

AQA

A2 **Economics**

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A2 skills, extension material



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Developing from AS to A2 economics

Learning outcomes

The purpose of this resource is to:

- remind you of the examination assessment objectives
- provide advice on developing your A2 skills
- explain how the A2 exams provide scope for 'stretch and challenge'
- distinguish between grade A and grade A* at A-level
- explain how the A2 exam papers are synoptic

Developing your AS skills

As you should remember from your AS studies, AQA examination questions in economics are designed to test four key skills. Listed in order of their degree of difficulty, the skills are:

- knowledge and understanding
- application
- analysis
- evaluation

The right-hand panel of Figure 1 shows the raw examination marks awarded for each of the four skills at A2. The left-hand panel shows the equivalent marks at AS.

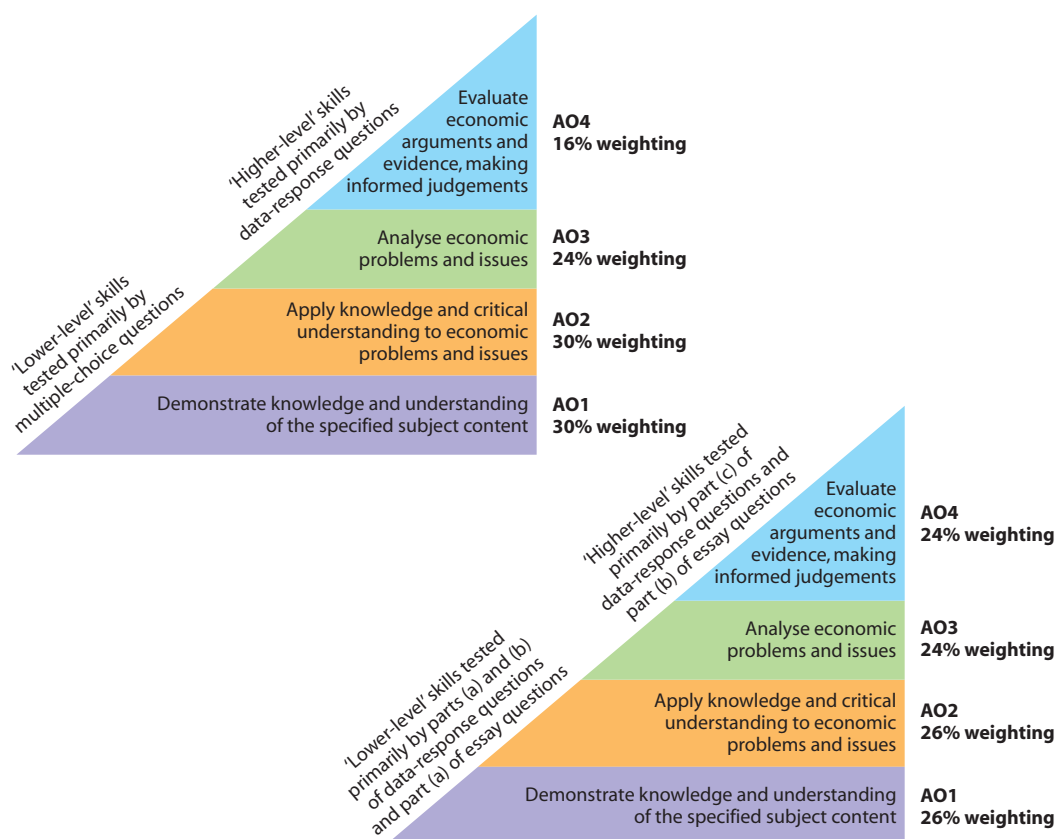


Figure 1 The exam weighting of the four assessment objectives at AS and A2

The lower-order skills of demonstrating knowledge and understanding, and application, are more important than the higher-order skills of analysis and evaluation in both the AS and the A2 examinations. However, their relative importance is greatest at AS where they carry a 60% weighting. At A2, the lower skills weighting drops to 52%. This means that higher-order skills have a higher weighting at A2 (48%), compared to 40% at AS.

The right-hand column of Table 1 below shows the weighting of the assessment objectives for the whole A-level (AS plus A2), with the individual unit weights shown in the middle columns. Overall, the total weight for the lower-order skills is 56% (28% plus 28%), and for the two higher-order skills 44% (24% plus 20%).

Table 1 Weighting of the assessment objectives for the whole A-level

Assessment objectives	Unit 1	Unit 2	Unit 3	Unit 4	Overall weighting of AOs
AO1 Knowledge (%)	7.5	7.5	6.5	6.5	28
AO2 Application (%)	7.5	7.5	6.5	6.5	28
AO3 Analysis (%)	6.0	6.0	6.0	6.0	24
AO4 Evaluation (%)	4.0	4.0	6.0	6.0	20
Overall weighting of units (%)	25.0	25.0	25.0	25.0	100

Box 1 AQA's advice on the four skills candidates need to display at AS and A2

Knowledge	Application	Analysis	Evaluation
A wide range of vocabulary is used accurately and with precision. Several relevant issues are raised.	Good application of economic theory when answering questions. Detailed understanding shown.	Makes a good attempt to analyse the context of the question. Uses evidence and wider knowledge to good effect.	Makes good overall judgements based on evidence and/or theory. Shows a good appreciation of alternative viewpoints. Critically assesses the strengths of individual arguments/theories and/or data to reach conclusions.

Knowledge and understanding

Without knowledge of the economic terms and concepts listed in the specification, and of the economic theories and models expected by the examiners, you can't hope to do well in the examinations, whether at AS or at A2.

The AQA specification advises that candidates should demonstrate:

- detailed knowledge of a range of facts and concepts included in the specification
- clear understanding of economic terminology, institutions and models

Candidates' knowledge and understanding of facts, concepts, terminology, institutions and economic models, such as those I survey in Chapter 1 of the A2 textbook, are tested by part (a) of

each of the essay questions in the Unit 3 and Unit 4 A2 examinations, and also in parts (a) and (b) of the data-response questions in each examination. (Remember, objective test questions, which are used at AS to test knowledge, understanding, application and analysis, are *not* part of the A2 examinations.)

Application

Data-response questions that primarily test the skill of application usually start with the word '**explain**'. Application requires selection of an appropriate theory or set of theories from the intellectual tool kit stored in your brain, to explain an *issue* or *issues* posed by the question. The issue may centre on the causes of an economic problem, or the effects of the problem. Again, part (a) of the essay questions in the Unit 3 and 4 exam papers tests the skill of application. In the data-response questions, along with other skills, part (b) tests this skill.

The AQA specification advises candidates to apply concepts, numerical and graphical techniques, theories and models, and economic terminology to issues arising in familiar and unfamiliar situations.

Analysis

When answering a data-response question, **analysis** requires selection of relevant information from the data source(s), and the use of the selected information, perhaps as evidence, in the answer. Information in the data is there to provide a prompt for your answer. You should indicate which bits of the data you are using, without resorting to copying out sentences or complete sets of numbers. It is usually not possible to analyse in this way when answering an essay question, because few essay questions include data. For essay questions, analysis involves the use of information stored in your brain about the real economy in which you live. Returning to the data-response questions in the Unit 3 and 4 exam papers, often part (c) of a question starts with the instruction: **With the use of the data and your economic knowledge, evaluate...** You should interpret this as an instruction to analyse as well as to evaluate.

The AQA specification advises that candidates should:

- select relevant concepts, models, theories and techniques
- demonstrate, for the most part, development of logical explanations of economic problems and issues with focus and relevance

Evaluation

Evaluation is the skill that candidates find most difficult and which is generally necessary to reach grade A. In the AS examination, provided that the objective test questions and the early parts of the chosen data-response question are answered well, it is possible to achieve a grade A without displaying the skill of evaluation. However, this is not true at A2. In the Unit 3 and Unit 4 exams, the candidates who can evaluate are the ones who gain the A grades. Evaluation is tested by the final part (c) of the data-response questions and by part (b) of the essay questions. Typically these contain the key instruction words: **evaluate, assess, discuss, or do you agree and justify your answer.**

To evaluate, you need to:

- demonstrate a critical approach to economic models and methods of enquiry
- demonstrate the ability to produce reasoned conclusions clearly and concisely
- assess the strengths and weaknesses of economic arguments and the limitations of data you use in your answer

Competing theories or explanations often lead into evaluation. Evaluation can require that candidates explain why, in their view, some arguments or lines of reasoning are more important than others. Where appropriate, alternative and competing theories must be weighed up. Assumptions must be stated and considered.

The effects of policy actions must be judged, because these sometimes bring **knock-on effects** elsewhere in the economy. Figure 2 contrasts two knock-on sequences that sometimes occur. Both start with Event A triggering Event B, which in turn gives rise to Event C. The sequence of events represents a **causal chain**, in that each event is responsible for causing another event along the chain.

The top half of Figure 2 illustrates an **explosive causal change**, in which the events triggered by the initial change in the economy become larger and ever more significant.

For the most part however, economists argue that 'knock-on' effects and causal chains are likely to be *dampened* rather than *explosive*. The bottom half of Figure 2 illustrates a **dampened causal chain** in which each of the sequence of events triggered by an initial event is smaller than the previous event, largely because events become absorbed by the economic system. One of the central propositions of economic theory that you learnt at AS, is that when goods become scarce, their prices rise and people begin to economise and alter their economic behaviour so as to offset the effects of the scarcity.

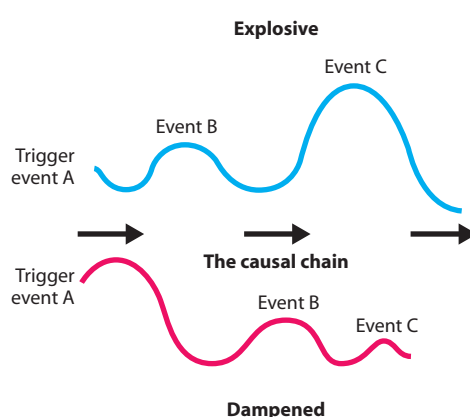


Figure 2 Knock-on effects and causal chains

Consider for example the possible sequence of economic events unleashed by the rapid rise in the price of crude oil in 2007 and early in 2008. Had the price of crude oil continued to rise in future months and years (in fact the price fell back from about \$140 a barrel to \$40 in the second half of 2008), the effects of the increase would probably have been partly absorbed by a movement to renewable fuels such as wind power and electrically-powered cars, and by the development of more fuel-efficient technologies.

This happened a generation or so ago following the oil-price crises in the 1970s and 1980s. Higher oil prices and the need to reduce their dependence on oil-producing countries, some of which were controlled by unfriendly governments, led to oil-importing countries such as the USA and Germany becoming less dependent on imported oil and more efficient in their use of fossil fuels.

Extension material

Chaos theory and the butterfly effect

Perhaps the most fanciful explosive causal chain is the butterfly effect, which has been used to introduce one of the basic ideas of chaos theory. The butterfly effect refers to a flap of a butterfly's wings hypothetically creating tiny changes in the atmosphere that ultimately lead to a tornado thousands of kilometres away. The flapping wing represents a small change in the initial condition of the system, which causes a chain of events leading to completely unrelated large-scale events occurring elsewhere.

Nevertheless, whichever way the price of oil goes, with declining production of North Sea oil and gas and the near-closing down of the UK coal-mining industry, Britain has become more reliant on imported sources of energy, particularly imports of Russian natural gas. The UK may be becoming more rather than less reliant on events in politically unfriendly countries that have little reason to support UK governments.

Whatever the likely future course of events, the point I am making is that good evaluation can be based on awareness of different possible knock-on effects and an assessment of the different possible results of different sets of initial assumptions. Good evaluation is often based on taking account of the view that in economics, *everything often depends on everything else*.

For many questions, evaluation centres on consideration of the advantages and disadvantages of, or the costs and benefits of, or the 'case for' versus the 'case against' a course of action, e.g. a government economic policy, mentioned in the question.

Two different ways of evaluating

The method of evaluating most often used by exam candidates is to leave evaluation to the final concluding paragraph of an answer to part (c) of a data-response question or part (b) of an essay question.

