Diploma
in
Business Administration

Study Manual

ECONOMICS

The Association of Business Executives

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ABE Diploma in Business Administration

Study Manual

ECONOMICS

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Diploma in Business Administration – Part 1

Economics

Syllabus

Aims

1. Acquire an understanding of fundamental economic theories, concepts and policies.
2. Apply microeconomic principles and concepts to decision-making in a business environment.
3. Understand the general macroeconomic environment and its effect upon business organisations and their markets.
4. Acquire an understanding of international trade and the economic mechanisms employed to control and facilitate it.

Programme Content and Learning Objectives

After completing the programme, the student should be able to:

1. Define the problem of scarcity, opportunity cost, the functioning of free market, command and mixed economies and the difference between macroeconomics and microeconomics.

2. Describe and interpret the basic theory of consumer behaviour and demand including the concept of utility, the law of diminishing marginal utility, the distinction between Giffen, inferior and normal goods, the distinction between substitute and complementary goods, the difference between individual and market demand, and the notion and measurement of elasticity (own-price, cross and income elasticity).

3. Employ the theory of supply from a fundamental understanding of costs; define the difference between the short-run and the long-run; differentiate between fixed, sunk and variable costs; derive marginal, average and total costs; understand the nature and relevance of economies and diseconomies of scale and the concept of elasticity of supply.

4. Describe the application of supply and demand analysis to the working of markets both in equilibrium and disequilibrium, including examination of the effects of price restrictions, quotas, subsidies and taxation.

5. Examine the effect of different markets structures (perfect competition, monopoly, monopolistic competition and oligopoly) upon the conduct (particularly pricing policy) and performance of profit maximising and non-profit maximising (sales revenue, market share and managerial utility maximising) business organisations, and give examples of the forms and effects of government intervention in this area.

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6. Understand how exchange rates are determined, the main alternative exchange rate regimes and their advantages and disadvantages. Explain the rationale for international trade agreements and organisations (e.g. the World Trade Organisation), tariffs, quotas and other measures of trade protectionism.

7. Evaluate national income as a measure of societal well being and derive it through its various methods of measurement. Explain the main components of National Income Accounts (Consumption, Investment, Government Expenditure and Foreign Trade).

8. Explain the determination of the equilibrium levels of national income in terms of the simple Keynesian macroeconomic model.

9. Describe the functions of money and the role of the banking system in the creation of money. Explain the relationship between the money supply, growth and inflation.

10. Understand and interpret the main objectives of government macroeconomic policy and the rationale for the various policies used to achieve these objectives. Employ the aggregate supply and demand model to analyse the likely effects of fiscal and monetary policy upon output, employment, the price level, and the balance of payments.

11. Explain the fundamental principles of comparative advantages and specialisation and their relevance to international trade. Explain the terms of trade, balance of trade and balance of payments accounts.

Method of Assessment

By written examination. The pass mark is 40%. Time allowed 3 hours.

The question paper will contain:

Section A is composed of eight short-answer compulsory questions and Section B contains five questions from which three must be attempted. Section A is worth 40% of the total marks available and Section B 60% of the total marks.

Reading List:

Essential Reading

Introduction to Positive Economics	Lipsey, R.G. and Chrystal, A.K.	(Oxford University Press)

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Additional Reading

Economics	Begg, D. Fischer, S. and Dornbusch, R.	(McGraw-Hill)
Economics	Sloman, J.	(Harvester-Wheatsheaf)
Dictionary of Economics	Bannock, G. Baxter, R.E. and Rees, R.	(Penguin)
The Economic Review		

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Study Unit 1

The Economic Problem and Production

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A. BASIC ECONOMIC PROBLEMS AND SYSTEMS

Some Fundamental Questions

Economics is concerned with people's efforts to make use of their available resources to maintain and develop their patterns of living according to their perceived needs and aspirations. Throughout the ages people have aspired to different lifestyles with varying degrees of success in achievement but always they have had to reconcile what they have hoped to do with the constraints imposed by the resources available within their environment. Frequently they have sought to escape from these constraints by modifying that environment or moving to a different one. The restlessness and mobility implied by this conflict between aspiration and constraint has, of course, profound social and political consequences but, as far as possible, in economics courses we limit ourselves to considering the strictly economic aspects of human society.

