have improved. This deficit in travel and tourism doubled to over £10 billion in 2000. Once again, rising incomes have caused a large rise in the demand for overseas leisure and business travel. But the sustained strength of the exchange rate against most European currencies and the rapid expansion of low cost airlines offering short haul overseas breaks have played its part. Britain

had a trade deficit in services with Spain of £2.6 billion in 1998 - the "Ibiza Effect" and a similar deficit with the French economy.

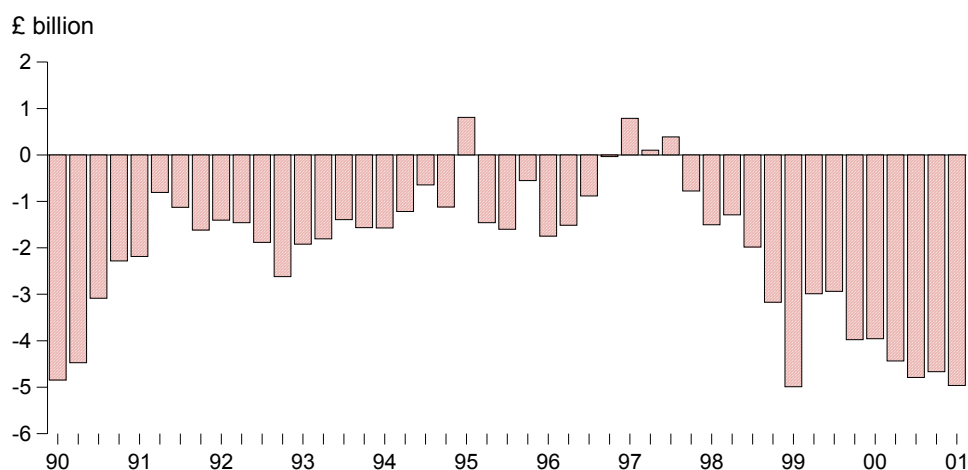
Trade In Services							
(£ Million, Exports - Imports)	1994	1995	1996	1997	1998	1999	2000
Transportation	-836	-533	-1096	-2112	-2217	-2617	-2496
Travel	-3846	-2803	-2959	-3638	-6800	-8870	-10828
Communications	-272	-319	-247	-201	-198	-151	8
Insurance	1654	2340	1517	2619	2643	3490	2158
Financial	4132	4283	4744	6087	6273	6777	8164
Computer & Information	517	502	757	852	1134	1635	1253
Other business	5340	5346	7189	8758	10302	10928	11930
<b>Total trade in services</b>	<b>6528</b>	<b>8915</b>	<b>8897</b>	<b>12414</b>	<b>12582</b>	<b>11266</b>	<b>10951</b>

The situation is much better in trade in financial and business services. Britain undoubtedly has a comparative advantage in selling financial services to the rest of the world. The City of London is a huge net earner for the UK balance of payments. Our foreign exchange markets are far and away the largest trading platform for currency dealing in the world economy. And, huge investments have been made in labour and capital resources in industries such as insurance, consultancy and corporate finance.

#### v) The Balance of Trade in Goods and Services

The balance of trade in goods and services is simply the sum of the two main trade balances discussed so far. The balance of trade for Britain is shown in the chart below.

### UK TRADE BALANCE IN GOODS AND SERVICES



Even though Britain is running a £10 billion + surplus in trade in services, the deficit in goods has outstripped this - leading to a higher trade deficit in goods and services than in the mid 1990s. A deficit implies that UK demand for foreign output is greater than foreign demand for UK exports. This means that there is a **net leakage** from the circular flow of income - leading to a net fall in aggregate demand. In technical terms, this means that **domestic demand** in the UK (i.e. the sum of consumer spending + capital investment + government spending) is greater than **aggregate demand** (which also includes the net trade balance (X-M)).

## vi) The Current Account of the Balance of Payments

The current account balance comprises the balance of trade in goods and services plus **net investment income** from overseas assets. (This income in the form of interest, profits and dividends from external assets located outside the UK is also the difference between [GDP and GNP](#)). We also add in the net balance of private transfers between countries and government transfers (e.g. UK government payments to help fund the various spending programmes of the European Union). The net investment income is strongly positive - a reflection of the heavy investment overseas in recent years by British businesses and individuals. The transfer balance is negative. The current account balance is essentially a reflection of whether the British economy is paying its way with other countries. The annual balance is volatile from year to year, because each of the four component parts is subject to wide fluctuations.

	Balance of Trade in Goods	Net Investment Income	Net Transfers	Balance of Trade in Services	Current Account Balance
	£ Billion	£ Billion	£ Billion	£ Billion	£ Billion
1990	-18.8	-0.6	-4.1	4.0	-19.5
1991	-10.2	-1.9	-0.7	4.5	-8.4
1992	-13.0	2.1	-4.8	5.7	-10.1
1993	-13.3	0.7	-4.6	6.6	-10.6
1994	-11.1	7.8	-4.7	6.5	-1.5
1995	-11.7	6.0	-6.9	8.9	-3.7
1996	-13.1	8.1	-4.5	8.9	-0.6
1997	-11.9	11.2	-5.1	12.4	6.6
1998	-20.5	14.2	-6.4	12.6	-0.1
1999	-26.2	9.2	-4.1	11.3	-9.9
2000	-28.8	5.5	-3.8	11.0	-16.2

## h) Causes of a deficit on the Balance of Payments

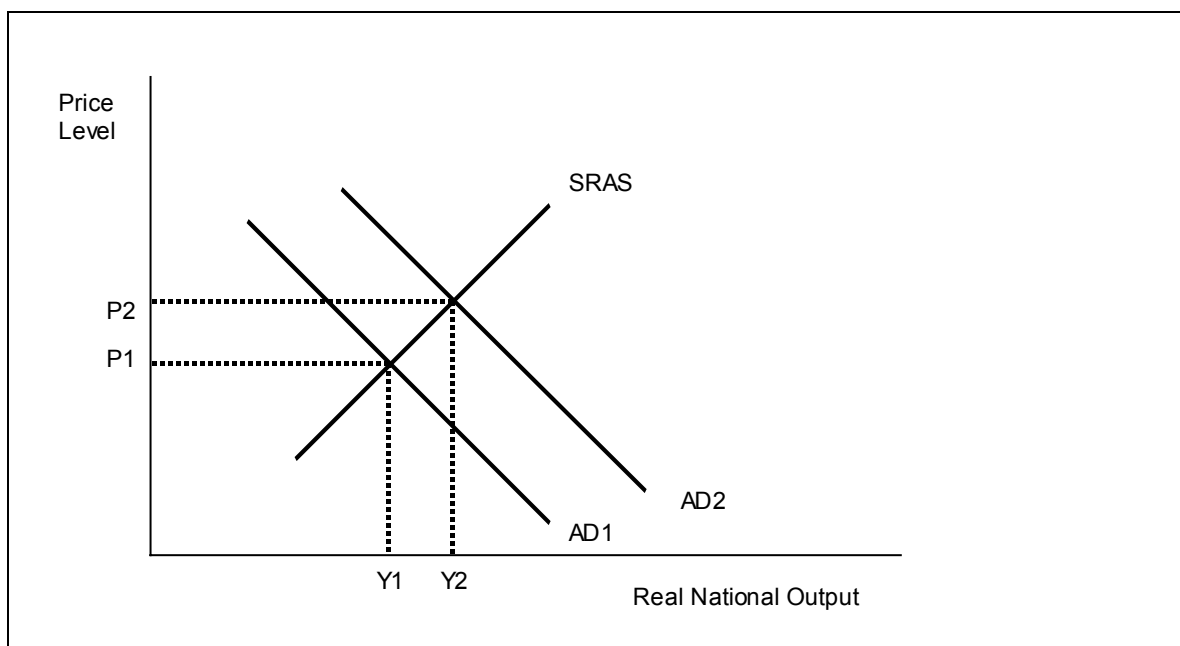
For the UK the persistent trade deficit has a number of causes both short and long term.