However, this form of evaluation is less sophisticated, and usually earns fewer marks, than using evaluation throughout an answer to part (c) of a data-response question or part (b) of an essay question. In this method the candidate explains, when each point or argument is introduced into the answer, whether, in his or her view, it is a significant, or whether, though relevant, it is trivial.

Consider for example, an exam question that asks for an evaluation of the different economic policies a government might use to reduce unemployment. Weak answers might include little more than a 'shopping list' of different types or causes of unemployment (seasonal, structural, frictional, cyclical etc.) Such answers would contain no evaluation.

A good answer which is strong on evaluation might start with a 'shopping list', but this, together with a definition of unemployment, would only be the beginning of the answer. It is always a good idea to start by defining key concepts that can then serve as a platform for developing analysis and evaluation in the main part of the answer. Having started the answer with relevant definitions, a good candidate might then impose the assumption that the economy initially produces well inside its production possibility frontier (and to the left of the economy's vertical *LRAS* curve drawn on an *AD/AS* diagram). In this situation, much if not most unemployment is cyclical, caused by deficient aggregate demand. The answer would then argue that policies appropriate to reduce unemployment are those which increase aggregate demand, for example expansionary fiscal policy (e.g. tax cuts) and/or expansionary monetary policy (e.g. interest rate cuts).

However, if unemployment is caused by a factor other than deficient aggregate demand, for example structural or frictional factors, increasing aggregate demand is *not* an appropriate policy to reduce unemployment. When the economy is producing on or near to its production possibility frontier (and on or near to the *LRAS* curve), increasing aggregate demand leads mostly to inflation. Supply-side policies designed to reduce structural and/or frictional unemployment would be much more appropriate.

Whether or not you adopt this second approach to evaluation, you should nevertheless try to finish your answer with a conclusion. However, the conclusion must go further than a mere assertion that in your view, the benefits of your proposed recommendation exceed any likely costs (or vice versa). You can of course conclude by stating whether, on balance, the case for is stronger than the case against, but you *must* provide reasoned justification for your judgement. To do this, you must refer back to the relative strengths of the arguments discussed earlier in

your answer, highlighting again the reasons why you have judged certain arguments to be stronger than others. Drawing on the example of the unemployment question I have quoted, you could argue that when underlying assumptions are changed, the relative strengths of the arguments that stem from these assumptions also change.

Even if a conclusion sits on the fence, saying little more than 'it all depends on circumstances', it can earn marks. A conclusion that goes beyond mere asserted opinion to justify an argument always provides the examiner with good evidence of evaluation.

As a final point, it is worth noting that, in the context of UK macroeconomic performance, examination questions vary between those that ask for evaluation of the effect of UK government policy on macroeconomic performance and the reverse — requiring discussion of the effect of macroeconomic performance on government policy. Past questions have sometimes focused on the effect on UK economic performance of an outside shock hitting the UK economy, for example, a recession in the USA. Questions may also require evaluation of the effect of changes in macroeconomic performance on household or business behaviour (for example, the effect on consumption, saving and investment behaviour).

The AQA specification advises that to achieve an A grade, candidates characteristically evaluate straightforward economic arguments and evidence by:

- prioritising evidence and arguments
- making judgements
- reaching and presenting conclusions

AQA has some good advice on evaluation in economics in the Teachers Resource Bank available on the AQA website at: www.aqa.org.uk/qual/gce/pdf/AQA-2140-W-TRB-EGT.PDF.

Stretch and challenge

From 2010 onward, the questions set in Unit 3 and Unit 4 examinations, have to offer an opportunity for A2 candidates to be 'stretched and challenged' in their responses. Stretch and challenge is designed to allow the brightest students the opportunity to demonstrate the full extent of their knowledge and skills.

According to AQA, this requirement is met by the parts of each of the data-response and essay questions that call for extended writing in the answers. These are the parts of the questions that are marked according to a **levels of skill** mark scheme. The higher skill levels (Levels 4 and 5) of the mark scheme indicate the high expectations which candidates are required to meet in order to achieve high marks. In the new A2 examination papers mark schemes will give due reward to candidates displaying the higher-order skills of analysis and evaluation in answering those questions whose command words indicate that these skills need to be used (part (c) of the data-response questions and part (b) of each essay).

Box 2 Level 4 Good analysis but limited evaluation

A clear understanding of the interrelatedness of economic issues, problems and institutions is demonstrated. The candidate shows the ability to think as an economist making effective use of the economist's tool kit of concepts, theories and techniques. There is some appreciation of alternative points of view. Satisfactory use is made of evidence and/or theoretical analysis to evaluate the issues/arguments/models identified. The candidate demonstrates some ability to synthesise the arguments presented and come to some relevant conclusions although these might not always be based on evidence presented.

The first few guidance instructions in the Level 5 mark scheme are the same as for Level 4. However, the instructions that appear later in the guidance note are more demanding and indicate the skill required to reach a high Level 5 mark.

Box 3 Level 5 Good analysis and evaluation

There is an appreciation of alternative points of view. Good use is made of evidence and/or theoretical analysis to evaluate the issues/arguments/models identified. The candidate demonstrates the ability to synthesise the arguments presented and come to conclusions which are based on the evidence presented. A clear final judgement is made.

Achieving an A* grade

The introduction of stretch and challenge questions is now being matched by the award of a new A* grade at A-level. Like the A* grade at GCSE, which has existed for many years, the A-level A* grade attempts to address the need for greater differentiation between the most able students. If the new system works, the most able will gain an A* grade, while the slightly less able will be awarded the standard A grade. A very good performance at A2 is needed for an A* grade to be earned. A high mark at AS, accompanied by reasonable but not excellent performance at A2, may achieve an A grade, but not an A* in the overall A-level.

For A2 and the overall A-level, the **Uniform Standardised Marks (USM)** needed to gain an A grade and an A* grade are shown in Table 2 below. (The examiner who marks your exam paper awards a raw mark, which is then converted into a USM, for which the possible total mark per unit exam is 100, with 80 being the grade boundary for Grade A.)

Table 2 Uniform Standardised Mark (USM) requirements for grades A and A*

AS		A2	
	Maximum mark		Maximum mark
Unit 1	100	Unit 3	100
Unit 2	100	Unit 4	100
Total	200	Total	200
Grade A boundary	160	Grade A boundary	160

	A-level (AS and A2)
Total	400
Grade A boundary	320
A* requirement	320 overall, with 180 achieved at A2

Synoptic assessment

Both the Unit 3 and Unit 4 examinations at A2 are **synoptic**. To understand what this means, you should compare the Unit 3 examination with the Unit 1 AS examination on Markets and market failure. Questions in the Unit 1 examination must only test knowledge and understanding of terms and concepts set out in the AQA Unit 1 specification. For example, a Unit 1 examination cannot contain a question on a market which requires the candidate to apply a macroeconomic concept (such as the influence of the economic cycle) to explain a shift of the demand curve.

Booms and recessions are in the Unit 2 National economy specification and not in the Unit 1 specification.

A question such as this could, however, appear in the Unit 3 examination. It illustrates both vertical synopticity and horizontal synopticity. **Horizontal synopticity** requires the application of a Unit 4 macroeconomic concept or theory to answer a Unit 3 microeconomic question. By contrast, **vertical synopticity** requires the use of AS microeconomic concepts and theories (in the Unit 1 specification) to answer Unit 3 microeconomic questions. A few years ago, a Unit 3 data-response question on the beer market, asked candidates to apply the concept of elasticity when evaluating the effect of an increase in the tax on beer. Some answers were disappointing because candidates had not practised and revised elasticity since completing their AS study a year earlier. These candidates had forgotten, or were not aware of, the fact that knowledge and application of Unit 1 concepts and theories might be required in the Unit 3 examination, even though there is no mention of them in the Unit 3 specification. Inclusion of the relevant concepts and theories in the AS specification legitimises the appearance of such questions in the Unit 3 and Unit 4 examinations.

Finally, **lateral synopticity** requires application of a Unit 1 microeconomic concept (again, elasticity provides a good example) to answer a Unit 4 macroeconomic question on the effect of a devaluation on the current account of the balance of payments. In a similar way, a Unit 3 microeconomic question on inequalities in the distribution of income might require candidates to use their knowledge of causes of unemployment (a Unit 2 macroeconomic topic).

Box 4 AQA's advice on synopticity

Synoptic assessment in economics is included in both A2 units. Synoptic assessment tests candidates' understanding of the connections between the different elements of the subject content. It relates to all the assessment objectives. In particular, synoptic assessment will test candidates' ability to:

- understand the interrelatedness of many economic issues, problems and institutions
- understand how certain economic concepts, theories and techniques may be relevant to a range of different contexts
- apply such concepts, theories and techniques in analysing economic issues and problems and in evaluating arguments and evidence

The emphasis in the synoptic assessment will be on candidates' ability to think as economists and to use effectively the economist's tool kit of concepts, theories and techniques which they have developed during their course of study.

Important points to note are:

- There is no mention of supply and demand (except in the context of the labour market) in the Unit 3 specification, yet it is vital that you remember and revise this important element of microeconomics.
- Market failures such as public goods, externalities, merit and demerit goods are not mentioned explicitly in the Unit 3 specification. However, you may be required in the Unit 3 examination to develop and extend material learnt at AS, for example by applying the concept of allocative efficiency (an A2 concept) to the analysis of market failure and government failure you first learnt at AS.

Extension material

This section provides extension material relating to some chapters of the textbook.

Unit 3 Business economics and the distribution of income

Chapter 2 Introduction to business economics

Why firms exist

In 1937 Ronald Coase wrote a highly influential academic paper on *The Nature of the Firm*. For most of us, the existence of a business or a firm is so taken for granted that we don't question why firms exist. Coase, however, addressed this question and argued that business organisations controlled by entrepreneurs can produce and sell goods and services at a lower cost than if individual traders simply form contracts with each other and trade their products between themselves.

It has sometimes been argued that because markets are 'efficient', it is cheaper to outsource the provision of services rather than to hire people to do it within a firm. However, Coase argued that using the market creates a number of transaction costs which raises the price above the cost to a firm if it were to organise production internally. Businesses come into existence when internal organisation of production allows firms to avoid costs such as bargaining costs, enforcement and policing costs and information and search costs.

Here is part of what Ronald Coase wrote in 1937 on why firms exist:

Outside the firm, price movements direct production, which is co-ordinated through a series of exchange transactions on the market. Within a firm, these market transactions are eliminated, and in place of the complicated market structure with exchange transactions is substituted the entrepreneur-coordinator, who directs production.

The main reason why it is profitable to establish a firm would seem to be that there is a cost of using the price mechanism. The most obvious cost of 'organising' production through the price mechanism is that of discovering what the relevant prices are. The cost may be reduced but it will not be eliminated by the emergence of specialists who will sell this information. The costs of negotiating and concluding a separate contract for each exchange transaction which takes place on a market must also be taken into account.

It is true that contracts are not eliminated when there is a firm but they are greatly reduced. A factor of production (or the owner thereof) does not have to make a series of contracts with the factors with whom he is co-operating within the firm as would be necessary, of course, if this cooperation were a direct result of the working of the price mechanism...

We may sum up by saying that the operation of a market costs something and by forming an organisation and allowing some authority (an 'entrepreneur') to direct the resources, certain marketing costs are saved. The entrepreneur has to carry out his function at less cost, taking into account the fact that he may get factors of production at a lower price than the market transactions which he supersedes, because it is always possible to revert to the open market if he fails to do this.

Chapter 6 Evaluating perfect competition and monopoly

The Austrian school, Schumpeter and creative destruction

Much of the microeconomic theory you study at AS and A2 is descended from the writing of the great British neoclassical economist, **Alfred Marshall**. Indeed supply and demand and the theory of perfect competition are sometimes called **Marshallian theory**. Two key elements of Marshallian theory are **partial-equilibrium** and **comparative-static** analysis. You learnt about both (but probably did not come across the terms themselves) in your AS study of supply and demand. Partial-equilibrium analysis holds most of the economy constant (invoking the *ceteris paribus* assumption) and then examines how equilibrium is determined in a very small part of the economy, say the market for apples. At the next stage, the *ceteris paribus* assumption is slightly relaxed, for example by assuming that the costs of producing apples increases. This shifts the supply curve of apples and a new equilibrium price and quantity are determined. Comparing the two equilibria, before and after the shift, is comparative-static analysis.