It is usual to identify three basic problems which all human groups have to resolve. These are:

- **What**, in terms of goods and/or services, should be produced
- **How** resources should be used in order to produce the desired goods and services
- **For whom** the goods and services should be produced.

These questions of production and distribution are problems because for most human societies people's aspirations or wants are unlimited – we often seem to want more of everything – whereas the resources available are **scarce**. This term has a rather special meaning in economics. When we say that resources are scarce we do not mean necessarily that they are in short supply – though often, of course, they are – but that we cannot make unlimited use of them. In particular when we use, for example, land for one purpose, say as a road, then that land cannot, at the same time, be used for anything else. In this sense, virtually all resources are scarce: your time and energy, for example, since you cannot at the same time read this study unit and watch a football match – or play football.

Choice and Opportunity Cost

Since human wants are unlimited but resources scarce, choices have to be made. If it is not possible to have a school, hospital or housing estate all on the same piece of land, the choice of any one of these involves sacrificing the others. Suppose the community's priorities for these three options are hospital, housing estate and then school. If it chooses to build the hospital it sacrifices the opportunity for having its next most favoured option – the housing estate. It is logical, therefore, to say that the housing estate is the **opportunity cost** of using the land for a hospital.

Opportunity cost is one of the most important concepts in economics and also one of the most valuable contributions that economists have made to the related disciplines of business management and politics. It is relevant to almost every decision that the human being has to make. Awareness of opportunity cost forces us to take account of what we are sacrificing when we use our available resources for any one particular purpose and this awareness helps us to make the best use of these resources by guiding us to choose those activities, goods and services which we perceive as providing the greatest benefits compared with the opportunities we are sacrificing. This cost will be a recurring theme throughout the course.

You may have been wondering how the community might decide to choose between the hospital, housing estate and school. Which option is chosen depends very much on how the choice is made and whose voices have the most power in the decision-making process. You will probably have been aware that changing the structure of many of the bodies responsible for allocating resources in the

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health and hospital services in Britain led to many strains and disputes. One reason for this was the transfer of decision-making power from senior medical staff to non-medical managers, whose perception of the opportunity costs of the various options available was likely to be very different from that of the medical specialists.

Throughout history societies have experimented with many different forms and structures for decision-making in relation to the allocation of the total resources available to the community. Through much of the twentieth century there has been conflict between the **planned** economy, with decisions taken mostly by political institutions, and the **market** economy, where decisions are taken mainly by individuals and groups operating in markets where they can choose to buy or not to buy the goods and services offered by suppliers according to their own assessment of the benefits and opportunity costs of the many choices with which they are faced. As the century draws to a close it is the market operation that is in the ascendancy, and this course is concerned mainly with the operation of markets and the market economy. At the same time we need to recognise that market choices have certain limitations and social consequences which cannot be ignored. All the major market economies have important **public sectors** within which choices are made through various kinds of non-market institutions and structures, and economics is able to make a significant contribution to understanding these.

B. NATURE OF PRODUCTION

Economic Goods and Free Goods

The term “goods” is frequently used in a general sense to include services, as long as it does not cause confusion or ambiguity. It is used in this wide sense in this section.

Goods are economic if scarce resources have to be used to obtain or modify them so that they are of use, i.e. have utility, for people. They are free if they can be enjoyed or used without any sacrifice of resources. A few minutes’ reflection will probably convince you that most goods are economic in the sense just outlined. The air we breathe under normal conditions is free, but not when it has to be purified or kept at a constant and bearable pressure in an airliner. Rainwater, when it falls in the open on growing crops, is free but not when it has to be carried to the crops along irrigation channels or purified to make it safe for humans to drink. Free goods are indeed very precious and people are becoming increasingly aware of the costs of destroying them by their activities, e.g. by polluting the air in the areas where we live.

Production Factors

Since there are very few free goods most have to be modified in some way before they become capable of satisfying a human want. The process of want satisfaction can also be termed the creation of utility or usefulness and is also what we understand by production. In its widest economic sense production includes any human effort directed towards the satisfaction of people’s wants. It can be as simple as picking berries, busking to entertain a theatre queue or washing clothes in a stream, or as involved as manufacturing a jet airliner or performing open heart surgery.