- ❑ **High propensity to buy imported goods and services** - there is a tendency for UK consumers to prefer foreign produced output and in a consumer boom we often see an acceleration in the volume of imports coming into the country
- ❑ **Lack of productive capacity of UK firms** - if home producers have insufficient capacity to meet demand from consumers then imports will come in to satisfy the excess demand
- ❑ **Poor price and non-price competitiveness of UK firms** - Cost levels and UK prices relative to international competitors can measure competitiveness, but non-price factors are also important. These include quality, design, reliability and after-sales service
- ❑ **Declining comparative advantage in many areas** - the advantages that countries have in producing certain goods and services change over time as technology alters and other countries exploit their economic resources and develop competing industries. UK manufacturing industry has suffered over the years from low cost production in newly Industrialising countries and from other parts of Europe
- ❑ **An over valued exchange rate** - Some economists suggest that trade problems stem from the exchange rate being set at too high a level. This causes UK export prices to be higher in foreign markets whilst imports into the UK become relatively cheaper. This argument was used at times during the UK's short-lived membership of the Exchange Rate Mechanism (ERM).

- ❑ **The strength of the pound over recent years** has made life difficult for UK exporters in overseas markets. This is because a rise in the value of sterling leads to a rise in the foreign price of UK exported goods and services. When UK prices are higher, foreign consumers are less likely to buy our products. The high exchange rate also makes imported goods cheaper inside the UK. This leads to a rise in the volume of imports and a fall in the share of the UK market taken up by goods and services from overseas.

### i) The Economic Cycle and the Balance of Payments

When the economy is experiencing a high level of AD there is nearly always a deterioration in our balance of payments. Consumers are spending more on imports and companies are importing more raw materials and components. In the diagram below, an outward shift in AD leads to a rise in real national income and output. This will lead to a rise in the total demand for imports.



### j) The Effects of Changes in the Balance of Payments on the UK economy

Consider the effects of a slowdown in exports and a faster growth in imports of goods and services caused by a rise in the value of sterling against other currencies that leads to a worsening of the balance of payments. This has further effects on the economy as a whole

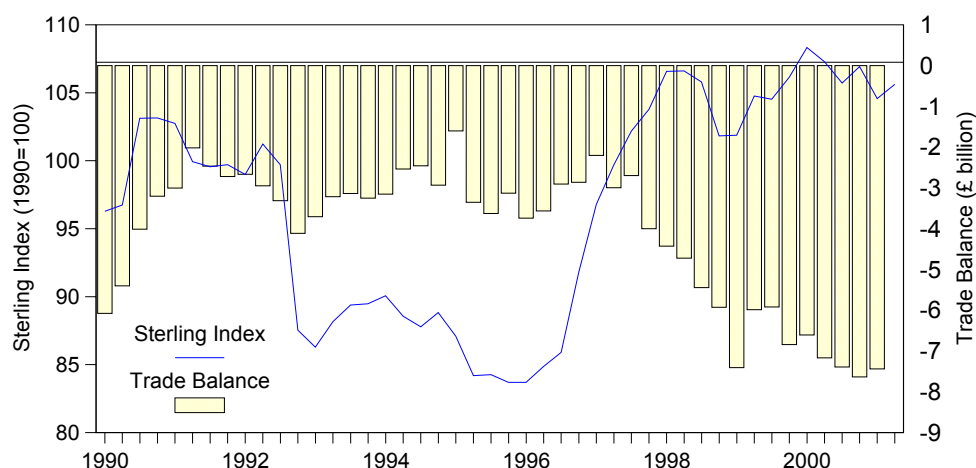
- ❑ A net fall in AD because more money is leaving the circular flow of income (through imports) than is coming into the economy from exports
- ❑ A slowdown in the overall rate of economic growth because  $(X-M)$  is negative (using the standard formula for calculating AD)
- ❑ A possible loss of employment if exporting industries require less labour and if UK businesses lose market share and output to cheaper imports from overseas
- ❑ A fall in business confidence and capital investment spending by UK exporting firms
- ❑ Lower inflation because imports coming into the UK are cheaper. This might then lead to the Bank of England allowing interest rates to be slightly lower
- ❑ A short-term boost to the living standards of consumers in the UK. A high pound allows them to buy imported products more cheaply and a strong pound gives them increased real purchasing power when they travel overseas on business or for holidays

### k) The Sterling Exchange Rate and the Balance of Payments

Changes in the sterling exchange rate can have a big effect on the balance of payments. When sterling is strong then UK exporters found it harder to sell their products overseas and it is cheaper for UK consumers to buy imported goods and services because the pound buys more foreign currency than it did before.

The chart below shows the sterling exchange rate index and the UK balance of trade in goods and services.

#### STERLING EXCHANGE AND THE BALANCE OF TRADE IN GOODS



The sharp rise in the sterling index from 1996 to 1998 and the continued strength of the exchange rate in the three years since has been one of the main factors behind the increase in the trade deficit in goods.

### l) The Balance of Payments and the Standard of Living

A common misconception is that balance of payments deficits are always bad for the economy. This is not necessarily true. In the short term if a country is importing a high volume of goods and services this is a boost to **living standards**. It allows consumers to buy more consumer durables. However, in the long term if the trade deficit is a symptom of a weakening economy and a lack of competitiveness then living standards may decline. If imports continue to rise, this will threaten employment and incomes.

### m) Economic Policies to Reduce a Balance of Payments Deficit

Effective strategies to control (reduce) a current account deficit should focus on the underlying causes of the excess of imports over exports. Economists make a distinction between **cyclical causes** and **structural causes** of a trade deficit. If the trade gap is largely the result of the **strength of aggregate demand**, then a slowdown in the economy will provide an automatic correction. If the main problem is an **over-valued exchange rate**, then a policy of gradual exchange rate adjustment (perhaps through intervention in the currency markets by the Bank of England) might be appropriate.

However if the trade deficit is the result of **structural supply-side reasons** such as long term loss of competitiveness, or a relatively low level of productivity, then the most effective policies are those that seek to achieve a genuine improvement in the supply-side of the economy.

#### i) Deflationary policies:

These policies would aim to reduce the demand for imports, e.g. Increased income tax leading to lower disposable income and a fall in consumption and imports. A rise in interest rates would also have the effect of dampening down consumer demand - including the demand for imported products.

#### ii) Devaluation/depreciation:

A **depreciation of the exchange rate** increases the UK price of imported goods and reduces the foreign prices of UK exports.

iii) Supply side policies:
----------------------------

Policies aimed at making UK goods more competitive. To the extent that such policies improve the price and non-price competitiveness of UK goods, they might help to reduce imports and increase exports. However, they will not reduce imports if there are no domestic industries producing substitutes.

**Important note:**

Tariffs and quotas are not acceptable as policies in the 1990s because of our commitment to **free trade** within the **European Single Market** and to the **World Trade Organization**

The key to controlling the balance of payments deficit in the long term is for the economy to achieve relatively low inflation with sufficient productive capacity to meet the domestic demand from consumers. This requires a period of low inflation, low interest rates and a competitive exchange rate matched with sufficient non-price competitiveness. Often, price is not the deciding factor in winning the demand from buyers



## 22) FISCAL POLICY - TAXATION AND GOVERNMENT SPENDING

### a) Taxation

Taxation is any compulsory levy from individuals, households and firms to central or local government. The British economy imposes a wide range of taxes on people. The system is always evolving as the government seeks to develop and maintain a [tax system](#) that meets objectives and targets.

#### i) Why do we pay taxes?

Taxation is levied for a number of reasons.

- ☐ To raise revenue to finance spending on goods and service by central & local government
- ☐ The government when managing the level of AD output and prices uses taxation. When demand is perceived as being too strong the government can increase direct taxation, to reduce the level of real disposable income and household spending.
- ☐ A progressive system of taxation can be utilised to achieve great equality in income & wealth between individuals and households
- ☐ Taxes can correct for externalities and other forms of market failure (such as monopoly)
- ☐ Import taxes may control imports and therefore help the country's international balance of payments and protect industries from overseas competition.