At A2, I have used the same method of analysis for explaining perfect competition and monopoly. When compared in this way using efficiency and welfare criteria, perfect competition seems to win. But reference is made to the possibility of monopoly achieving economies of scale and dynamic efficiency improvements that might justify its existence. However, there is a competing body of microeconomic theory that is known as the **Austrian school**. Centred in Vienna, members of the Austrian school such as Carl Menger and Eugen von Böhm-Bawerk wrote in German. For this reason, their theory is less well known in Britain and the USA than the theory of Alfred Marshall. Two twentieth-century members of the Austrian school were Friedrich von Hayek and Joseph Schumpeter. Schumpeter, who, to escape Nazi persecution, emigrated to the USA, developed the Austrian tradition of being much more interested in dynamic change taking place in the economy than in partial equilibrium and comparative statics.

Robert Skidelsky, the authoritative economics commentator wrote:

Joseph Schumpeter was one of the greatest economists of the twentieth century — commonly bracketed with such giants as Keynes, Hayek and Friedman. He is best known for his theory of **creative destruction** — the view that the capitalist system progresses by constantly revolutionising its economic structure. New firms, new products, new technologies continually replace old ones. Since innovation comes in fits and starts, the capitalist economy is naturally, and healthily, subject to cycles of boom and bust. The agent of this revolutionary process is the **heroic entrepreneur**: the individual owner in the nineteenth century, big business in the twentieth. Innovation needs its reward, hence a dynamic economy is one which allows the innovator huge profits.

Temporary monopoly is nature's way of allowing innovators to gain from their inventions. Short-run inequity is the price of long-run progress.

Because Schumpeter's theory is essentially dynamic, it can lead to the conclusion that monopoly is more often good than bad — the complete opposite to the conclusion of Marshallian economics. Indeed, Schumpeter was a strident critic of conventional neoclassical theory, whose concern with static problems of allocation in perfectly competitive markets rules out change and the role of the entrepreneur.

Chapter 7 Oligopoly and concentrated markets

Price leadership

Three different types of price leadership have been identified:

Dominant price leadership

When there is just one large firm in a market, the dominant firm can set a price to satisfy its own needs, taking into account also the anticipated reactions of a large number of small competitors which are each too small to have a noticeable effect on price. The smaller firms in effect behave like perfect competitors, adjusting their output decisions to the market price set by the dominant price leader. While the dominant firm might in principle be able to use its cost advantages to reduce prices and force the smaller firms out of business, fear of government intervention and knowledge that the small firms might easily re-enter the market once profit margins were restored, can explain why the dominant firm tolerates the survival of the smaller firms.

Collusive price leadership

When several large firms together dominate the market, different firms may set the price at different times. It is usually easiest for one of the firms to set a price, which its rivals will follow when:

- there are only a few firms
- the firms produce close substitutes
- the firms' cost curves are similar
- there are barriers to entry
- demand is relatively inelastic

Barometric price leadership

On occasion the price leader acts as a barometer of market conditions, indicating the various pressures on price. Within the market the barometric price leader may change over time, but is likely to be a firm monitored by the other firms because of its ability to respond to market conditions rather than because it is necessarily larger or more efficient. If, in the view of its rivals the barometric price leader makes a wrong assessment of the market, its price may not be followed and the firm may have to change its decision if it is to keep its market share.

Transfer prices

Recent years have seen the proliferation of large business corporations, including multinational corporations operating subsidiary factories in many parts of the world. Many goods and services are transferred within the firm, being 'sold' by one part of the enterprise to another part of the same business corporation. These 'sales' are coordinated through the firm's administrative framework rather than through the market.

The setting of internal transfer prices between the subsidiaries owned by multinational corporations has attracted attention because of the potential effects on the economies of the countries in which the multinationals operate. A multinational may set transfer prices to minimise the corporation's overall tax burden. Suppose, for example, that a multinational car company operates plants in the UK and Germany, which exchange engines and other car components with each other. If company taxation in the UK is significantly higher than in Germany, top management might order the British subsidiary to sell below cost the components supplied to the German branch of the business. Conversely, the German plant

might be instructed to set a high price for its 'exports' to the UK subsidiary. By manipulating transfer prices in this way, the parent company can declare profits in Germany so as to avoid company taxation in the UK.

In extreme cases, multinationals may set up subsidiary plants or offices in off-shore tax havens: that is, countries with extremely liberal or relaxed tax regimes, which are often combined with a legal system allowing a high degree of business secrecy. Transactions undertaken between the multinational's productive subsidiaries are then diverted through the intermediary of the tax haven. Transfer prices are fixed to maximise the profits taken 'off-shore' and to minimise the taxes paid in the countries where the company actually produces. As a further spin-off, the multinational might use the resulting 'low profitability' of its British subsidiary to justify low wage increases for British workers, arguing that poor profitability results from the 'low value' of the goods produced by its British labour force, rather than from the artificially set transfer prices.

Chapter 8 Further aspects of the growth of firms

Small firms

Most small businesses are sole traders, partnerships and private companies, whereas the overwhelming majority of large businesses are public companies. The concepts of small and large businesses are less easy to define, since they do not refer to a precise legal status. Many years ago, the UK government defined a *small firm* as one with not more than 200 employees. But, because this definition is unsuitable for most industries, the definition of a small firm was extended to one that:

- has a relatively small share of its market
- is managed by its owners or part-owners in a personalised way
- is independent (thus subsidiary businesses of larger companies are not classified as small firms)

For most of the years after 1945, the number of small firms and their relative importance in the UK economy decreased. In the last 30 years, there has been some recovery, partly because the growth of the small-firm sector has been encouraged by successive governments. Conservative governments, in particular, have believed in the virtues of 'popular capitalism' and the 'enterprise economy'. There has also been much disenchantment with the performance of large firms, particularly in the manufacturing sector. Small firms may be more effective than large firms in job creation, since they tend to be more labour intensive. It has also been argued that small firms are a major source of technical innovation, and that they are more cost-effective than large firms in their research and development. Many new technologies appear to suit small-scale enterprise, since they are less dependent than older technologies on economies of large-scale production and long production runs.

Indeed, some new products in the field of information technology have been developed initially, not by established giants such as IBM, but by completely new **start-up** businesses. These are often founded by university research workers or by employees of the established large companies who decide to leave and set up on their own. In the USA, the Hewlett-Packard (HP) electronic instruments company provides a classic example of a start-up firm that has grown into a large business with worldwide operations. However, many small start-up firms are very different. Workers laid off through the closure or **downsizing** of large businesses enter self-employment in 'low-tech' activities such as mini-cab driving, window cleaning, and painting and decorating.

Small and medium-sized firms have also been created by the setting up of franchises, and by management and worker buyouts. **Franchising** is common in retailing and catering, where an individual operates his or her own business, but trades under the franchiser's name and sells the franchiser's products or services. The McDonald's and Kentucky Fried Chicken (KFC) chains provide examples. The franchisee pays the franchiser an annual royalty payment in return for trading under the franchiser's brand name and for receiving the benefits of national advertising and other supporting services.

Many conglomerates established when lateral growth of firms was fashionable have now **demerged**. Due to the disappointing results often achieved by diversified businesses, the recent fashion has been for large firms to concentrate on core business activities and to sell off or divest peripheral or non-core activities. Sometimes large companies have demerged or broken into smaller units as a defensive measure against unwelcome and potentially asset-stripping takeover bids. A demerger may result in a **worker or management buyout**. Confident that their expertise allows them to manage an activity better, the firm's managers and workers may offer to buy a part of the company being sold off, in order to run it themselves.

The Footsie Index

The share prices of the 100 leading public companies whose shares are quoted on the London Stock Exchange are included in the FTSE 100 Index (commonly known as the Footsie Index). Since its beginning in 1984, the changes in the companies included in the Footsie reflect the changes taking place in the UK economy. The changes that took place between 1984 and April 2007 are shown in Table 3. Note, however, that companies such as Ford are not included in the Index because they are private companies owned by overseas multinational companies. In 2007 and 2008 a number of UK financial companies left the Footsie, either because in the financial meltdown of the 'credit crunch' they were nationalised (e.g. Northern Rock) or because they were taken over by foreign banks (e.g. Alliance and Leicester).

Table 3 Percentage share of the Footsie Index by industry

Sectors	1 January 1984	5 April 2007
Banking	6.00	22.80
Insurance	5.80	5.70
Mining	2.00	10.10
Oil and Gas	15.00	17.00
Pharmaceuticals	4.00	9.70
Retailers	11.00	6.00
Technology	3.00	0.25
Telecoms	7.00	7.80
Tobacco	2.60	4.00
Travel and Leisure	6.00	2.20
Utilities	0.00	6.00
Others	37.60	8.05

Size matters, not all Footsie companies are equal. The larger the company, the more weight it is given in the Index. Oil giant BP has accounted for around 10% of the Footsie's value.

Originally based at 1,000 in 1984, the rises and falls of the Footsie reflect the ups and downs of the UK economy. Rising to an all-time high of 6,930 in December 1999, and holding onto most of the gains through 2000, the market then slid until March 2003, when it stayed for a time in the 3,200s. In the 'bull' market that followed, the Footsie rose to within a whisker of its 1999 peak, and even remained high in late 2007 during the months that followed the onset of the 'credit crunch' in August 2007. In 2008, however, reality set in and the Footsie dived in the new 'bear' market to reach the low 3,000s once again in October 2008.

Chapter 10 Market failure

The Seattle stomp

On 5 June 1997, *The Economist* published an article, based on American research, describing how US local authorities were starting to charge households for emptying dustbins. The article argued that, if rubbish disposal is free, people produce too much garbage.

The obvious economic solution is to make households pay the marginal cost of disposing of their waste. That will give them an incentive to throw out less and recycle more (assuming that local governments provide collection points for suitable materials). Several US cities have started charging households for generating rubbish. The common system is to sell tags which householders attach to rubbish bags or bins. In effect, the price of a tag is the marginal price the household pays for creating another bag of rubbish.

In Charlottesville, Virginia, households were charged 80 cents for each tag they bought. Following the introduction of pricing, the number of garbage bags collected fell sharply, by 37% over the first 5 months. However, this was largely due to a practice nicknamed the 'Seattle stomp' — a frantic dance first noticed when Seattle introduced rubbish pricing. Rather than buy more tags, households simply crammed 40% more garbage into each bag. But this is inefficient as compacting or crushing is better done by machines at landfill sites than by households. The weight of rubbish collected at Charlottesville (a better indicator of disposal costs than volume) fell by a modest 14%, while in nearby cities with no pricing scheme, it fell by 3.5%. More significantly, people resorted to illegal dumping rather than paying to have their rubbish removed. Illegal dumping may have accounted for 30–40% of the reduction in collected rubbish.

There was a 15% increase in the weight of materials recycled, suggesting that people chose to recycle free rather than pay to have their refuse carted away. But cities with garbage-pricing policies are likely to have 'greener' citizens who recycle more in any case. Once this effect is removed, it appears that pricing rubbish collection has no significant effect on recycling. Also, in richer towns, people throw out more rubbish than in poorer ones. The rich not only have more trash to remove, but their time is too valuable to be spent recycling or dumping.

Global warming, the greenhouse effect and carbon taxes

For many years now, scientists have been warning that industry and automobiles have been discharging enough gases into the atmosphere, particularly carbon dioxide, to heat up the earth in a greenhouse effect that could eventually result in disastrous climatic changes. Unfortunately, scientists cannot agree on how much global warming has already occurred, on

how much is likely to occur, or on what the exact climatic consequences will be. Nevertheless, there is widespread agreement that the increased emission of carbon gases, combined with the destruction of the tropical rainforests that absorb carbon dioxide from the atmosphere, constitute a pollution problem of global and potentially cataclysmic proportion. The possible consequences are so worrying that it is only prudent for governments to start to take action to slow the build-up of carbon dioxide through preventative measures, from encouraging energy conservation to developing alternatives to fossil fuels.