Production is simple when it involves the use of very few scarce resources but much more involved and complex when it involves a long chain of interrelated activities and a wide range of resources.

We now need to examine this general term resources, or economic resources, more closely. The resources employed in the processes of production are usually called the factors of production and, for simplicity, these can be grouped into a few simple classifications. Economists usually identify the following production factors.

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- **Land**

  This is used in two senses:

  (a) The space occupied to carry out any production process, e.g. space for a factory or office

  (b) The basic resources within land, sea or air which can be extracted for productive use, e.g. metal ores, coal and oil.

- **Labour**

  Any mental or physical effort used in a production process. Some economists see labour as the ultimate production factor since nothing happens without the intervention of labour. Even the most advanced computer owes its powers ultimately to some human programmer or group of programmers.

- **Capital**

  This is also used in several senses, and again we can identify two main categories:

  (a) Real capital consists of the tools, equipment and human skills employed in production. It can be either physical capital, e.g. factory buildings, machines or equipment, or human capital – the accumulated skill, knowledge and experience without which physical capital cannot achieve its full productive potential.

  (b) Financial capital is the fund of money which, in a modern society, is usually needed to acquire and develop real capital, both physical and human.

Notice how closely related all the production factors are. Most production requires some combination of all the factors. Only labour can function purely on its own, if we ignore the need for space. A singer or story teller can entertain with voice alone, but will usually give more pleasure with the aid of a musical instrument and is likely to benefit from earlier investment in some kind of training. The hairdresser requires a least a pair of scissors!

Much of economic history is the story of people's success in increasing the quantity and quality of production through the accumulation of human capital and the development of technically advanced physical capital. I can dig a small hole in the ground with my bare hands, but creating the Channel Tunnel between Britain and France has required a vast amount of very advanced physical capital together with a great deal of human skill and knowledge.

Modern firms depend for their survival and success on both their physical and their human resources. While some of us may feel that the current trend to replace the business term "personnel management" by "human resource management" is in some degree dehumanising, others welcome it as a sign that firms are recognising the importance of its employee skills as human capital.

Enterprise as a Production Factor

All economic texts will include land, labour and capital as factors of production. There is not quite such universal agreement over what is often described as the fourth production factor, which is most commonly termed **enterprise**.

The concept of enterprise as a fourth factor was developed by economists who wished to explain the creation and allocation of profit. These economists saw profit as the reward which was earned by the initiator and organiser of an economic activity – the person who had the enterprise and special quality needed to identify an unsatisfied economic want and to combine successfully the other production factors in order to supply the production to satisfy it.

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In an age of small business organisations, owned and managed by one person or family, this seemed quite a reasonable explanation. The skilled worker who gives up secure and often well-paid employment to take the risks of starting and running a business is most likely to be showing enterprise and is prepared to take risks in the hope of achieving profits above the level of his or her previous wage. Many modern firms have been formed in the recent past by initiators, innovators and risk takers of the kind that certainly fit the usual definition of the business entrepreneur. Their names appear constantly in the business press. Few would wish to deny that profit has been and often remains the spur that drives them.

Nevertheless this identification of enterprise in terms of individual risk-taking raises a great many problems when we attempt to apply it generally to the modern business environment. Much contemporary business activity is controlled by large companies such as BT, Shell, BP and Unilever. Who are the entrepreneurs in such organisations? Are they rewarded by profits? How do these companies recruit and foster enterprise? You, yourself, may work in a large organisation. Can you reconcile the traditional economic concept of enterprise as a factor of production with your observations of the structure of your company?

No one doubts the importance of enterprise and profit in modern business but their traditional explanation in terms of the fourth production factor is at best incomplete and at worst actually dangerous, in that it may be used to justify the very large salaries which company chief executives seem able to award themselves in Britain and the USA.

We shall return to the question of profit in Study Unit 5.

Fixed and Variable Factors of Production

Both economists and accountants make an important distinction between production factors, based on the way they can be varied as the level of production changes. To take a simple example, suppose you own a successful shop. Initially you do not employ anyone but soon find you do not have time to do everything and are losing sales because you cannot serve more than one customer at a time. So, you employ an assistant. This gives you more time and flexibility and allows you to buy better stock; your monthly sales more than double. You employ another assistant and again your sales increase. You realise, however, that you cannot go on increasing the number of assistants since space in your shop is limited and you can only meet demand in a small local market. You begin to think about opening another shop in another area.