#### ii) The Government's Objectives for the UK Tax System

The Labour Government has identified six main objectives for its tax system - these are summarised below

- ☐ To keep the overall tax burden as low as possible
- ☐ To reduce tax rates on income to sharpen incentives to work and create extra wealth
- ☐ To shift the balance of taxation away from taxes on income towards taxes on spending
- ☐ To ensure taxes are applied equally and fairly
- ☐ To use taxes to make markets work better (including the use of environmental taxes to make both consumers and producers aware of external costs)

### b) Direct and Indirect Taxes

Direct taxation is levied on income, wealth and profit while indirect taxation is levied on expenditure. Direct taxes include income tax, national insurance contributions, capital gains tax, and corporation tax. Indirect taxes include VAT; excise duties on fuel and alcohol, car tax, betting tax and the TV licence

#### i) Income Tax

[Income tax](#) is a direct tax on all incomes received by private individuals after certain allowances are made. A direct tax is a tax whose burden cannot be shifted onto someone else. This is in contrast to an indirect tax. Eone has a non-taxable allowance. Income tax is a **progressive tax**. This means that as income rises the % of income paid in taxation rises. In the UK the lowest rate of income tax is 20 per cent, the basic rate is 22% and the highest is 40 per cent.

	2000-01 Level
<b>Income tax</b>	
Personal allowance:	£4,385 p.a.
Lower rate	10%
Basic rate	22%
Higher rate	40%

## ii) National Insurance Contributions (NICs)

NICs are taken off the earnings of people in employment. Employers also pay contributions.

## iii) Corporation Tax

Corporation tax is levied on company profits

Rates:	Lower rate	10%
	Small companies' rate	20%
	Standard rate	30%

## iv) Inheritance Tax

Levied on the value of wealth transferred from one person to another either at death or during a lifetime

## v) Capital Gains Tax

Tax on the increase in value of certain assets when they are sold compared with their value when they were bought. For example, any increase in the value of shares at the time of sale is subject to capital gains tax.

## c) Indirect Taxes

### i) Valued Added Tax (VAT)

VAT is an indirect tax at the rate of 17.5%, although domestic fuel is taxed at 5%. VAT is an indirect tax because it is possible for the producer to pass the tax burden onto the consumer. Not all commodities are subject to VAT - these items are currently either exempt from VAT or charged at a zero rate

Private health	Children's clothing	Passenger transport
Finance and insurance	Prescription medicines	Housing construction
Water and sewerage	Postal services	Books and newspapers

### ii) Excise Duties

Excise duties are specific duties. The main duties are placed on cigarettes, alcohol, and fuel

## d) Taxation and the Environment

"Green Taxes" penalise environmentally damaging activities. Examples include taxes on cigarettes and alcohol, the landfill tax and fuel duties. For more details, consult this site from [Ernst and Young](#).

### Vehicle excise duty

Standard rate	£155 p.a.
Small cars rate (engines up to 1,100cc)	£100 p.a.
Heavy goods vehicles (varies according to vehicle type and weight)	£155-£9,250 p.a.

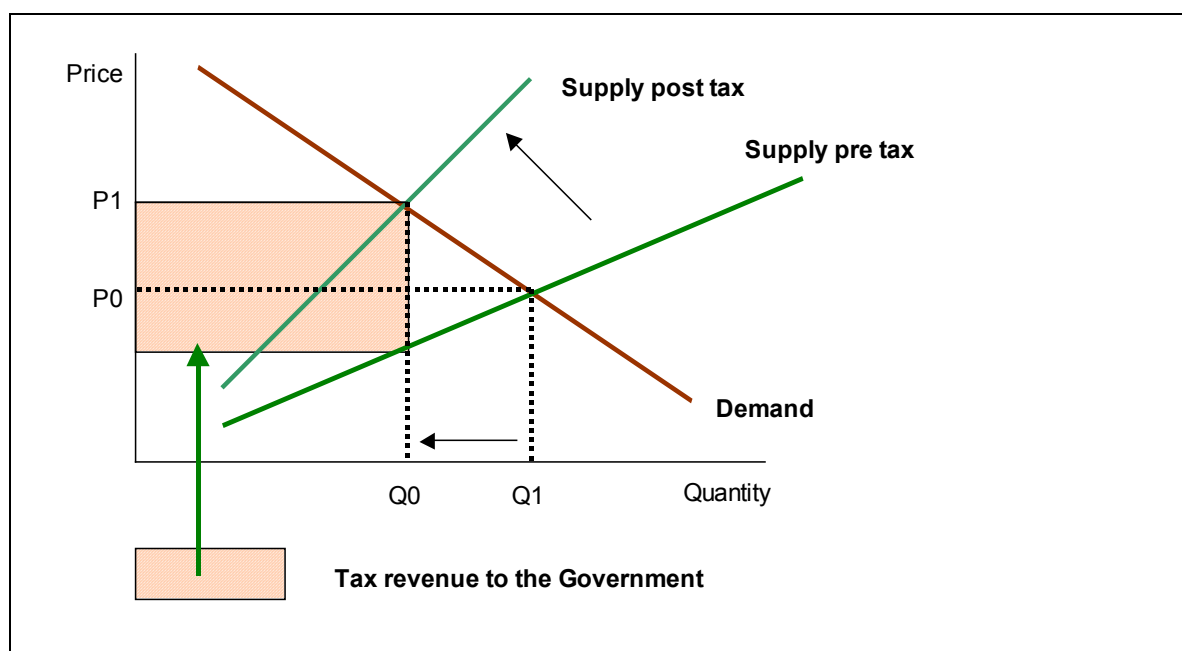
### Landfill levy

Standard rate	£11 per tonne
Low rate (inactive waste only)	£2 per tonne

Climate change levy (Came into effect on 1 April 2001)

Electricity	0.43p/kWh
Coal	0.15p/kWh
Natural gas	0.15p/kWh
Liquefied Petroleum Gas	0.07p/kWh

#### e) Indirect Taxes and Producers



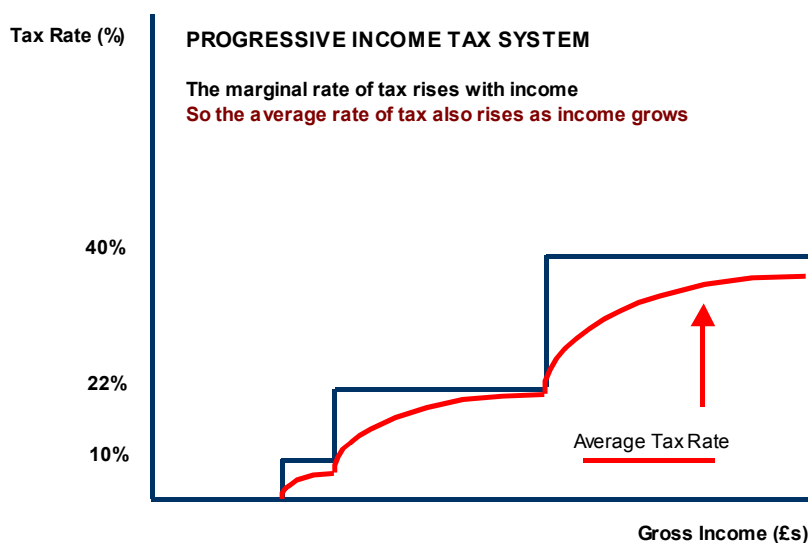
The tax shifts the supply curve to the left. The lines diverge because VAT is an ad valorem tax - it is a percentage of the selling price of the good or service, and hence the higher the price the greater will be the amount of tax paid. The tax raises price and lowers quantity demanded.

There is a danger that indirect taxes damage specific industries. For example, the high rate of taxation on alcohol sold in the UK, as opposed to continental Europe, has badly affected our drinks industry. A huge trade in "cross-border shopping" has grown up, resulting in many jobs being lost in the south of England.

#### f) Progressive, Proportional and Regressive Taxes

With a **progressive tax**, the **marginal rate of tax** rises as income rises. I.e. as people earn more income, the rate of tax on each extra pound earned goes up. This causes a rise in the **average rate of tax** (the percentage of income paid in tax). The UK income tax system is progressive. Everyone is entitled to a tax-free income. Thereafter, as income grows, people pay the starting rate of tax (10%) before moving onto the basic tax rate (22%). Higher income earners pay the top rate of tax (40%) on each additional pound of income over the top rate tax limit. This is the highest rate of income tax applied.

With a **proportional tax**, the marginal rate of tax is constant. For example, we might have an income tax



system that applied a standard rate of tax of 25% across all income levels. If the marginal rate of tax is constant, the average rate of tax will also be constant. National insurance contributions are the closest example in the UK of a proportional tax, although low-income earners do not pay NICs below an income threshold, and NICs also do not rise for income earned above a top threshold.