To discourage the use of fossil fuels and to promote conservation, governments can impose carbon taxes, set over and above the level of existing fuel taxes. The European Union has ordered member governments to introduce a carbon tax. They must quantify how much carbon dioxide is released into the atmosphere when fossil fuels are burnt and then choose the size of the carbon tax.

When setting the tax, governments must consider **abatement costs** as well as **damage costs**. Carbon pollution occurs because fossil fuels are burnt to produce useful goods and services. Banning carbon pollution raises costs of production and, in some cases, makes it impossible to produce particular goods and services. Abatement costs are the costs that society suffers as a result of reducing pollution. As the upper panel of Figure 3 shows, abatement costs are zero when there are no pollution controls. In this situation, carbon dioxide emissions are maximised, as are damage costs shown by the upward-sloping curve.

When set at the optimum level, a carbon tax reduces carbon dioxide emissions to Q_1 . In the upper panel of the diagram, the total costs of pollution (damage plus abatement costs) are minimised at this level of output. At Q_1 , the lower panel of the diagram also shows marginal damage cost equalling marginal abatement cost.

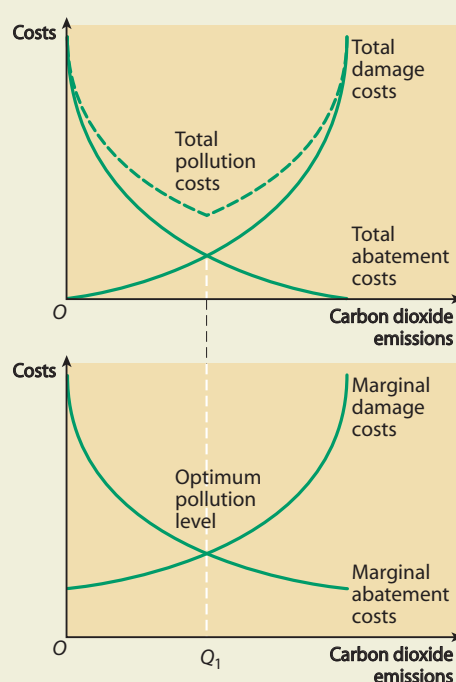


Figure 3 Setting the optimum level of a carbon tax

A carbon tax does not have to increase a country's overall tax burden, providing off-setting tax reductions can be made elsewhere. But even if all the world's countries agree to introduce a carbon tax (which the free-rider problem makes unlikely), the best that can be expected of a carbon tax is a reduction in the rate at which global warming occurs, rather than an absolute reduction in global temperature. Even with a 50% cut in emission levels, the rate at which carbon dioxide is added to the earth's atmosphere is greater than the rate at which it is being absorbed by vegetation. Ultimately, we must move away from fossil fuels to alternative energy sources.

Chapter 11 Government failure and cost–benefit analysis

Using political theory to help explain government failure

Government failure and theories of political behaviour

Government failure may result from the fact that in democracies such as the UK and the USA, elected politicians must face the ballot box every 4 or 5 years in the electoral voting cycle. Public choice theory assumes that both politicians and bureaucrats behave so as to maximise their self-interest. That means vote maximisation and re-election in the case of politicians, and for bureaucrats, the growth of their departments' budgets and spending plans. For politicians, the electoral pressure to find favour with voters can lead to very short time horizons in the government's decision-making process. This causes government ministers to favour public spending programmes with an immediate payoff, while rejecting those with an initially high investment cost but whose benefits lie several years ahead. Thus governments may be tempted to duck expenditure on research, training, and conservation and environmental protection, in favour of a spending programme which boosts voters' short-term consumption prospects, particularly in the run-up to general elections.

Government failure and theories of bureaucracy

The role of bureaucracy in the machinery of government may also contribute to government failure. To some extent, the role of bureaucrats in the implementation of public policy works in the opposite direction to that of the 4 or 5 year electoral cycle, causing governments to do too much for too long. In the model of bureaucracy developed by William Niskanen in 1971, it is assumed that government officials aim to maximise the budget of the department in which they work. The bigger the budget, the greater the department's prestige and the opportunities for promotion for departmental officials. Thus, since all the civil servants employed within a particular department have a vested interest in increasing the department's budget and spending plans, bureaucrats or officials think up arguments to justify extra spending. If all government departments behave in this way, the net effect is to exert upward pressure on government spending. Also, unlike private business, many government spending programmes do not face the discipline of a profit and loss statement through which their economic value can be calculated. This provides another reason for governments to over-expand their activities and for spending projects, once started, to develop their own momentum and be difficult to stop or rein back.

Chapter 12 Labour markets

Methods of pay determination in the UK

Chapter 12 of the textbook focuses on the economic theory of labour markets, with only cursory mention of institutional arrangements that affect labour markets. By contrast, this extension material surveys three ways in which pay is determined in the UK, through collective bargaining, individual negotiation and state determination.

Collective bargaining

Traditionally, the main function of trade unions has been to engage in collective bargaining: that is, to bargain collectively with employers on behalf of the union's members. This is to determine rates of pay and other conditions of employment, ranging from pensions, holidays and disputes procedures to conditions of work within a particular workplace.

There are many different forms of collective bargaining, which reflect the varied structure of industries and labour markets, and the haphazard way in which both unions and employers' associations have developed their present-day structure. In one industry there may be a single trade union representing all the employed workers, which bargains either with a single employer or perhaps with all the firms in the industry, organised as an employer's association. In other industries, separate unions representing specific groups of skilled and unskilled workers may jointly bargain with the employer or employers, or they may bargain separately and perhaps in competition with each other.

We can also distinguish between national collective bargaining and various forms of local collective bargaining, for example at regional, plant and shop-floor level. National bargaining may determine basic or minimum agreed wage rates in an industry, while local bargaining determines any payments, such as bonuses, paid over and above the nationally agreed minimum and piece-work rates.

At various times in the past, when free collective bargaining was restricted and distorted by the government's incomes policy, there was a tendency for more and more of total earnings to be negotiated locally, so that the basic wage formed a declining proportion of total earnings. This process is known as **wage drift**. When a government imposes an incomes policy or period of wage restraint aimed at keeping down the rate of pay increases, unions find it easiest to evade the impact of the policy by bargaining informally with local employers. During such periods of imposed pay restraint, it has proved difficult to prevent locally negotiated pay deals, which are specific to a particular piece of work passing through a factory, and which raise pay by more than the incomes policy officially permits.

Individual negotiation

Individual negotiation generally takes place in the non-unionised parts of the economy. Two very different types of worker usually determine their pay by individual negotiation. At the one extreme are highly paid executives, managers and consultants offering specialist professional services. At the other extreme, unorganised low-paid workers, especially those who are casually employed in industries such as tourism and agriculture, negotiate individually with a prospective employer. In the latter circumstances, however, when the weight of bargaining power often lies with employers who offer wages on a 'take it or leave it' basis, the method of pay determination may more accurately represent **employer determination**, rather than individual negotiation. It is also worth noting that when pay is negotiated individually, the employer is most likely to undertake the wage discrimination described in Chapter 12 of the textbook.

State determination

In economic activities where the state or a public authority is the employer, trade unions have long been recognised and wages have been determined by collective bargaining. There have always been some exceptions, such as the armed forces and the police, where pay is fixed by state determination rather than by collective bargaining. In recent years, however, as a part of their policy of reducing the power of trade unions, UK governments have significantly reduced the role of the trade unions in the public sector. At one point, the government forced civil servants working in jobs related to national security to leave their unions. It has also unilaterally abandoned collective bargaining in the case of teachers, whose pay is now determined in part by the state and in part by headteachers.

Where the state determines pay, it has usually done so with the aid of an independent review body that advises the government on pay awards, on the basis of comparability with other groups of workers in either the private or public sector. However, on occasions, governments have been quite prepared to override these arrangements to set a crude limit on public sector pay.

The decline of trade unions in the UK

In autumn 2008 an estimated 6.5 million employees were members of one of the 60 trade unions affiliated to the Trades Union Congress (TUC) in the UK. This contrasts with 1979, the peak year for union membership, when over 12 million members belonged to 109 TUC-affiliated unions. Total union membership is normally larger than the TUC figures suggest as there are a number of trade unions outside the TUC. In 1979 total membership outside and inside the TUC was over 13.3 million or over half the labour force and there were 453 unions in total.

Less than one in five private sector employees were union members in 2008. Almost three in five public sector employees were union members in the same year.

As the figures indicate, trade union influence and membership was at its greatest in the 1970s. During this decade, the trade union movement expanded membership into previously non-unionised, white-collar office and professional workers. Its traditional base of support has been skilled, semi-skilled and unskilled blue-collar manual workers in the transport, mining and manufacturing industries. Because most large and medium-sized employers recognised trade unions, collective bargaining became the most significant form of pay determination in the UK.

At the same time, the trade union movement enjoyed an increasing influence on government policy, both directly through its hold on the Labour Party when the Party was in government and also through a growing trend towards corporatism in government decision making. Corporatism is a situation in which government decision making largely bypasses the formal democratic process. Thus important economic decisions — for example on pay policy — were made not in Parliament, but at informal meetings at 10 Downing Street attended by government ministers, the Confederation of British Industry (CBI) representing big business, and the TUC representing organised labour.

By the late 1970s, many people, especially on the political right, believed that the unions had gained far too much economic power and political influence. A majority of people seemed to accept the view that the performance of the UK economy was being adversely affected by the power of the trade union movement, for example, through uncompetitive labour markets and the unions' resistance to economic change. Following a series of strikes and other forms of trade union militancy, which culminated in a 'winter of discontent' in 1978–79, Margaret Thatcher's Conservative government was elected in 1979 with a mandate to 'cut the unions down to size' and to reverse the trend towards corporatism.

Over the years since 1979, a number of Employment Acts and related legislation have had just these effects. Indeed, government policy was so successful in reducing the power and influence of trade unions that, by 1997, many people believed that the pendulum had swung too far the other way. The law provided workers with too few rights and insufficient protection from exploitation by rogue employers. But by the opposite token, others believe that, in a globalised environment, giving more power back to the unions would cause the UK to lose out to competition from the newly industrialised countries (NICs) in Asia and the Pacific rim.

Privatisation and in particular deindustrialisation have contributed to the decline of trade unionism in the UK. Almost all the privatised industries such as British Gas and BT continue to recognise and bargain with trade unions. However, the deregulation that has accompanied privatisation has allowed new gas supply and telecommunications companies to gain market share. These market entrants are much less likely to recognise trade unions. By destroying or decimating industries such as the coal industry, deindustrialisation has had perhaps the most devastating effect on trade union membership, with major unions losing over half their members.

Unions have responded to the fall in membership and the decline in employers recognising unions by amalgamating and forming 'super unions'. There are now three large super unions: UNISON catering for blue-collar and white-collar public sector workers; the merged GMB union representing semi-skilled and unskilled manual workers, mostly in the private sector; and an expanded Unite union.

The growth, until recently, of female union membership has partially offset the fall in male membership. This growth reflected the growing importance of women workers in the labour force, but may also be a response to the fact that women workers are much more likely than men to suffer low-pay and labour market exploitation. Overall, the highest membership densities are in professional white-collar work, where over half of employees are union members compared to lower percentages for craft workers and low-grade white-collar clerical staff.

Unit 4 The national and international economy

The Pre-Budget Report

Most A-level economics students are familiar with the government's annual Budget. (If you are unfamiliar, refer back to Box 24.1 Budget day on page 304 of the *AQA AS Economics* textbook.) On Budget day the chancellor of the exchequer announces tax changes for the next financial year (5 April to 4 April in the next calendar year).