This example helps to illustrate the difference between a production factor which you can vary as the level of production varies, i.e. a **variable factor**, in this case the assistants (labour), and a factor which you can only move in steps at intervals when production levels change. This latter, which in our example is the shop, i.e. land (space) and capital (the shop building and equipment), is the **fixed factor**.

In most examples at this level of study it is usual to regard capital as a fixed factor and labour as a variable factor. Although it is not possible to have a fraction of a worker we can think in terms of worker-hours and recognise that many workers are prepared to vary the number of hours worked per week. It is more difficult to have half a shop and even if a shop is rented rather than bought, tenancies are usually for fixed periods. It is more difficult to reduce the amount of fixed factors employed than the variable factors. When a machine or piece of equipment is bought it can only be sold at a considerable financial loss.

This distinction between fixed and variable production factors is very important, particularly when we come to examine production costs in Study Unit 4. It also gives us an important distinction in time. When analysing production economists distinguish between the short run and the long run. By

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short run they mean that period during which at least one production factor, usually capital, is fixed, e.g. one shop, one factory, one passenger coach. By long run they mean that period when it is possible to vary all the factors of production, e.g. increase the number of shops, factories or passenger coaches. Sometimes you may find the short and long run referred to as short and long term. This is not strictly correct, but the difference in meaning is slight and not important at this stage of study.

Production Function

We can now summarise the main implications of our recognition of factors of production. We can say that to produce most goods and services we need some combination of land, capital and labour.

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of *diminishing marginal product*, more commonly known as **diminishing returns**. Most firms are likely to operate under these conditions and it is during this stage that the most difficult managerial decisions, relating to additional production and the expansion of fixed production factors, have to be taken.

It must not, of course, be assumed that firms will seek to employ people up to the stage of maximum product when the marginal product of labour = 0, or on the other hand that they will not take on any extra employees if diminishing returns are being experienced. The production level at which further employment ceases to be profitable depends on several other considerations, including the **value of the marginal product**, which depends on the revenue gained from product sales, and the cost of employing labour, made up of wages, labour taxes and compulsory welfare benefits. The higher the cost of employing labour, the less labour will be employed in the short run and the sooner will employers seek to replace labour by capital in the form of labour-saving equipment.

Average Product of Labour

The average product of labour employed is found simply by dividing the total product at any given level of employment by the number of workers (or some unit of worker-hours). For reasons which, by now, should be starting to become apparent to you the average product of labour, though a measure easily understood and used by many business managers and their accountants, is less important than the marginal product. However, the following table adds average product to our earlier statistics, and Figure 1.2 shows both marginal and average product in graph form.

Number of workers	Quantity of production *(units per month)*	Marginal product of labour *(units per month)*	Average product of labour *(units per month)*
0	0		
		30	
1	30		30.00
		40	
2	70		35.00
		50	
3	120		40.00
		50	
4	170		42.50
		50	
5	220		44.00
		40	
6	260		43.33
		30	
7	290		41.43
		20	
8	310		38.75
		10	
9	320		35.56
		0	
10	320		32.00
		–10	
11	310		28.18