With a **regressive tax**, the rate of tax falls as incomes rise - i.e. the average rate of tax is lower for people of higher incomes. In the UK, most examples of regressive taxes come from **excise duties** of items of spending such as cigarettes and alcohol. There is well-documented evidence that the heavy excise duty applied on tobacco has quite a regressive impact on the distribution of income in the UK.

### g) The Arguments For and Against Indirect Taxation

#### The Case For

Changes in indirect taxes are more effective in changing the pattern of demand for particular goods and services

Indirect taxes are a useful instrument in controlling and correcting for externality effects

Indirect taxes are less likely to distort the choice between work and leisure and therefore undermine work incentives

Indirect taxes can be changed more easily - providing the government with increased flexibility

Indirect taxes provide an incentive to save (and avoid the tax)

#### The Case Against

Many indirect taxes have regressive effects on certain consumers and thus make the distribution of income more unequal

Raising indirect taxes can cause cost-push inflation as producers pass on higher taxes to retailers

Revenue streams are uncertain particularly when inflation is low or there is an economic recession when consumer demand falls

### h) Principles of a Good Tax System

#### i) Efficiency

An efficient tax system raises sufficient revenue to pay for government spending, without creating negative distortions such as reducing work-incentives for individuals and investment incentives for companies.

## ii) Equity and the Benefit Principle

Taxes should be fair and based broadly-speaking on people's **ability to pay**. Income tax satisfies this condition - but indirect taxes may not do this. The benefit principle of taxation is that taxes paid should have some link with the benefit that the tax-paying unit receives from government spending.

Taxpayers should understand how the system works and taxes should also be difficult to evade. Collection costs should be kept to an acceptable level

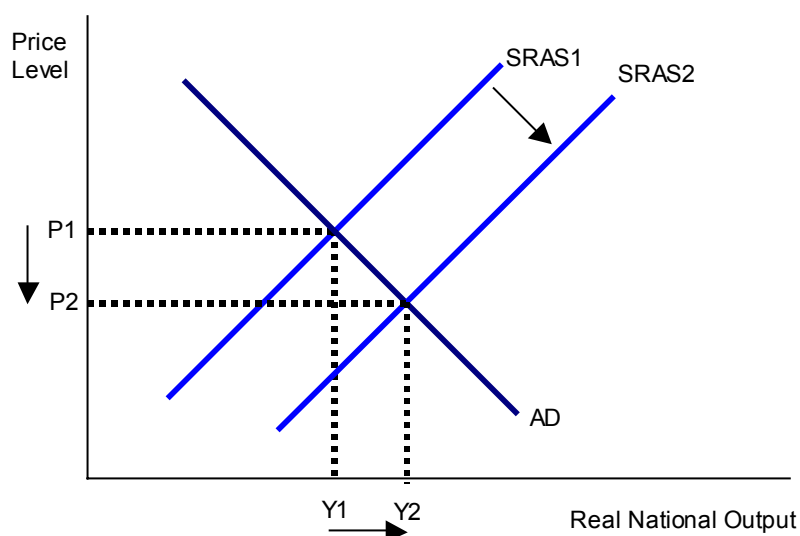
## i) The Effects of Tax Changes on the Economy

### i) Cuts in income tax / higher tax allowances

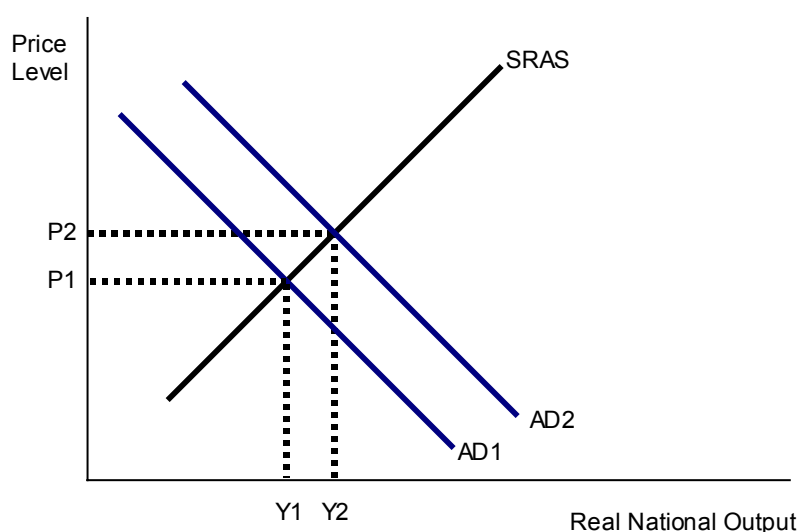
If successful, lower direct taxes improve **work incentives** and lead to an expansion of the economy's active labour supply. Supply-side economists believe that lower taxes stimulate higher productivity

### ii) Lower rates of corporation tax and other business taxes

A cut in corporation tax leads to higher "post-tax" profits. These might be used to finance research and development and other capital investment projects. Tax allowances can also be used to encourage small business start-ups and might provide the incentives for foreign direct investment. The main aim of lower taxes is to increase aggregate supply although a fall in taxes also causes increased disposable income for consumers and higher post-tax profits for businesses - both of which should lead to a higher level of AD.



The danger of reducing the overall burden of taxation too much is that it might lead to excess demand and therefore lead to a build up of inflationary pressure.

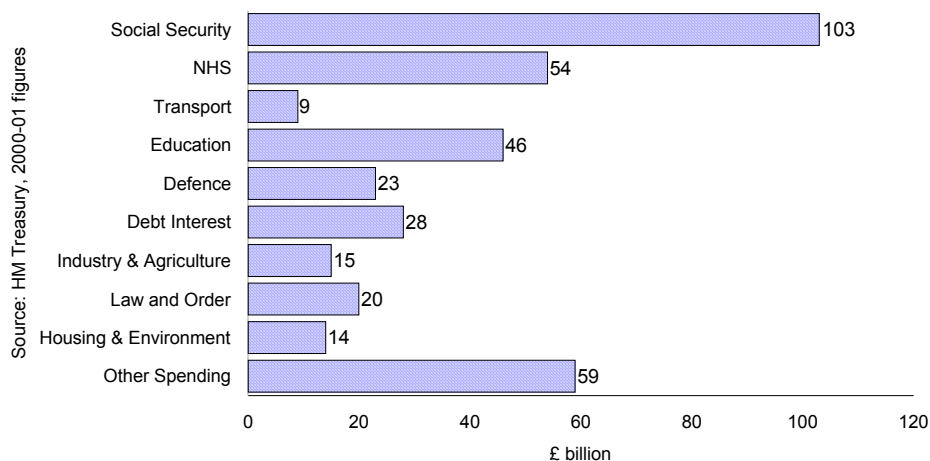


### j) Government Spending<sup>52</sup>

Government spending in 2001 is forecast to be £370 billion. This is over £6,000 for each individual in UK. Within this total the government will spend £103 billion on social security benefits, £54 billion on the NHS,

£46 billion on education and £28 billion in interest payments on debt. In the summer of 2000, the Government announced the results of a [major spending review](#). This plans significant increases in state spending on priority areas such as health, education and transport for the period 2000-2003.

### BREAKDOWN OF GOVERNMENT SPENDING



Total government (public) spending can be broken down into three main areas

**(1) Transfer Payments:** such as the Jobseekers' Allowance, State Pensions, Housing Benefit, and the Working Families Tax Credit **(2) Current spending:** on goods & services e.g. salaries for people working in the NHS and resources used in providing state education and **(3) Capital Spending:** Infrastructural spending such as spending on new roads, hospitals and prisons (see also the [Private Finance Initiative](#))

<sup>52</sup> Guardian Special Report on Taxation & Government Spending  
<http://politics.guardian.co.uk/tax/0,9054,441102,00.html>

### k) Economic Reasons for Government Spending

- ☐ To provide [public goods](#) and [merit goods](#)
- ☐ To provide a system of welfare benefits to supplement the incomes of the poorest in society - part of the process of [redistributing income and wealth](#)
- ☐ To provide infrastructure via capital spending on transport, education and health facilities
- ☐ As a means of managing the level of [AD](#) in the economy

### l) The Private Finance Initiative (PFI)

The Conservatives introduced the Private Finance Initiative in 1992 as a way of funding expensive infrastructure developments without running up debts. Rather than borrowing to fund new projects, John Major's government entered into a long-term leasing agreement with private contractors. Under a PFI, companies borrow the cash to build and run new hospitals, schools and prisons for a period of up to 60 years. So far, about 150 PFI contracts have been signed, worth more than £40bn, with more in the pipeline.