Many years ago, the government published a White Paper on public expenditure several months before the next year's Budget. The white paper announced increases in public spending for the next financial year. However, as an unintended consequence, economic analysts, pundits and journalists used the information in the White Paper to predict the following year's tax changes. Because of this, the government decided to abolish the White Paper on public expenditure in its then form, and to merge announcements on future public spending into the main Budget. Also, for a few years, Budget day was moved from March to the preceding December.

The December Budget did not last long. A few years later, the government decided that December is not a good month for a Budget and moved Budget day to March once again. To fill the autumn 'slot' vacated by this change, the government introduced a new **Pre-Budget Report**. The main purpose of the Pre-Budget Report is to reduce uncertainty among businesses and households, by pre-announcing tax and spending changes to be introduced in the next year or later. (Cynics believe, however, that the government uses the Pre-Budget Report to pre-announce unpopular tax changes which don't have to be paid immediately. By keeping absolutely quiet about the tax changes a few months later when the tax changes actually kick in, the government hopes that people will have forgotten about the higher taxes they eventually end up paying.)

The Pre-Budget Report in November 2008 was rather different, resembling a full March Budget. The Labour government used the occasion to announce a 2.5% cut in VAT and increases in government spending and the budget deficit to provide the **fiscal stimulus** deemed necessary to try to end the recession which had started a month or two earlier.

Crass Keynesianism?

Immediately after the publication of the November 2008 Pre-Budget Report, which marked the switch back to using fiscal policy for demand management, Peer Steinbrück, the German finance minister, ridiculed the decision to cut VAT by 2.5% and accused the UK's Labour government of 'crass Keynesianism'. Herr Steinbrück argued that the fiscal stimulus would raise the level of UK national debt to such an extent that it would take a generation to pay off. UK Prime Minister Gordon Brown dismissed the attack as 'internal German politics'. Brown's view was given some credibility when Germany's Chancellor Angela Merkel threw her weight behind a €200bn fiscal stimulus to increase aggregate demand in the European Union. Merkel seemed to contradict her own finance minister. Here is what Peer Steinbrück said:

The same people who would never touch deficit spending are now tossing around billions. The switch from decades of supply-side politics all the way to a crass Keynesianism is breathtaking. When I ask about the origins of the crisis, economists I respect tell me it is the credit-financed growth of recent years and decades. Isn't this the same mistake everyone is suddenly making again, under all the public pressure?

The term 'crass Keynesianism' reminds me of a debate which took place at the height of the Keynesian era in the 1960s and 1970s. The debate centred on 'The economics of Keynes versus Keynesian economics'. 'The economics of Keynes' referred to what John Maynard Keynes wrote in his *General Theory* of 1936 and in his other publications before his death in 1946. 'The economics of Keynes' stemmed from Keynes's own writings, which actually focused to a considerable extent on the role played by money in the economy. By contrast, the term 'Keynesian economics' was a label rather dismissively used to describe the policies pursued by British governments in the 1950s, 1960s and 1970s. Arguably, the supposedly Keynesian policies implemented at the time were too simplistic, ignoring the role of money, and also neglecting the role of the economy's supply side. Reversing Say's law, that 'supply creates its own demand', Keynesian economics centred on the naive belief that 'demand creates its own supply'.

In 2008, Peer Steinbrück seemed to be criticising the UK government for hugely increasing the budget deficit in the blind hope that this would automatically stimulate aggregate supply, with little or no inflationary consequence.

Chapter 14 Economic growth, development and standards of living

The causes of long-run economic growth

Long-run economic growth is explained almost exclusively by supply-side factors. However, sufficient aggregate demand has to be generated to absorb the extra output produced by the growth process. The immediate supply-side cause of long-run growth is increased labour productivity, which itself results from investment in, and accumulation of, capital goods and human capital, and from technical progress.

There are two main theories of long-term economic growth: **neoclassical growth theory** and **new growth theory**.

Neoclassical growth theory

The older theory, known as neoclassical growth theory, which was developed by Professor Robert Solow in the 1950s, argues that a sustained increase in investment increases the

economy's growth rate, but only temporarily. The ratio of capital to labour goes up, the marginal product of capital declines and the economy moves back to a long-term path, which is determined by output growing at the same rate as the workforce, plus a factor to reflect improving labour productivity. In neoclassical growth theory, the rate at which labour productivity improves is determined by technical progress. But the theory does not explain why technical progress occurs. This is the theory's weakness. The determinants of the ultimate engine of economic growth, namely technical progress, are exogenous to the theory. Neoclassical growth theory fails to provide a complete explanation of economic growth because changes in technical progress are not explained *within* the model.

New growth theory

In recent years, neoclassical growth theory has been replaced to a significant extent by new growth theory. New growth theory, developed by Professor David Romer in the 1990s, is also called endogenous growth theory, reflecting the fact that, unlike in neoclassical growth theory, the determinants of technical progress are brought *inside* the theory. The three main sources of technical progress explained by new growth theory are profit-seeking research, openness to foreign ideas and accumulation of human capital.

- **Profit-seeking research.** The rate at which technical progress occurs depends on the *stock* of ideas. The *flow* of new ideas thought up by current researchers adds to the 'capital stock' of existing ideas. How many new ideas there are depends on the number of researchers, but the extent to which new ideas improve technical progress depends on whether or not 'over-fishing' occurs. Over-fishing means that the discovery of new ideas makes it harder to find further new ideas. But conversely, the opposite may be true, as accumulating ideas may make researchers more productive rather than less productive. Paul Romer, one of the most influential developers of new growth theory, assumes that this latter outcome is dominant, which means that countries with more researchers can have higher growth rates.
- **Openness to foreign ideas.** Economic growth can derive either from domestic innovation or from technological transfer from other countries. In 1999, Cameron, Proudman and Redding argued that the rate at which technical progress occurs in a country depends on three factors: the domestic rate of growth of technology in the absence of technology transfer; the rate at which technology can be adopted from abroad; and the proportion of foreign technologies that can be adopted. This means that for a technology-following country, technology grows at its own domestic rate of technology growth, with some extra catch-up generated by technology-leading countries.
- **Accumulation of human capital.** Human capital accumulates through educating and training a skilled workforce from among a country's indigenous population, and through migration from other countries. Migration adds to human capital providing migrants possess appropriate education and skills, or are willing and able to attain appropriate education and skills. A high level of human capital is best regarded as a *necessary* condition, but not as a sufficient condition, for successful economic growth. This is because technological change requires workers to possess the skills and aptitudes required for adapting to new technologies, rather than those that used to be necessary for old, declining technologies.

New growth theory suggests that appropriate government intervention can create the supply-side conditions that favour growth. These include:

- conditions that encourage profit-seeking research and appropriate accumulation of human capital
- externalities or external economies provided by the state which benefit private sector businesses
- patent legislation and a judicial system that enforces the law of contract and intellectual property rights, which create the incentive for firms to innovate

Long cycles and Joseph Schumpeter

An economic cycle, which is usually between 4 and 10 years long, is sometimes called a short cycle. This is to distinguish business cycles from much longer cycles that may last as long as 60 or 70 years. Long cycles are also called Kondratieff cycles, after the Russian economist who first identified them in the 1930s.

The famous Austrian-American economist, Joseph Schumpeter, provided a theory to explain long cycles. Schumpeter argued that long cycles are caused by sudden bursts of technical progress, occurring on the supply side of the economy. Each burst stems from a major innovation or set of innovations, which changes the means of production in a significant part of the economy. A major innovation or set of innovations is often linked to a new **general purpose technology (GPT)**.

GPTs that may have triggered the start of a long cycle include those that relate to the development of railways, chemical industries and electric power in the nineteenth century, and the automobile and ICT in the twentieth century. Innovations and new GPTs significantly increase the rate of investment, in order to equip the economy with the capital goods needed to implement the new technology. The subsequent investment boom greatly increases aggregate demand. But eventually, the new technology becomes an old technology. A form of diminishing returns sets in and the economy's growth rate slows, until the next significant bout of technical progress ushers in a new long cycle.

Using purchasing power parity (PPP) exchange rates to compare standards of living in different countries

To make this comparison, it is possible to compare GNP per capita in different countries by converting GNP figures for each country into a common currency such as the US dollar. However, such calculations suffer from the assumption that the exchange rates between local currencies and the dollar are correctly valued, in the sense that a dollar's worth of output in one country becomes immediately and accurately comparable with a dollar's worth of output in any other country. This is seldom so.

Exchange rates can only correctly reflect the values of internationally-traded goods such as automobiles, foodstuffs and raw materials. The purchasing power of a currency over domestically produced goods and services, which do not enter into international trade or compete domestically with imports, may be completely different from the currency's purchasing power over imported goods. In so far as there is a much wider gap in developing countries than in developed countries between the price changes of internationally-traded and non-traded goods, GNP figures measured in US dollars tend to underestimate real levels of income and output in developing economies.

The solution to this problem is to establish **purchasing power parity (PPP)** exchange rates. PPP exchange rates are based on the idea that, in the long run, exchange rates should move towards rates that equalise the prices of an identical basket of goods and services in any two countries. Stated simply, a dollar, or any other unit of currency such as the euro, should buy the same everywhere.

The Economist's Big Mac index

The Economist's Big Mac index is based on the theory of purchasing-power parity (PPP), according to which exchange rates should adjust to equalise the price of a basket of goods and services around the world. The Economist's basket is a burger: a McDonald's Big Mac, which is produced in about 120 countries.

The index is supposed to give a guide to the direction in which currencies should, in theory, head in the long run. *The Economist* claims it is only a rough guide, because a Big Mac's price reflects non-tradable elements — such as rent and labour. For that reason, it is probably at its best when comparing countries at roughly the same stage of development.

Professor David Pearce, an environmental economist

The environmental economist Professor David Pearce, who died in 2005, certainly believed it is possible to achieve sustainable economic growth. Pearce argued that running out of materials and energy is unlikely to be a real limit to growth, as there are many resources that humankind has not begun to develop and there are almost limitless energy sources from the sun. He believed the limits to growth lie more in the problem of *resource degradation* than in the problem of *resource depletion*, with used-up resources reappearing elsewhere as waste.

While rejecting environmentalists' calls for an end to economic growth as a policy aim, Professor Pearce had little time for cornucopists who believe that economic growth is more important than environmental loss, which they regard simply as the inevitable price of growth.

Pearce believed we must have growth to meet human desires and aspirations, and to lift the world's poor out of poverty. But we must also have environmental quality because it is essential to human wellbeing. The trick is getting both at the same time. Environmental concerns must be properly integrated into economic policy from the highest (macroeconomic) level to the most detailed (microeconomic) level.

The environment must be seen as a valuable, frequently essential input to human wellbeing. Sustainable development means a change in consumption patterns towards environmentally more benign products, and a change in investment patterns towards augmenting environmental capital.

Chapter 16 Employment and unemployment

Keynes's response to classical unemployment

Keynes did not completely reject the classical theory of unemployment; he accepted that high wages could cause unemployment and that under certain circumstances, cuts in wages would create employment. However, whereas the economists of his day blamed the real world rather than free-market theory for persistent large-scale unemployment, Keynes started from the opposite premise: if a theory inadequately explains the real world, do not blame the real world, instead improve or replace the theory. Hence, in 1936 in his *General Theory*, Keynes set out what he clearly thought was a better and more general theory to explain the determination of output and employment in the economy than that offered by the classical theory. From Keynes's *General Theory*, modern macroeconomics developed.

To understand Keynes's attack on the classical theory of unemployment, we must first understand the difference between the *money wage* (or nominal wage) and the *real wage*. Money wages are simply the money income workers are paid, for example, £500 per week. By contrast, workers' real wages are the *purchasing power of their money wages*, or their command over goods and services. The relationship between the money wage and the real wage is:

$$\text{real wage} = \frac{\text{money wage}}{\text{price level}}$$

The demand curve for labour in Figure 16.7b in the textbook is specified in terms of the real wage rather than the money wage, showing that firms are only willing to employ more workers if the real wage falls. But in a monetary economy in which firms pay their workers in money rather than in goods or services, the only wage that a firm can cut is the money wage. For real wages to fall following a cut in money wages, prices must either remain unchanged, or fall by a smaller percentage than money wages. Keynes doubted whether this happens. He argued that if the labour market is sufficiently competitive for employers to be able to cut money wages, the goods market will be sufficiently competitive for prices to fall also. A fall in money wages may induce an equal, proportionate fall in prices leaving the real wage, and hence the level of unemployment, unchanged. In Keynesian theory, cuts in money wages are insufficient to price the unemployed into jobs.