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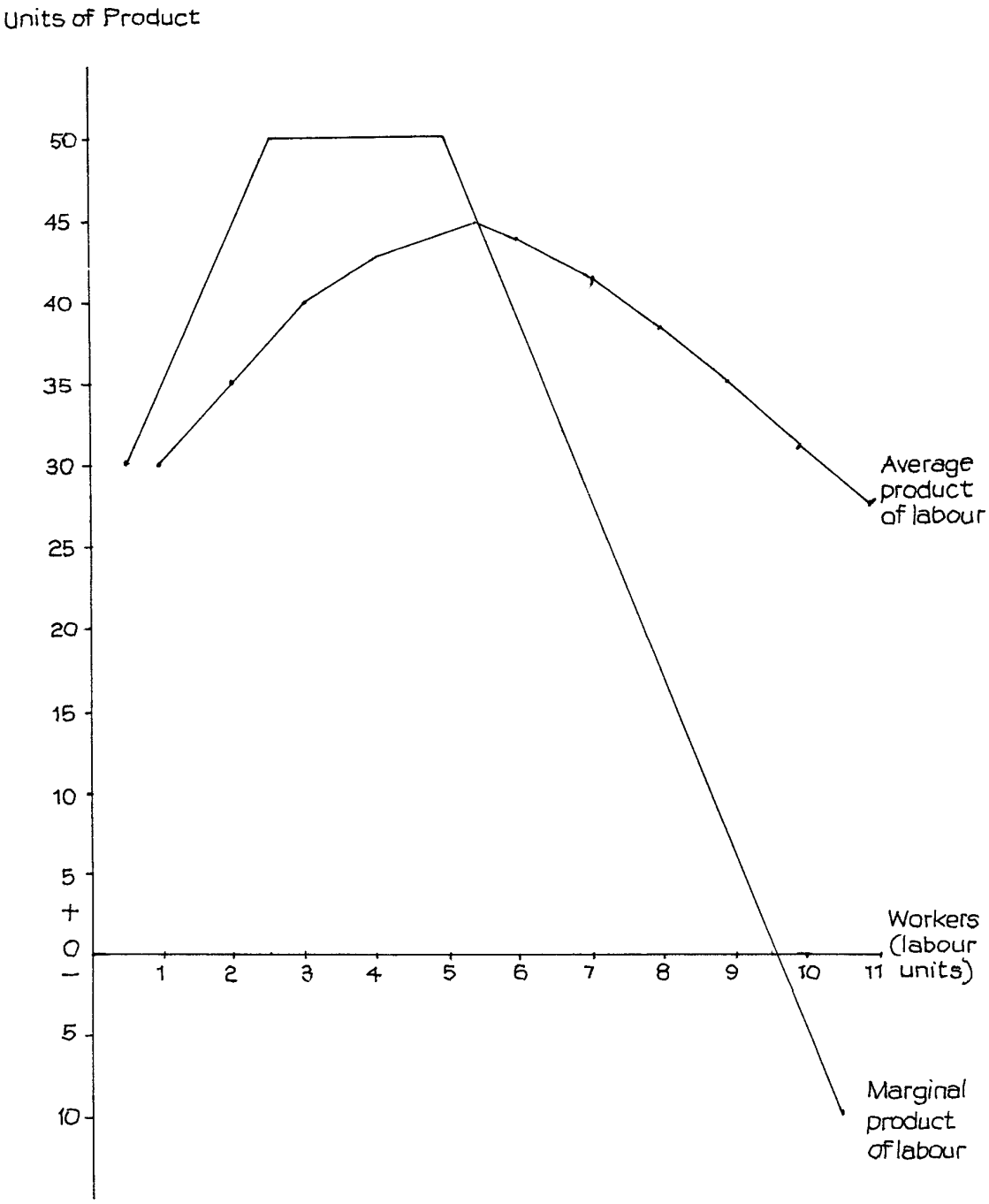

Figure 1.2

The falling marginal product curve intersects the average product curve at about the 5th worker. Average product then starts to fall because for more workers marginal product is below average product.

Notice the relationship between average and marginal product. Average product continues to rise until it is the same as the falling marginal product, then it falls. This must happen as can easily be proved mathematically, and you can see it for yourself if you take any set of figures where marginal product continues to diminish.

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You should give some thought to the implications of these product relationships for business costs: we will examine them in Study Unit 4.

D. PRODUCTION POSSIBILITIES

If individual firms are likely to face a point of maximum production as they reach the limits of their available resources the same is likely to be true of communities, whose total potential product must also be limited by the resources available to the community and by the level of technology which enables those resources to be put to productive use.

This idea is frequently illustrated by economists through what is usually termed the **production possibilities frontier** (or **curve**), which is illustrated in Figure 1.3.

The frontier represents the limit of what can be produced by a community from its available resources and at its current level of production technology. Because we wish to illustrate this through a simple two-dimensional graph we have to assume just two classes of goods and, for simplicity, we can call these **consumer goods** (goods and services for personal and household use) and **capital goods** (goods and services for use by production organisations for the production of further goods).