PFI is often portrayed as using private money to pay for improvements in public services. But, critics argue, it is still paid for through the public purse. It is not new money. Furthermore, the critics say, private finance is, by its nature, more expensive than public capital. The government of the day may feel it is getting a hospital or school at a bargain price but the country will pay more in the long run.

Each year the Chancellor presents the Budget to Parliament, reviews the performance of the economy, and announces the plans for raising the revenue with which to finance government expenditure. The budget is also the occasion for the Chancellor to outline the forecast for the public sector net cash requirement for the forthcoming financial year.

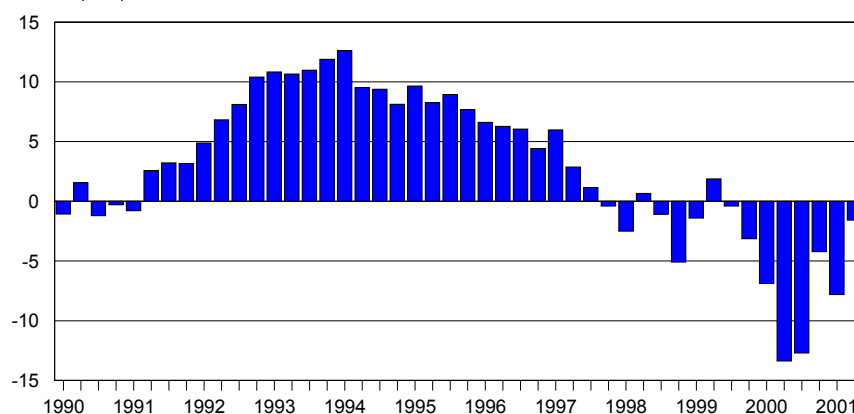
Full details of the [March 2001 Budget](#) are available from the [Treasury website](#).

### n) Government Borrowing: Budget Deficits and Budget Surpluses

Usually, government expenditure (G) exceeds revenue (T) and we call this a budget deficit - but in recent years there has been a budget surplus with more revenue from taxes than the government is spending.<sup>53</sup>

#### PUBLIC SECTOR NET CASH REQUIREMENT

£ billion per quarter



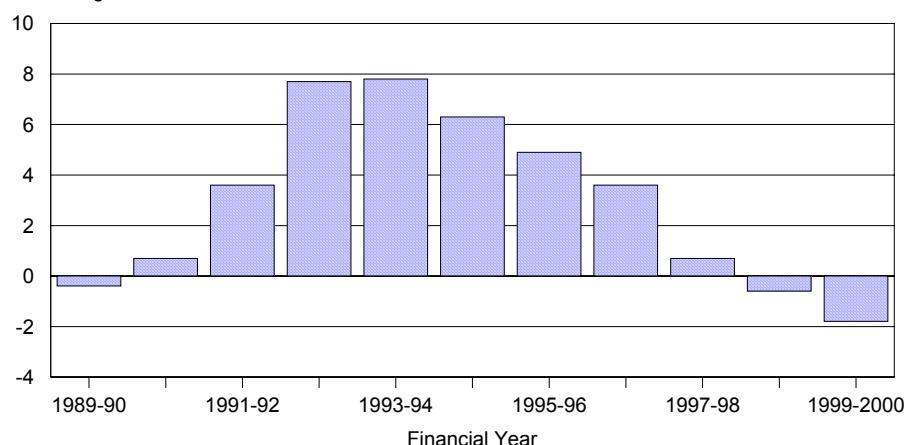
The chart above shows the quarterly budget balance for the British government from 1990 onwards. After running small budget surpluses during the boom of the late 1980s, the public sector finances deteriorated

<sup>53</sup> Light-hearted Budget history available from: [www.kpmg.co.uk/kpmg/uk/services/tax/bgt\\_history.htm](http://www.kpmg.co.uk/kpmg/uk/services/tax/bgt_history.htm)

rapidly once recession set in. A recession inevitably causes a reduction in tax payments from households and businesses, and government spending grows on social security as unemployment rises. By 1994, the quarterly budget deficit was over £12 billion. Indeed, expressed as a percentage of national income, the budget deficit peaked at 7.8% of GDP in 1993-94 - one of the highest levels of government borrowing in UK economic history. This budget deficit required a series of tax increases and controls on government spending to bring it under control. Gradually as the economy recovered from the recession, tax revenues picked up and the gap between tax income and spending declined.

## GOVERNMENT BORROWING

Percentage of GDP



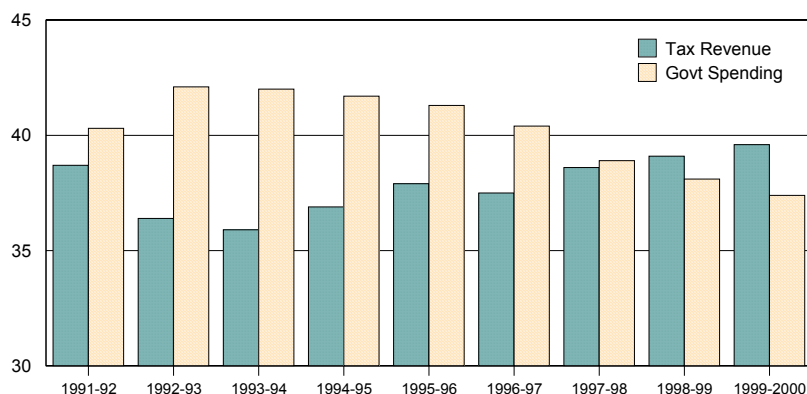
The strength of the economy meant that by 1998-99, the budget deficit was turned into a small surplus. This surplus grew substantially in 1999-2000 giving rise to the claim that Gordon Brown was accumulating a **war chest** of excess tax revenues to fund big increases in government spending in the post-election period.

### i) Reasons for the budget surplus

- ☐ Sustained economic growth - Record levels of employment / low [unemployment](#)
- ☐ Strong consumer spending - higher indirect revenues
- ☐ Increases in taxation (the Conservatives claimed during the [2001 election campaign](#) that Labour deliberately increased the total tax burden through the use of stealth taxes)
- ☐ Higher real excise duties (fuels, cigarettes) and new taxes - airport passenger duty
- ☐ Increases in national insurance contributions

## TAX REVENUES AND GOVERNMENT SPENDING

Percentage of GDP





## ii) Options for the Budget Surplus

A government that has a budget surplus has three main options.

- ❑ Repayment of government debt - this would reduce total interest payments on accumulated government borrowing - money that could then be reallocated into priority spending areas. The government decided that the one-off windfall income from the [sale of third generation mobile phone licenses](#) would be used to repay government debt.
- ❑ [Increases in government spending](#) - Brown did announce major spending increases in his 2000 Public Spending review.
- ❑ Targeted cuts in taxation - Brown's preference is to cut tax rate for certain groups (e.g. extending the income tax allowance or the tax band at which the lower rate of tax is paid)

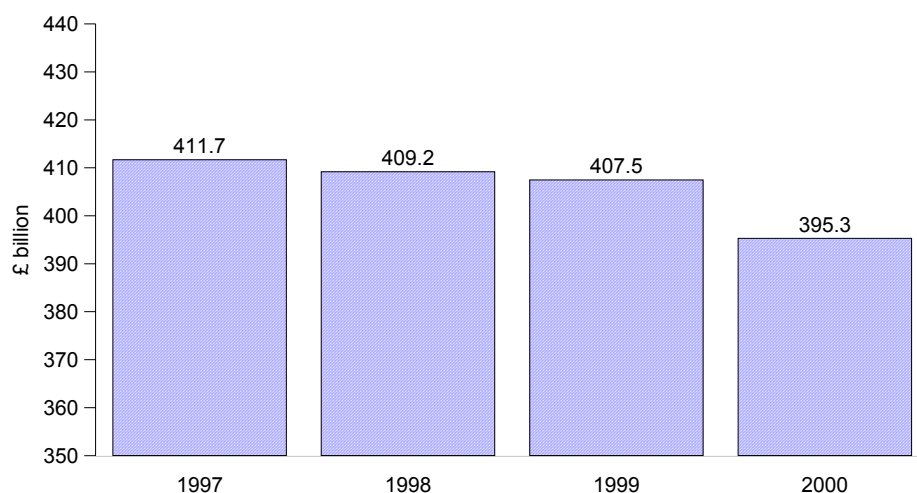
## iii) The Budget Deficit and the National debt