Keynes went on to argue that even if real wages fall, the classical theory of unemployment suffers from a fundamental defect known as a **fallacy of composition**. A fallacy of composition occurs when what is true at the individual or microeconomic level becomes untrue at the aggregate or macroeconomic level. If an individual employer, or indeed all the employers, cuts wages in a particular labour market, more workers will be hired. This is because, at the microeconomic level, we can invoke the *ceteris paribus* assumption of holding constant all other influences on the demand for labour. In particular, we can assume that the cut in wages has no effect on the state of aggregate demand in the economy because the firm or industry is only a tiny part of the whole economy.

However, this assumption, which is reasonable when studying a single labour market, becomes unreasonable when examining the effects of a cut in real wages in *all* the economy's labour markets. At the aggregate or macroeconomic level, the *ceteris paribus* assumption can no longer be invoked. In addition, at the macro level, wages must be viewed as the main source of consumption in the economy. Given that consumption is by far the most important component of aggregate demand, it follows that if real wages are cut throughout the economy, aggregate demand falls and firms are unable to sell all their output. Thus, far from reducing unemployment, the wage cuts may increase the number of jobs lost in the economy.

Wage cuts also redistribute income in favour of profit. But people who receive profit as their main source of income, are usually both better off and save a bigger fraction of income than people who rely on wages. This means that a cut in real wages and the resulting increase in profit again reduces the level of consumption spending in the economy. Too much saving and too little spending create deficient aggregate demand in the economy. This is the **paradox of thrift**. Saving, regarded as a virtue at the individual level, becomes a vice at the aggregate level if people save too much of their income and spend too little. If real wages are cut in the 'mistaken' belief that too high real wages and not deficient demand are the true underlying cause of most unemployment, then, according to Keynes, unemployment might become worse rather than better.

Other causes of unemployment

Four causes of unemployment additional to those you learnt at AS and in Chapter 16 are:

- hysteresis
- the insider/outsider theory of unemployment
- queuing unemployment
- a phenomenon known as eurosclerosis

Hysteresis

Hysteresis is the name given to a cause of unemployment that emerged in the recessions of the early 1980s and 1990s and which is likely to reappear in the recession that started in 2008. In earlier, milder post-1945 downturns, firms reacted to decreases in aggregate demand by laying off workers and by mothballing productive capacity. When the downswing ended, firms quickly rehired workers and brought idle capacity into production again. However, in the more recent recessions, many factories were bulldozed and the firms owning them disappeared completely. As a result, productive capacity declined, particularly in manufacturing and coal mining. When the economy recovered, demand was met by imports. In an *AD/AS* diagram, hysteresis is illustrated by a leftward shift of the *AD* curve (showing the start of the recession), followed by a leftward shift of both the short-run and the long-run *AS* curves, as capacity is destroyed.

The emergence of long-term unemployment also contributes to hysteresis. By eroding job skills and work habits, long-term unemployment makes workers unemployable. Employers who might otherwise hire and retrain workers who have been unemployed for several years perceive that workers with more recent job experience present fewer risks.

The insider/outsider theory of unemployment

Trade union members are, according to this theory, insiders in the labour market, while unemployed workers, especially those who allowed their union membership to lapse on losing their jobs, are outsiders. The theory is based on the assumption that unionised workers enjoy higher wages than non-unionised workers, but that this union mark-up is achieved at the expense of fewer jobs. Although trade union pay negotiators claim to be concerned about job losses and the diminishing prospects of former members who are now unemployed, they don't really care. Instead, unions care only about the employment prospects of insiders (their members who are currently employed). The insider/outsider theory suggests that unions are prepared to push for higher real wages even when unemployment is high, because unemployment among 'outsiders' is not their concern.

Queuing unemployment

According to New-Keynesian economists, collective bargaining in imperfectly competitive labour markets results in higher wage rates than there would be in the absence of unions. The union mark-up is the difference between a union-negotiated wage rate and the wage rate offered for similar non-unionised employment. The higher wage established through collective bargaining creates an incentive to wait for unionised jobs. Queuing unemployment occurs when workers reject lower-paid jobs in the non-unionised sector of the economy, in the hope that a better-paid unionised job will turn up.

Continuous turnover in the labour market also contributes to queuing. Every week some employees retire or leave the labour force, others switch jobs, while simultaneously new jobs are created. Waiting for a suitable vacancy may be a sensible strategy. In this second interpretation, queuing unemployment is closely related to the search theory of voluntary frictional unemployment, explained in Chapter 16 of the textbook.

Eurosclerosis

A few years ago, it was fashionable to argue that the European countries such as Germany and France suffer from eurosclerosis, an economic disease said to affect economic performance adversely. For humans, sclerosis is an abnormal hardening of body tissues, especially the nervous system and arteries running through the body. For a country, eurosclerosis is a similar hardening of the economic system, which becomes inflexible and resistant to change. For free-market economists, the cure for the disease lies in free market, supply-side policies.

Keynesian economists generally have not accepted the existence of eurosclerosis. They argue that the main reasons for high unemployment and sluggish economic growth in European countries lie, not in the failure to implement sufficiently rigorous supply-side policies, but in the failure to create the demand which is needed to absorb the extra output EU countries are capable of producing. The resulting deficient aggregate demand partly resulted from a *deflationary bias* evident in EU fiscal and monetary policy, long before the onset of recession in 2008.

Chapter 17 Inflation and the Phillips curve

Other aspects of UK price indices

The rate of inflation measured by changes in the RPI differs from that measured by the CPI. Since 2003, the CPI rate of inflation has generally been higher than the RPI rate. Besides having slightly different shopping baskets, the differences arise from the method of construction of the two indices. Both are constructed from a large number of prices observed for individual goods such as pears. The two indices use different ways to work out the effect of changes of the prices of a different variety of pears, say Conference pears and Williams pears. The RPI uses the *arithmetic* mean to work out the average inflation rate for different types of pears, whereas the CPI uses the *geometric* mean.

The RPI procedure using the arithmetic mean weights price changes according to consumers' initial purchasing habits. If the price of Conference pears goes up but the price of Williams pears goes down, the RPI does not take account of the resulting change in shopping patterns. By contrast, the CPI calculation using the geometric mean gives more weight to prices that change the least and less weight to prices that change the most. This is based on the assumption that consumers do shop around as prices change: they buy more Williams pears and fewer Conference pears. In this way, they partially protect themselves from a general rise in the price of pears.

Do the CPI and the RPI accurately reflect the true cost of living of most people living in the UK?

Several years ago, two market researchers claimed that UK price indices overstate the rate of inflation in a recession, and understate it in a recovery period. Unlike ordinary shoppers, the officials who gather information about prices for the Central Statistical Office (CSO) that constructs the index, cannot shop around for the best bargains. Likewise, they cannot haggle for discounts. Also, the CPI and the RPI do not capture special offers which tend to proliferate in recessions, or the effect of special deals such as 'money off next purchase' vouchers and discounts for bulk buys. There might also be errors in data collection. It used to be the case that the most junior office employee in government offices that collect the sample data was sent out with a small notebook to visit the local shops to collect the price data.

Everybody accepts that a consumer prices index is not a perfect measure of inflation and the cost of living. At best, it can only measure inflation in the retail sector of the economy, plus a few extra items such as mortgage interest rates, which while not strictly a price, certainly affects people's cost of living. Other indices can be used to measure inflation. These include the **producer prices index (PPI)** and the **GDP deflator**. The PPI signals or offers an early warning of future retail inflation, whereas the CPI and the RPI are measures of past inflation. The GDP deflator measures inflation throughout the economy, including the effect of changes in the average price of capital goods.

When Nigel Lawson was chancellor of the exchequer in the 1980s, he regarded the inclusion of mortgage interest rates in the RPI as 'both ludicrous and perverse'. This was because the Conservative government's principal method of fighting inflation (raising interest rates) itself showed up as an increase in prices because of its effect on mortgage interest rates, which then added to wage pressures in the economy. So the government exerted political pressure on the independent advisory committee responsible for choosing the items in the national shopping basket to drop mortgage interest rates from the index. The Conservative government also tried to get indirect taxes excluded from the index, on the ground that a price rise resulting from a tax increase meant to reduce inflationary pressures, has a completely different effect on the economy than a price increase undertaken by a firm in response to inflationary pressures. At the time, cynics believed that the government was trying to manipulate the price index by pressurising the advisory committee to include in the sample goods and services items whose prices were falling, such as foreign holidays.

Although the government failed to get mortgage interest rates and indirect taxes removed from the RPI, it achieved the next best thing (from its point of view) by publishing its own index, measuring the 'underlying' rate of inflation. This index, which is the RPI minus mortgage interest rates, is known as the RPIX. The government also introduced another measure of inflation to be known as RPIY, which excluded indirect taxes as well as mortgage interest payments.

Neither the CPI nor the RPI take account of changes in house prices directly. Given that house price inflation was significantly higher than the rate of general inflation through much of the 1990s and early 2000s, all three measures may understate the true rate of inflation. However, this factor may be more than balanced by the fact that in other ways the three price indices overstate the rate of inflation. Perhaps the most important reason for a price index overstating the true inflation rate lies in the fact that for many goods, for example cars, computers and cameras, the quality of the goods has improved even when the prices have not changed.

Developing the quantity theory of money

A formulation of the equation of exchange devised by economists at Cambridge University (early in the twentieth century) specifies the equation in terms of transactions involving *current* real income or output produced in the economy, omitting second-hand transactions. In the **Cambridge equation**, V represents the *income* velocity of circulation of money (as distinct from the *transactions* velocity of circulation of money in the Fisher equation). The Cambridge version of the equation of exchange is:

$$MV = Pq$$

$$\text{or: } MV = Py$$

The Cambridge version of the equation of exchange forms the basis of a theory of the demand for money, which anticipated the modern quantity theory of money that is described in Chapter 17 of the textbook. We can rewrite the Cambridge equation as:

$$M_D = kPy$$

in which k is the reciprocal of the income velocity of circulation of money ($1/V$).

For the money market to be in equilibrium, the supply of money must equal the demand for money, i.e. $M_S = M_D$. Substituting the Cambridge equation into $M_S = M_D$, we arrive at:

$$M_S = kPy$$

The Cambridge economists who developed the Cambridge equation believed that with k (and the velocity of circulation) and real income or output (y) constant, an increase in the money supply requires the price level (P) to rise in order to maintain equilibrium in the money market. The exact mechanism through which this was assumed to occur is called the *cash balance mechanism*. If initially the money market is in equilibrium, an increase in the money supply creates a situation in which $M_S > M_D$. This means there is now an excess supply of money in the economy, over and above the amount of money people wish to hold. Given an assumption that money is held as a medium of exchange only and *not* as a wealth asset, people decide to spend their excess money holdings on real goods and services, thereby pulling up the price level. The price level continues to rise until $M_S = M_D$ again and all excess money holdings have been eliminated.

A model of cost-push inflation

The following model of cost-push inflation illustrates the roles of *pay relativities* and different rates of productivity growth in the inflationary process. I begin by assuming two productivity sectors in the economy, one with a high rate of growth of labour productivity, such as 6% a year, and the other with a zero rate. I shall assume that firms are prepared to grant money wage increases in line with productivity growth, which means a wage rise of 6% in the high productivity growth sector but a zero increase in the second sector.