Because resources are scarce in the sense explained earlier in this study unit, we cannot use the same production factors to produce both sets of goods at the same time. If we want more of one set we must sacrifice some of the other set. However, the extent of the sacrifice, i.e. the opportunity cost, of increasing production of each set is unlikely to be constant through each level of production since some factors are likely to be more efficient at some kinds of production than others. Consequently the shape of the frontier curve can be assumed to reflect the principle of **increasing opportunity costs**. This is shown in Figure 1.3. In this illustration the opportunity cost measured in the lost opportunity to produce arms is much less at the low level of food production of 2 billion units than at the much higher level of 9 billion units.

The curve illustrates other features of the production system. For example, the community can produce any combination of consumer and capital goods within and on the frontier but cannot produce a combination outside the frontier – say at E. If it produces the mixtures represented by points A, B or C on the frontier all resources (production factors) are fully employed, i.e. there are no spare or unused resources. The community can produce *within* the frontier, say at D, but at this point some production factors must be unemployed.

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It might be that if the firm devoted all its resources to the production of one good instead of to more than one then it would be able to use them more efficiently. They would then gain from what will later be described as increasing returns to scale. In this case the curve would be shaped as in Figure 1.4.

Yet another possibility is that the firm could switch resources without any gain or loss in efficiency, i.e. it would experience constant returns from scale in using its resources. In this case the curve would be linear (a straight line) as in Figure 1.5.

E. SOME ASSUMPTIONS RELATING TO THE MARKET ECONOMY

Consistency and Rationality

Although we recognise that all people are individuals, and it is usually impossible to predict with complete certainty what actions any individual will take at any given time, nevertheless it is possible to predict with rather more confidence what groups of people are likely to do over a period of time. On this basis it becomes possible to estimate, for example, how much bread will be consumed in a certain town each week or month. A supermarket manager does not know what any shopper will buy when that shopper enters the store, but can estimate how much, on average, the total number of shoppers will spend on any given day in the month and will know how much is likely to be spent on each of the many classes of goods stocked. Patterns of spending will, of course, change but the changes are not likely to be random when applied to large groups. There will be trends that will enable projections to be made into the future with some degree of confidence. As groups, therefore, people tend to be consistent and to behave according to consistent and predictable patterns and trends.

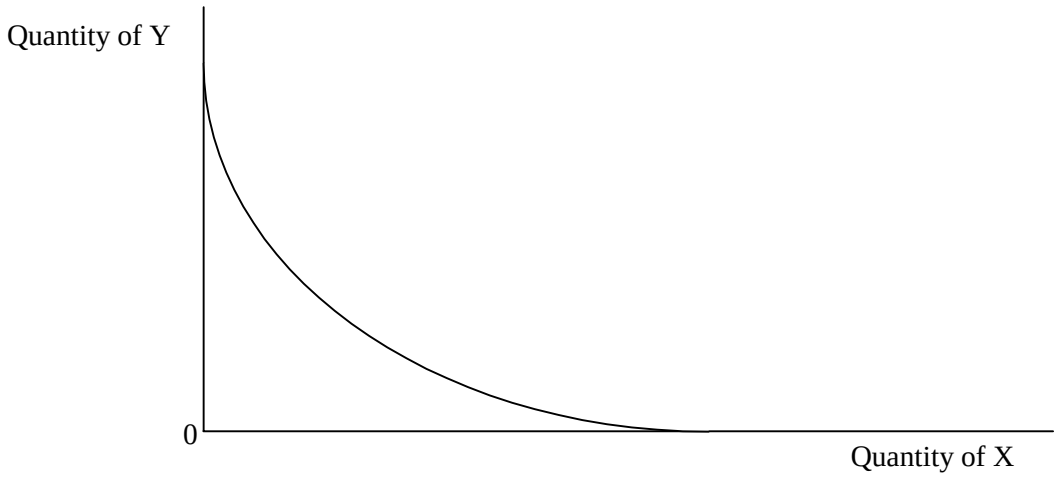

Figure 1.4

The production possibilities curve for a firm gaining increased efficiency by concentrating on one product