The public-sector net cash requirement is how much the government needs to borrow each financial year. It is borrowing by central government, by local authorities and by public corporations. The national debt is the total amount of borrowing undertaken by the government that has not yet been repaid. In other words, it is the sum of all outstanding central government debt

The important question is what central government *does* with the money it has borrowed. When funds are allocated to capital investment in roads, schools, hospitals this enables the nation to increase the output it can produce. This will make it easier to pay off previous debts or to pay the interest on them

The budget surplus of the last few years has allowed the government to reduce the national debt. The big risk for the government is that an economic slowdown in 2001 or 2002 will cause public sector finances to worsen again, just at the time when planned spending increases are coming on stream

### GROSS GOVERNMENT DEBT IS FALLING



## 23) MONETARY POLICY

### a) What is Money?

Money is any asset that is acceptable as a **medium of exchange** in payment for goods and services. The main functions of money are as follows:

- ☐ A medium of exchange used in payment for goods and services
- ☐ A unit of account used to relative measure prices, draw up accounts etc.
- ☐ A standard of deferred payment - the operation of the credit system
- ☐ A store of value - money holds its value unless there is a situation of accelerating inflation

For more information on this, read a [background on the history of money](#)

### b) Introduction to Interest Rates

- ☐ Interest rates measure the rate of return on savings and the cost of borrowed money
- ☐ There is no unique rate of interest - but they tend to move in the same direction

#### i) Main Interest Rates

There is no *unique rate of interest* in the economy. For example we distinguish between **savings rates** and **borrowing rates**. However interest rates tend to move in the same direction. For example if the Bank of England cuts the **base rate of interest** then we expect to see lower mortgage rates and lower rates on savings accounts with Banks and Building Societies.

- ☐ [Base interest rates](#) (set by the Bank of England)
- ☐ [Mortgage Interest Rates for home owners](#)
- ☐ [Savings Rates on specific Bank and Building Society Accounts](#)

#### ii) The Real Rate of Interest

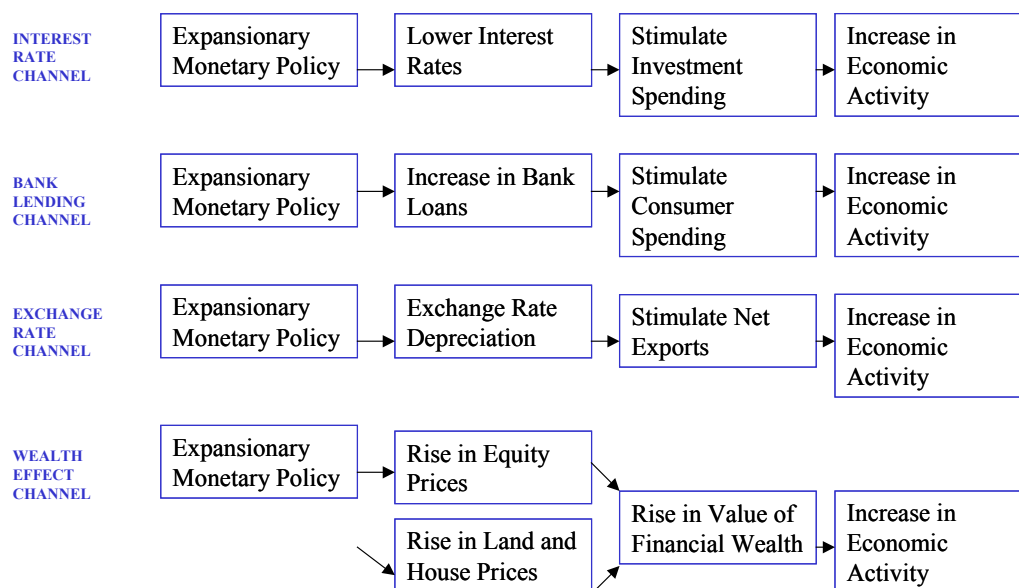
The real rate of interest is often decisive to businesses and consumers when making spending and saving decisions. The real rate of return on savings, for example, is the **money rate of interest** minus **the rate of inflation**. So if a saver is receiving a money rate of interest of 6% on his savings, but price inflation is running at 3% per year, the real rate of return on these savings is only + 3%.

### c) Economic Effects of Changes in Interest Rates

Changes to the level of interest rates take time to have an impact on overall economic activity - i.e. there is a **time lag** involved. A change in interest rates can have wide-ranging effects on the economy.

The **transmission mechanism** is complex and there are **time lags** between the Bank changing rates and it having an effect on **AD**, **national output** and **inflation**.

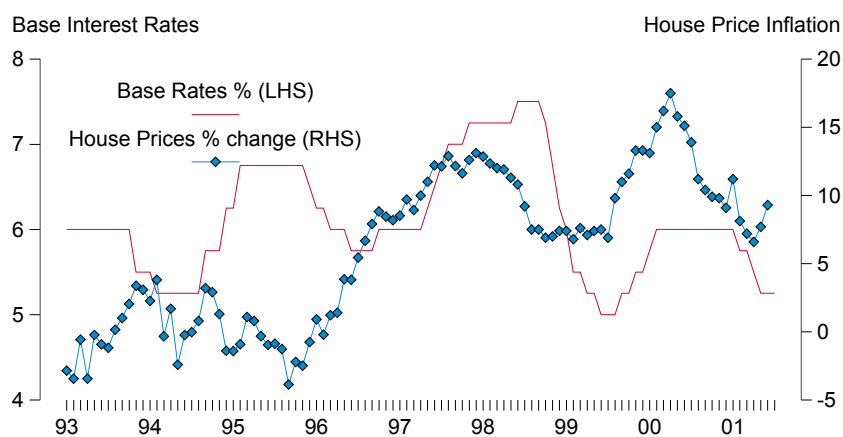
We distinguish between the effects of rate changes on the **household sector** (affecting consumption and savings decisions) and the **corporate sector** (affecting output and capital investment decisions).



### i) Housing market

High interest rates increase the cost of **mortgages** and have a negative effect on the demand for most types of housing. Conversely, a fall in interest rates should stimulate higher market demand and put upward pressure on house prices. This should increase consumption associated with house buying and moving. The rise in prices will also increase total **housing wealth** and make consumers more confident about their personal finances. The cut in interest rates from 7.5% in October 1998 to 5% in June 1999 was said to be a major factor in the acceleration in housing market activity during 1999 and the early spring of 2000.

## INTEREST RATES AND THE HOUSING MARKET



### ii) Effective disposable incomes of mortgage payers

If interest rates fall, the **effective disposable income** of homeowners who have variable-rate mortgages with their building society or bank will increase - leading to a rise in their **purchasing power**. People on fixed-rate loans will not be affected much in the short term.

Lower mortgage rates should stimulate an increase in new mortgage approvals and generally cause an expansion in housing market activity. The more people that are moving house, the greater the total spending on removals, home furnishings, new furniture and other linked items of spending.

### iii) Credit demand

Lower interest rates encourage people to spend using various forms of credit and should boost demand for "big ticket" consumer durables and high street spending generally.

### iv) A redistribution of income for savers & borrowers

When interest rates fall, there is a re-distribution of income away from lenders (who receive less) towards those with variable rate loans. People with positive net savings also stand to lose out from big cuts in interest rates. Typically these people tend to be older - having paid off their mortgage and raised a family.

### v) Investment & Stock-building

Firms take interest rates into account when deciding whether or not they go ahead with new capital investment spending. A fall in interest rates should help to increase business confidence and raise the level of planned fixed investment.

### vi) Monetary Policy and the Exchange Rate

One important link between interest rates and the economy comes through the exchange rate. Lower interest rates might cause a **depreciation of the exchange rate** and therefore boost demand for domestic producers. A rise in the growth of exports is an **injection of AD** into the circular flow of income and spending leading to an increase in the factor incomes of people in work. This rise in UK exports should lead to an increase in the **equilibrium level of national income** and a **positive multiplier effect** on output and spending.