Providing wage increases in the high productivity growth sector do not exceed 6%, cost-push inflation is not initially generated in this sector of the economy. However, I shall now assume that workers in the second sector use a different tactic to increase money wage rates. By arguing the case for 'equal pay for equal work', the unions bargain to maintain comparability with workers of similar skills in the first sector and to restore differentials, which have been eroded, relative to less skilled workers employed in the high productivity growth sector. Unions in the zero productivity growth sector therefore try to achieve the same percentage wage increase as that granted to workers in the high productivity growth sector. However, if a 6% wage increase is granted to workers in both sectors, cost inflation results when firms in the zero productivity sector raise prices in line with increased wage costs.

Once started, a **wage-price spiral** and **leapfrogging** may continue the cost-push inflationary process. The wage-price spiral occurs when workers in both sectors realise that their real wage increase has been eroded by price inflation and attempt to restore the real wage increase through further wage claims. Leapfrogging refers to the fact that when one group of workers improves its relative position in the pay league table, other groups lodge retaliatory wage claims in order to restore their relative position, or to improve upon it.

In contrast to free-market economists, who often treat the labour market as one large aggregated and relatively competitive market, Keynesians generally view the labour market as a collection of non-competitive and separated markets for different skills and trades. Although workers generally realise that, if all wage rises are limited to matching productivity increases, inflation need not occur, they also appreciate that what is in the collective interest of workers is not necessarily in the interest of a particular group of workers. If one union accepts a wage increase lower than the current rate of inflation in order to help bring inflation down, its members suffer while members of other unions do not. Thus each trade union strives to preserve its relative position in the pay league table, even knowing that by fuelling cost-push inflation, a money wage increase may not eventually result in a real wage increase.

The NRU and the NAIRU

Often, economists, politicians and newspapers refer to the **non-accelerating inflation rate of unemployment** (NAIRU) instead of to the **natural rate of unemployment** (NRU). The NRU and the NAIRU are treated as interchangeable terms. However, there is a difference between the two measures of the equilibrium rate of unemployment (although exam candidates are not penalised for treating the two as the same in examination answers).

Both the NRU and the NAIRU measure the economy's sustainable rate of unemployment. The NRU is a concept developed by free-market economists who define the natural rate of unemployment in terms of voluntary frictional unemployment. Of course, there are other types of unemployment (such as real-wage unemployment and structural unemployment), but in the free-market view, these only occur when market imperfections prevent labour-market equilibrium being achieved. For free-market economists, the labour market (and indeed any market) is a calm and orderly place in which the price mechanism quickly and efficiently eliminates disequilibrium and achieves a market-clearing outcome.

By contrast, the NAIRU derives from New-Keynesian theory. Keynesians argue it is misleading to view labour markets in terms of one large aggregated and competitive market. Rather, the economy comprises a large number of labour markets of varying competitiveness, which are separated by barriers to entry. Keynesians stress the imperfect nature of these labour markets, characterised by monopsony and monopoly power, uncertainty and the lack of correct market information. In these labour markets, wages may be determined by collective bargaining.

Equilibrium in the market-clearing sense favoured by free-market economists is not a part of the Keynesian explanation of the functioning of labour markets. For New Keynesians, equilibrium in the economy's labour markets requires consistency between wages and prices for both employers and workers. This involves mutual accommodation on the part of employers and workers to each other's requirements, within an economy in which the wage rates of a significant part of the employed labour force are determined by collective bargaining. For employers, the prices set for their products must give an adequate mark-up or profit margin over the wages they pay. For workers, wages received must be satisfactory, given the prices they must pay for goods.

In New-Keynesian parlance, the NAIRU is the overall rate of unemployment at which mutual consistency is achieved between the aspirations of employers and workers in all the economy's labour markets, with the price level constant. At higher rates of unemployment, bargaining power favours employers, so mutual consistency of aspirations is not achieved. Wage rates are forced down, causing the rate of inflation to fall. The opposite occurs at rates of unemployment lower than the NAIRU: the balance of bargaining power favours workers and wages are forced up. As the name 'non-accelerating inflation rate of unemployment' indicates, mutual consistency between the aspirations of employers and workers means that the balance of bargaining power between employers and workers ensures that the inflation rate is constant.

Chapter 18 Monetary policy

Money's other functions

Besides its medium of exchange and store of value functions, money has two other functions which are less important for you to know at A-level.

A unit of account

Money is the unit in which the prices of goods are quoted and in which accounts are kept. The unit of account function of money allows us to compare the relative values of goods even when we have no intention of actually spending money and buying goods — for example, when we window-shop.

A standard of deferred payment

Money's function as a standard of deferred payment allows people to delay paying for goods or settling a debt, even though goods or services are being provided immediately. Money acts as a standard of deferred payment whenever firms sell goods on credit or draw up contracts specifying a monetary payment due at a later date.

Portfolio balance decisions

On several occasions in Chapter 18, I mention the terms **assets** and **liabilities**. An asset is something that is owned and has a value, whereas a liability is something that is owed. Everyone, except the destitute, makes decisions on the form of assets in which to keep their wealth. In the first instance, people choose between holding physical assets (non-financial assets), such as houses, and holding financial assets. Physical assets such as property, fine-art, classic cars and antiques can be attractive, because they tend to go up in value or appreciate, thus providing a hedge against inflation.

When choosing the form of financial asset to hold, people make portfolio balance decisions. A portfolio balance decision is illustrated in Figure 4, which besides making the distinction between physical and financial assets, arranges financial assets according to **liquidity** and **profitability**. Liquidity measures the ease with which an asset can be converted into cash, and the certainty of what it will be worth when converted. Providing it is acceptable and can be used as a means of payment, cash is the most liquid of all assets. For the most part, bank deposits are not quite as liquid as cash, but as we have seen, bank deposits are sufficiently liquid to be treated as money. The other financial assets shown in Figure 4 are examples of non-money financial assets, in some cases being near moneys. Shares and government bonds (gilt-edged securities, or gilts) are marketable because they can be sold second hand on the stock exchange, but they are less liquid than money. In contrast to money, which earns little or no interest, shares and gilts generally provide a profit for their owners.

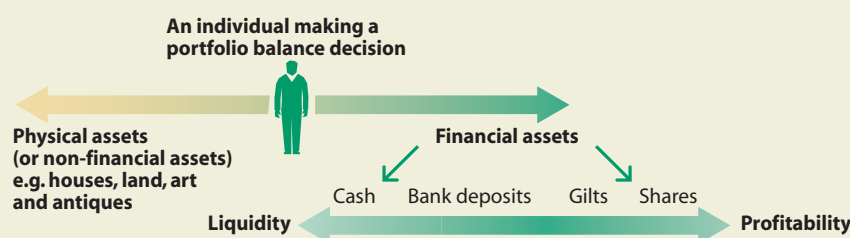


Figure 4 The spectrum of assets over which a portfolio balance decision may be made

It is important to realise that pieces of paper and coins that function as financial assets are also financial liabilities. A £10 note is an asset to the person owning it, since it provides £10 worth of spending power. However, it is a liability for the Bank of England which issued it. Many years ago, on the Gold Standard, Bank of England notes were convertible into gold. The Bank had to meet this liability. These days and more innocuously, the Bank's liability is to replace an old and dirty note with a brand-new note.

From a bank's point of view, an advance, loan or credit granted to a customer is an interest-earning asset, which the borrower is liable to repay. However, the act of creating an advance simultaneously creates a bank deposit. It is an asset for the customer owning the deposit, but a liability for the bank itself. The bank must honour cash withdrawals and cheques drawn on the deposit, which transfer ownership of part of the deposit to other people. The key point to remember is that the deposit-creating process increases a bank's assets (i.e. the credit it creates) and its liabilities (i.e. customers' deposits) by equal amounts.

The exchange rate and monetary policy

From 1985 to 1992, the exchange rate replaced the money supply as the intermediate monetary policy objective. During these years, monetary policy was implemented, first to achieve a high exchange rate and then to maintain the exchange rate at a high level. The monetary authorities believed that a high exchange rate, which they would try to prevent floating downward, creates a source of external discipline against inflationary pressure in the UK economy.

In theory, a high exchange rate reduces inflation in three ways:

- Most directly, the high exchange rate reduces the prices of imported food and consumer goods.
- The cost of imported oil and raw materials falls, which dampens cost-push inflationary pressure.
- Less directly, a high exchange rate may reduce inflation through its effect on trade unions' and employers' behaviour. When the exchange rate is free to float downward, workers and firms know that inflationary pay deals and price rises won't lead to punishment through job losses and loss of profit. Instead, a depreciation or fall of the exchange rate restores firms' price competitiveness. Exports become cheaper in overseas markets, while imports become more expensive in the UK. In effect, the falling exchange creates a cushion protecting them from overseas competition.

By contrast, with a high exchange rate, workers and firms fear that cost-push inflationary pressure will indeed be disciplined by job losses and bankruptcy. This fear stiffens the resolve of unions and employers to behave in a less inflationary way.

How the Bank of England tries to influence interest rates set by the commercial banks

The Bank Rate set by the Bank of England is also called the **repo rate**. When implementing monetary policy, the Bank of England deliberately keeps the commercial banks short of cash. However, the Bank is always ready to supply the cash needed by commercial banks, at a price the Bank of England chooses. This price is set by Bank Rate or repo rate. The word *repo* is short for sale and repurchase agreement. The Bank of England supplies cash to commercial banks

by purchasing some of the banks' reserve assets, such as bills and gilt-edged securities. In return, the commercial banks agree to repurchase the bills and gilts about 2 weeks later, but at a higher price. The repo rate determines the difference between the two prices. The higher the repo rate, the more expensive it is for the commercial banks to obtain cash from the Bank of England.

An increase in the Bank of England's lending rate or repo rate means that commercial banks have to raise the interest rates they charge to their own customers. Bank loans immediately become more expensive. This in turn causes households and firms to reduce their demand for credit and to repay existing loans wherever possible. This reduces total bank deposits and hence the money supply in the economy.

Chapter 19 Fiscal policy and supply-side policy

Developing the link between fiscal policy and monetary policy

Whenever there is a budget deficit, the government has to borrow to finance the deficit. Don't confuse *financing* the deficit with *eliminating* the deficit. A deficit can be eliminated, or at least reduced, by raising more tax revenue, or cutting public spending, or both. By contrast, financing a deficit implies that the deficit continues to exist, but that money must be borrowed to cover the difference between public spending and tax revenue.

If the government successfully finances the deficit by selling just enough long-dated government bonds (gilts) to equal its borrowing requirement, the deficit is said to be **fully-funded**. However, if non-bank financial intermediaries such as insurance companies and pension funds are unwilling or unable to buy all the new gilts the government is trying to sell, the difference between the total size of the deficit and new gilt sales will have to be met by short-dated borrowing, i.e. through new Treasury bill sales. When this happens, the deficit is **under-funded**. Under-funding increases the money supply because the banks create new money which the government then spends.

In normal times, governments don't like to under-fund the budget deficit because they fear the inflationary consequences of increasing the money supply. However, the onset of a deep recession in 2008 meant that times were no longer 'normal'. In the November 2008 Pre-Budget Report, the UK government announced a massive fiscal stimulus, i.e. increases in public spending and tax cuts, leading to a significant increase in the budget deficit. At the time of writing in February 2009, the government was being advised to under-fund its growing budget deficit.

At this point, you should read Box 18.5 on **quantitative easing** in the textbook. Quantitative easing is different from what I have just explained. In effect, the Bank of England 'prints new money' when it buys assets such as gilts from banks such as Barclays. The banks end up possessing more money which the Bank of England hopes they will then lend for their customers to spend. The extra money gets into general circulation when the government spends the money it has borrowed in its public spending programme. In this way, the government hopes to end the recession, or at least to prevent it deepening, through the fiscal stimulus (fiscal policy) and quantitative easing (monetary policy). Time will tell whether this will work. By the time you read this Extension material, you may know or be able to find out the answer.

Chapter 20 International trade and globalisation

Explaining the pattern of world trade

How can we explain the modern pattern of international trade, dominated as it is by the exchange of manufactured goods and increasingly services between the industrialised market economies of the North? I shall offer three possible explanations, provided by the:

- technology gap theory
- product life cycle theory
- role of consumption patterns in determining world trade

The technology gap theory

This theory explains the growth and the pattern of world trade in terms of the nature of technical progress. Technical changes are always occurring, but at different rates in different countries, and the advanced industrial economies are usually the leaders. This gives these countries an advantage in developing and exporting products based on the new technologies. This initial advantage is often reinforced by economies of scale, leading to long production runs, which the monopoly position of the innovating country creates.

But when the new technology 'matures' and becomes widely available to other countries, competitive and comparative advantage may shift to less sophisticated economies. Indeed, apparently less developed economies may take the lead in developing later generations of the new technology, while the initial innovator experiences the disadvantage of factories fitted with what becomes out-of-date equipment. Often, foreign subsidiaries of multinational firms and independent firms operating under licence, will produce the good and export it back to the original pioneering country, which may have gone on to develop other products and technologies. Thus a technological gap between the Western industrial market economies and others, including the NICs, explains much of the pattern of world trade in manufactured goods.

The product life-cycle theory

Like the technology gap theory, the product life-cycle theory explains the pattern of world production, specialisation and trade in manufactured goods in terms of the nature of technical progress. Early in its life cycle and immediately following its successful innovation, a product is likely to be strongly differentiated from competing products. Product differentiation creates monopoly power and high profits for the innovative firm, which in turn provide an important motive for further technical development. At this early stage of the product's life cycle, manufacture is usually located in the country of origin of the innovative company, where the company's research and development facilities are concentrated.

At the next stage, the company that developed the product loses its monopoly over existing technology. By this time, the product has become more standardised and subject to agreed international specifications. Mass production, economies of scale and the use of relatively unskilled and cheap labour for routine jobs allow production to move to NICs.

At a late stage in the product life cycle, the firms that innovated the product attempt to maintain their lead by introducing further technical progress and product development. At the same time, they produce older versions of the product in NICs, either under licence to local firms or in their own branch factories and subsidiary companies. Many of the goods produced in NICs are then exported back to the developed world.

The changing location pattern of personal computer manufacture, since the launch of the IBM personal computer in 1981, provides a good illustration of the product life-cycle theory. Personal computer manufacturing is still dominated by US companies such as Dell and HP,

which maintain their headquarters and undertake their pioneering research and development in locations such as California's silicon valley. However, to maintain their profit and industry leadership, US computer companies currently outsource much of the manufacture of computer components to independent companies or to their own branch factories in countries such as Malaysia and China.

In 2004, the company that had launched the PC went one stage further. IBM sold a controlling stake in its personal computer business to Lenovo, China's biggest PC manufacturer. The sale shows that China is no longer content to be just the world's low-cost workshop. Following the lead by Korean companies such as Samsung, China's emerging multinational corporations are acquiring global brands to sell in world markets.

The role of consumption in determining the pattern of world trade

The theories I have discussed so far explain a country's competitive and comparative advantage and the patterns of world trade solely in terms of supply conditions in different countries. I have written nothing about the role of demand, except to assume that for a country to specialise and trade, demand for its exports must exist in other countries.

An alternative approach is to examine patterns of income, tastes and consumption, or **demand conditions**, in the world's most important trading countries, to explain why so much of international trade involves the exchange of essentially rather similar manufactured goods between already industrialised economies. It can be argued that a country's comparative and competitive advantage often lies in producing goods related to its inhabitants' domestic tastes. Close contact with the needs of the domestic market makes a country's firms efficient at meeting domestic demand and often the inhabitants of other industrial countries with similar incomes possess similar demand. Trade therefore takes place between countries with similar tastes and incomes.

At the same time, high-income consumers value choice and product differentiation. A pattern of trade thus develops between industrialised countries (encompassing the NICs) in which a wide range of differentiated manufactured consumer goods, such as cars and television sets, is made available to all. A single country could seldom provide its consumers with the desired variety, so international trade extends the range of choice.

Chapter 21 The balance of payments

Eurodollars and eurocurrency markets

Perhaps the most important single cause of the growth of short-term capital or 'hot money' flows lies in the growth after 1957 of the eurodollar market. A **eurodollar** is a US dollar owned or deposited in a bank outside the USA. Over the last 50 or so years, the pool of eurodollars has grown dramatically. The US balance of payments deficit has caused much of this growth.

For most countries, a balance of payments deficit creates excess supply of the country's currency on foreign exchange markets. When this happens, excess holdings of the currency are sold, which in turn causes the exchange rate to fall. However, the dollar is different. The US dollar is the world's **reserve currency**: that is, the currency that governments and central banks outside the USA wish to hold. This means that, unlike other countries, the USA has been able to finance a large balance of payments deficit on the current account by paying for imports in its own currency. Because of the superpower and hegemonic roles of the US economy and the dollar in the world economy, other countries have been happy to accept and then to retain dollars earned from exports to the USA. This has led to a massive growth of dollars held outside the USA.

The growth of the eurodollar pool was also fuelled by US companies investing overseas and by the growth of bank deposits owned by US residents outside the USA. Indeed, much of the early growth of the eurodollar market was caused by restrictions imposed by the US monetary authorities on the domestic US banking system. US residents evaded domestic monetary restrictions by depositing dollars in overseas bank accounts (often subsidiaries of US-owned banks located in tax havens) rather than in deposits held in the USA. Overseas banks then re-lent the eurodollars to whoever wished to borrow dollars to finance trade, investment or speculation.

From its origins in the late 1950s and early 1960s, the eurodollar market grew rapidly in the 1970s and 1980s, greatly aided at this time by the growth of **petrodollars** after the oil crises of the 1970s. A petrodollar is a dollar received by an oil-producing country as payment for oil exports, which are priced in dollars. Following massive increases in the price of crude oil in the 1970s, OPEC countries accumulated large current account surpluses, which were matched by growing deficits in oil-consuming industrial countries. The OPEC countries deposited a large proportion of the dollars they earned in the European banking system, thus adding to the pool of money, able to switch quickly and with little or no cost between currencies.

Today, the eurodollar market is perhaps better called the *eurocurrency* market, reflecting the fact that, while the dollar is still the most important currency deposited in the European banking system, other currencies, such as the euro, sterling and the yen, are to a lesser extent also involved. Nevertheless, the dollar continues to be the dominant eurocurrency, partly because of its reserve currency role, and partly because the USA's huge payments deficit has transmitted the dollar into overseas ownership. The prefix 'euro' in the eurocurrency market refers not to the role of the euro, but to the fact that most of the market takes place in European financial centres, particularly in London. International banks, operating from European financial centres make large profits from a growing and thriving business in the short-term borrowing and lending of eurocurrencies, outside any exchange controls existent in the currency's country of origin.

Chapter 22 Exchange rates, the pound, the euro and the dollar

Background to the euro: the European Exchange Rate Mechanism (ERM)

To understand the nature of the euro and the reasons why the EU member states decided to introduce a common currency, it is useful to go back a few years to the creation in 1979 of a precursor of the euro, the **Exchange Rate Mechanism (ERM)** of the **European Monetary System (EMS)**.

The European Union (or European Community as it was then called) created the ERM to allow more efficient implementation of common economic policies. Before the ERM, financial assistance granted by the EU to member countries, most notably in the common agricultural policy (CAP), was sometimes distorted by fluctuating exchange rates. A relatively fixed exchange rate system within the EU could reduce or eliminate these distortions. As a result, the ERM was created as an adjustable peg exchange rate system, but not a single currency system.

The EU national currencies joining the ERM were fixed against each other, although EMS rules allowed periodic realignments (devaluations and revaluations) to take place. However, by the time the pound joined the ERM in 1990, the system had fossilised and become much more rigidly fixed. The pound entered at too high an exchange rate, but then could not be devalued. This made the overvalued pound extremely vulnerable to a speculative outward capital flow. It became a question of when rather than if the pound would have to leave the ERM.

A massive run on the pound occurred in September 1992, culminating on Black Wednesday with the pound being forced out of the ERM. Since then, the pound's exchange rate has floated. Following the pound's exit, speculators picked off other ERM currencies, which left the EMS much weaker. Because of this, the European Union decided to go one significant stage beyond an adjustable peg exchange rate system, by replacing national currencies with a single currency, the euro.

What adopting the euro might mean for the UK economy

If the UK eventually adopts the euro as its currency, it is likely to face a number of issues discussed below:

- **Interest rates and housing markets.** If the UK is booming when Germany is in recession, the ECB will be under pressure to cut interest rates to help the 'core' country, Germany. This would overheat the UK economy and exacerbate a specifically British problem related to the UK housing market. Owner-occupancy is greater in the UK than in most eurozone countries and UK house buyers pay variable interest rates on their mortgages in contrast to the fixed interest rates common in the eurozone. Fixed rate interest rates mean that a cut in the ECB's interest rate has little effect on continental housing markets. However, if the UK were in the eurozone, the effect would be great, unleashing a spending spree among UK owner-occupiers suddenly benefiting from a fall in mortgage interest repayments. (However, at the time of writing in March 2009, recession and collapsing house prices have caused the problems created by rising house prices to disappear, at least for the time being.)
- **Monetary and fiscal policy.** It follows that, if monetary policy is taken away from the Bank of England (as eurozone entry dictates), then arguably the UK should be able to use fiscal policy to manage demand. Before the global recession started in 2008, the deflationary bias of the EU's Stability and Growth Pact limited the freedom of eurozone members to use fiscal policy to head off a possible recession. However, recession has now changed things. In 2008 the European Commission encouraged member countries to introduce a fiscal stimulus designed to 'spend their economies out of recession'.
- **Supply-side policies.** In terms of employment, supply-side policies adopted in the UK, but not in much of mainland Europe, mean that the UK has a more flexible labour market. For example, it is easier to hire and fire workers in the UK than in Germany. The counter-argument is that UK workers are more poorly trained than continental workers and their language skills are much worse. (To some extent, this last point is not important because English is now the international business language.) Geographical mobility of labour is poor both within the UK and across EU frontiers. However, this and similar problems, such as the poor quality of UK management, are generally intractable and not subject to quick policy fixes. These problems will remain whether or not the UK adopts the euro. Euro entry may render the UK even less competitive in an enlarged eurozone or it may jolt the UK into taking serious action to improve the quality of UK workers and management.

- **Employment and investment.** Employment and investment could both be greatly affected if and when the pound disappears. Currently the pound is floating. As happened in 2008, in the event of overvaluation, the exchange rate can fall to restore competitiveness, unless, of course countered by an inflow of hot money that overvalues the currency. If the UK joins the euro, devaluation will no longer be available as a policy instrument to restore competitiveness. Entry at an overvalued level would condemn the UK economy to trading uncompetitively. Deflation could possibly occur. Joining at the right exchange rate is therefore essential if the UK is to benefit from euro entry. When, late in 2008 and in early 2009, the pound's exchange rate had fallen to almost parity with the euro (i.e. one euro to the pound), economists and politicians began to debate whether the time was now right to give up the pound and to adopt the euro.
- **Atlanticism versus Eurocentrism.** Many people believe that the UK differs from the mainland EU member states in a number of significant ways. The UK economy is dominated by a system of capitalism similar to that in the USA. This is called the **Anglo-American model**. By contrast, the capitalism of countries such as Germany and France is known as the **social-market model**. One result of the different ways in which business is organised in mainland Europe and the UK is that Britain is **Atlanticist**, looking westward across the Atlantic to the USA and Canada. By contrast, the countries of continental Europe are **Eurocentrist**, looking inwards within Europe. Because many Eurocentrists do not believe that the UK is truly European, they are reluctant for Britain to join the eurozone. The feeling is mutual; on this side of the English Channel many Britons are either eurosceptics or europhobes, with the latter hating the European Union and all it stands for.
- **Politics.** Ultimately the decision to replace the pound with the euro is a **political** as well as an **economic** decision. By promising a referendum on the single currency in which the electorate may well vote 'no', the UK government is boxed in. The electorate is unlikely to support a political decision to adopt the euro, even if the economic conditions, though not perfect, have become more favourable.