Conversely, higher domestic interest rates may cause the exchange rate to appreciate (there is some evidence of this during the years 1996-99) and this has a deflationary effect on exporters and overall AD.

### vii) Monetary Policy Asymmetry

Fluctuations in interest rates do not have a uniform impact on the economy. Some industries are more affected by base rate changes than others (for example exporters and industries connected to the housing market). And, some regions of the British economy are also more exposed (sensitive) to a change in the direction of interest rates.

#### d) The Factors that Determine Interest Rates

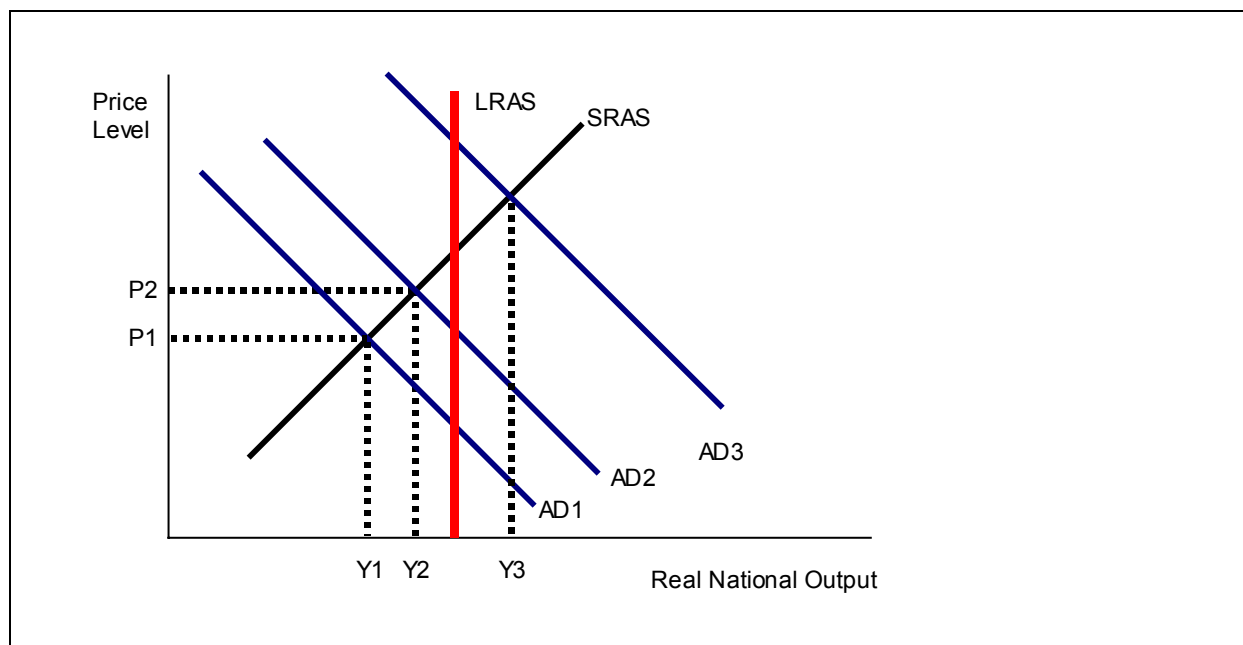
The Government has an **explicit inflation target** to keep inflation within 1% of 2.5% per year. Interest rates are set by the **Bank of England** with the main aim of meeting this inflation target.

When the economy is booming and there is a danger that inflation will accelerate, the **Bank of England** will raise interest rates in an attempt to control AD. This is a "tightening of monetary policy". If there is an economic slowdown (possibly a recession) then the Bank may decide to reduce interest rates in an attempt to boost consumer confidence and consumer spending.

The Monetary Policy Committee meets each month to assess the inflation risk for the UK and make their decision on base interest rates. Their two-day meeting involves a detailed round-table discussion of the latest macroeconomic developments. They factor into their discussions many separate indicators - including the strength of demand and output, consumer spending, trends in the housing market and recent developments in the foreign exchange market. They also look at information coming from the labour market - for example the growth of wages and earnings, indicators of skills shortages and recent changes in unemployment

### e) Aggregate Demand and Inflation

The Bank of England's job is to keep control of inflation. The risk of demand-pull inflation is greatest when AD for goods and services is rising strongly and short-run aggregate supply has become inelastic. At this stage of the economic cycle, the Bank is likely to be raising interest rates in a bid to control the growth of demand and reduce some of the inflationary pressure. Interest rates normally start to rise **before** the pick up in inflation has begun - because the Bank is concerned to act **pre-emptively** in a bid to keep control of AD.



In the diagram above, if AD grows to AD3, this takes equilibrium output in the short run, above long run aggregate supply. Although output can rise temporarily above LRAS, this puts increased pressure on scarce resources in the economy and is associated with a rise in inflationary pressure.

### f) Advantages of Lower Interest Rates

- ☐ Cheaper for businesses to borrow money to finance their capital investment spending - this will promote a faster rate of economic growth in the longer-term and make businesses more competitive
- ☐ Households enjoy cheaper loans for homes, cars and other big purchases - giving a boost to consumer spending on goods and services - adding to AD
- ☐ Cheaper credit makes it easier to start new businesses - a source of potential long run growth
- ☐ Lower interest rates may cause the exchange rate to depreciate - making exports relatively cheaper and improving the UK's trade performance with other countries
- ☐ Reduced interest burden on the national debt for the Government - allowing it to reallocate spending elsewhere. In recent years the Government has spent over twenty billion pounds per year in interest payments on its debt - more might be spent on other priority projects and schemes.

### g) Economic Risks of Lower Interest Rates

- ☐ Lower interest rates act as a disincentive to save - savings are needed to finance investment
- ☐ Savers may see their income fall
- ☐ Dangers that a credit boom may fuel rising demand-pull inflation
- ☐ If interest rates are too low, there is a risk that the housing market will accelerate too quickly
- ☐ Lower interest rates might cause a fall in the exchange rate and make imports more expensive

## **h) The Bank of England**

Known as the “Old Lady of Threadneedle Street”, The Bank of England is the UK's central bank - each country has one. The Bank was founded in 1694 by a group of private bankers to raise money for the Crown. It was recognized as the central bank note issuer in the UK in 1844.

The Bank plays a key role in the fight to keep inflation under control having been given more independence than ever before by the Chancellor, Gordon Brown. One of Brown's first actions as Chancellor in May 1997 was to give more power to the Bank with the formation of the Monetary Policy Committee on which the government does not have a vote. The Government sets the inflation target and the Bank of England's Monetary Policy Committee sets interest rates

## 24) THE EXCHANGE RATE

### a) Measuring the Exchange Rate

The exchange rate measures the **external value of sterling** in terms of how much of another currency it can buy. For example - how many dollars you can buy with £1000. The daily value is determined in **the foreign exchange markets (FOREX)** where billions of \$s of currencies are traded e hour.<sup>54</sup> To find the current bilateral exchange rate of one currency against another, try this [currency converter](#) or [world exchange rates from Rubicon](#). Exchange rate charts also available from the [Foreign Exchange Centre](#)

The EER is a weighted index of sterling's value against a basket of international currencies. Weights used are determined by the proportion of trade between the UK and each country

### b) Recent Trends in the Sterling Exchange Rate

	Annual Average Exchange Rate						
	USA Dollar	Euro	Japan Yen	Germany D-Mark	France Franc	Italy Lire	Spain Peseta
1995	1.58	1.21	148	2.26	7.9	2570	198
1996	1.56	1.21	170	2.35	8.1	2408	196
1997	1.64	1.41	198	2.84	9.6	2787	233
1998	1.66	1.51	217	2.92	9.8	2877	250
1999	1.62	1.52	184	2.97	10	2941	248
2000	1.52	1.64	163	3.21	10.8	3180	265
2001	1.47	1.58	183	3.08	10.4	3048	260

### c) Fixed and Floating Exchange Rates

- ☐ When the exchange rate is rising in the foreign exchange market it is said to be appreciating
- ☐ When the exchange rate is falling there is a depreciation in the currency
- ☐ When the exchange rate is reduced inside a fixed exchange rate system, this is called a devaluation

In a **floating exchange rate system**, the forces of market demand and market supply for a currency determine the daily value of one currency against another. If, for example, overseas investors want to buy into sterling to take advantage of higher interest rates on offer in UK bank accounts, they will swap their own currencies for pounds. This causes an increase in the demand for sterling in the foreign exchange markets, and in the absence of other offsetting factors, this will force sterling higher against other currencies.

In a **fixed exchange rate system**, the government (or the central bank acting on the government's behalf) **intervenes** in the currency market so that the exchange rate stays close to an **exchange rate target**. When Britain joined the [European Exchange Rate Mechanism](#) in October 1990, we fixed sterling against other European currencies. The pound, for example, was permitted to vary against the German Mark by only 6% either side of a central target of DM2.95. Britain left the ERM in September 1992 when the pound came under sustained selling pressure, and the authorities could no longer justify high interest rates to maintain the pound's value when the domestic economy was already suffering from a deep recession.

<sup>54</sup> Latest currency valuations available from Bloomberg [www.bloomberg.com/markets/currency.html](http://www.bloomberg.com/markets/currency.html)



Since autumn 1992, Britain has adopted a floating exchange rate system. The Bank of England does not actively intervene in the currency markets to achieve a desired exchange rate level.

In contrast, the twelve members of the Single Currency agreed to **fully fix** their currencies against each other in January 1999. In January 2002, twelve exchange rates become one when [the Euro](#) enters common circulation throughout the **Euro Zone**.

Changes in the exchange rate can have a powerful effect on the economy - but these effects take time to show through. There are **time lags** between a rise or a fall in the exchange rate, and changes in variables such as inflation, GDP and exports & imports.

Much depends on

- ☐ The scale/size of any change in the exchange rate
- ☐ Whether the change in the currency is short term or long term
- ☐ How businesses and consumers respond to exchange rate fluctuations

In late 1992 the pound fell sharply following its exit from the exchange rate mechanism. This devaluation proved to be a major boost to domestic demand and output. Since 1996, we have seen a substantial rise (appreciation) in the value of the pound. And since 1999, the exchange rate index has stayed high,

The appreciation in sterling has certain economic advantages and disadvantages:

#### i) Advantages of a strong pound

- ☐ A high pound leads to lower import prices - this boosts the real living standards of consumers at least in the short run - for example an increase in the real purchasing power of UK residents when traveling overseas
- ☐ When sterling is strong, it is cheaper to import raw materials, components and capital inputs - good news for businesses that rely on imported components or who are wishing to increase their investment of new technology from overseas countries.
- ☐ A strong exchange rate helps to control inflation - domestic producers face stiff international competition from cheaper imports and will look to cut their costs accordingly. Cheaper prices of imported foodstuffs etc. will also have a negative effect on the rate of consumer price inflation.

#### ii) Disadvantages of a strong pound

- ☐ Cheaper imports leads to rising import penetration and larger trade deficit e.g. the £28bn trade deficit in goods in 2000
- ☐ Exporters lose price competitiveness and market share - this damages profits and employment in some sectors - notably manufacturing industry in the last three years
- ☐ If exports fall, this has a negative impact on economic growth. Some regions are affected more than others. The strength of sterling in the last five years is one of the factors highlighted when economists analyse the north-south economic divide in the UK

Many business organisations have identified the strength of the exchange rate as a major economic problem over recent times. Economists working for the ITEM club argued in the summer of 2001 that the pound [should be lower by at least 10%](#) in order to prevent manufacturing industry falling into an economic slump.

However it should be noted that business can adapt to a high exchange rate. There are ways in which industries can adjust to the competitive pressures that a strong pound imposes. Some of the options include:

- ☐ Cutting export prices (lower profit margins) to maintain competitiveness and market share
- ☐ Out-sourcing components and raw materials from overseas

- ❑ Seeking productivity / efficiency gains to keep unit labour costs under control
- ❑ Investing resources in new product lines where both domestic and overseas demand is more [price inelastic](#) and less sensitive to exchange rate fluctuations. This involves producing products with a [higher income elasticity of demand](#), where non-price factors are more important in securing orders.
- ❑ Moving production overseas

Exchange rate devaluation would undoubtedly bring relief to many sectors. Indeed some commentators and industrialists believe that sterling must fall to more competitive levels before the UK can realistically consider joining the Euro. But a sharp fall in the exchange rate would also bring risks to the economy. The table below considers some of the main effects of a fall in the exchange rate.

#### **A depreciation of the pound sees the pound fall against other currencies**

INFLATION	A fall in the exchange rate makes imports more expensive in the UK. Producers may pass on higher costs of their imported components and raw materials onto consumers. This might cause <a href="#">cost-push inflation</a> . And, wages may rise in response to this adding to inflationary pressure in the economy.
EXPORTS	Exporters benefit from a lower pound because a fall in sterling makes UK goods cheaper in overseas markets when priced in a foreign currency. Demand for exports will grow faster if the demand for UK goods overseas is elastic leading to an increase in AD and a rise in UK national output. Hopefully, a fall in the exchange rate will help to reduce the <a href="#">UK trade deficit in goods and services</a> .
IMPORTS	<p>The demand for imports should fall as imports become more expensive</p> <p>Some imports are essential for production or cannot be made in the UK and have an inelastic demand - we end up spending more on these when the exchange rate falls in value.</p> <p>In the past year, the value of the pound against the US dollar has varied between US\$1.40 and US\$1.65. So a British company importing \$100,000 worth of goods and invoicing in dollars would have paid just over £60,600 when the pound was at its height, but £71,400 when the dollar strengthened later in the year.</p> <p>Conversely, the euro, launched at below 1.57 to the pound, slid to over 1.75 at its lowest point. A British company exporting to Europe in sterling would have had to reduce its prices by 11% to stay competitive.</p>
WAGE DEMANDS	<p>Partly due to higher inflation and falling real incomes, wages may rise.</p> <p>This depends on where the economy is in the <a href="#">economic cycle</a>. When <a href="#">unemployment</a> is low, consumers may feel more confident in asking for higher wages when they see the cost of imports rising in the shops</p>
ECONOMIC GROWTH (GDP)	<p>Higher exports and falling imports should lead to a higher level of equilibrium GDP</p> <p>A lower exchange rate and lower interest rates will stimulate consumer spending and should lead to an increase in output, profits and investment for firms that export overseas or who face competition from imported products.</p>

### Case Study: A strong pound can leave some sectors of industry feeling weak

How strong is the pound?

Since 1996, sterling has risen sharply in value against the European currencies. In the early 1990s, soon after Britain was ejected from Europe's exchange-rate mechanism (ERM), one pound would buy you as few as 2.30 marks (DM). At the pound's peak, back in May, sterling was trading at about DM3.40. At the close of London markets on Friday, the pound was worth just over 60p to the euro, equivalent to about DM3.26.

Against the dollar, however, the picture has been different, with the pound weakening significantly against the US currency. Earlier this year, sterling dropped below \$1.50 for the first time in four years, and has struggled to make up ground ever since.

Why do business groups complain about the effect of the strong pound on manufacturing?

When companies highlight the difficulties presented by the strong pound, they are usually referring to the impact of the currency on their European exports. When the pound rises, this makes exports more expensive and imports cheaper. So when the pound is strong against other European currencies, this can make it hard for British exporters to price competitively.

UK-based companies that compete with businesses overseas can also be hurt by the strong currency. Cheaper imports mean domestic businesses may have to cut their prices to maintain market share.

But don't some companies benefit from a strong currency?

As the strong pound depresses import prices, those companies that buy in raw materials from overseas can achieve lower costs. This can help to boost profit margins - especially if these businesses are purely UK-based and do not have to struggle in export markets.

What can be done about the level of the currency?

A difficult question, as the MPC is duty-bound to keep underlying inflation at its 2.5 per cent target. The strong pound does enter into the MPC calculations, as it helps to keep inflation down. Other things being equal, the higher the pound, the lower the level of interest rates that is needed to meet the inflation target.

However, sterling is only one of a whole variety of things that the MPC looks at when setting rates. A strong pound does not guarantee that rates will be cut, or even left on hold.

If the MPC feels that other factors could send inflation above target, rates may rise even when the pound is high. The other option is government intervention to bring down the currency's level by selling pounds and buying euros on the foreign exchange markets. The Treasury has so far refused to intervene in this way partly because it is difficult for a government to be sure intervention will work when the scale of funds flowing around global exchange markets dwarfs the national reserves of any one country.

Closing Page