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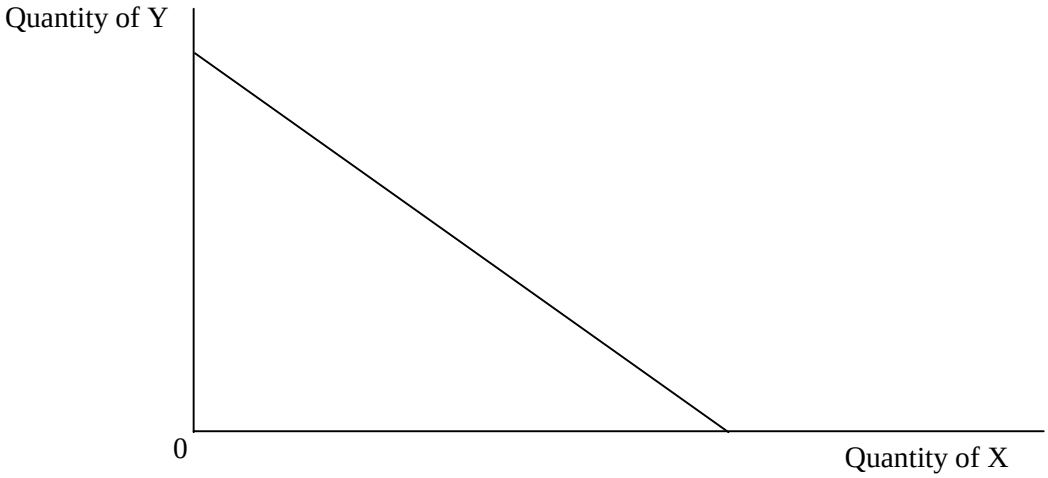

Figure 1.5

The production possibilities curve for a firm which is neither more nor less efficient when it switches resources from one product to another.

People are also assumed to be rational in their behaviour. Again, we are all capable of the most irrational actions from time to time but if we behave in a normal manner we are likely to display rational economic behaviour. For example if, given the choice between, say, cornflakes and muesli for breakfast we choose cornflakes and if given the choice between, say, muesli and porridge we choose muesli, then, if we are rational and offered the choice between cornflakes and porridge we would be expected to choose cornflakes, because we prefer cornflakes to muesli and muesli to porridge. It would be irrational to choose porridge in preference to cornflakes if we have already indicated a preference for muesli over porridge and for cornflakes over muesli.

If we accept consistency and rationality in human behaviour then analysis of that behaviour becomes possible, and we can start to identify patterns and trends and measure the extent to which people are likely to react to specific changes in the economic environment such as price in ways that we can identify, predict and measure. If we could not do this the entire study of economics would become virtually impossible.

The Forces of Supply and Demand

In studying the modern market economy we assume that the economic community is large and specialised to the extent that we can realistically separate organisations which produce goods and services from those that consume them. We are not studying village, subsistence economies which can consume only what they themselves produce. Most of us would have a rather poor standard of living if we had to live on what we could produce ourselves. We can, of course, be both producer and consumer, but the goods and services we help to produce are sold and we receive money which enables us to buy the things we wish to consume.

As individuals and members of households we are, therefore, part of the force of consumer demand. As workers and employers we are part of the separate force of production supply. Right at the start of your studies it is important to recognise that supply and demand are two separate forces. These do, of course, interact in ways that we examine in later study units but essentially they exist independently. It is quite possible for demand to exist for goods where there is no supply and only too common for goods to be supplied when there is no demand, as thousands of failed business people can testify. As students of economics you must never make the mistake of saying that supply influences demand or that demand influences supply.

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Basic Objectives of Producers and Consumers

In a market economy we assume that all people wish to maximise their utility. This is simplified to suggest that producers seek to maximise profits, since the object of production for the market is to make a profit and, if given the choice between producing A or B and if A is more profitable than B, we would expect the producer to choose to produce A.

At the same time consumers can be expected to devote their resources, represented by money, to acquiring the goods and services that give them the greatest satisfaction. This is not to say that we all spend our money wisely or eat the most healthy foods or wear the most sensible clothes. We perceive satisfaction or utility in more complex ways. Economists, as economists, do not pass judgments on the wisdom or folly of particular consumer wants. They recognise that a want exists when it is clear that a significant group of people are prepared to sacrifice their resources to satisfy that want.

When this happens there is demand which can be measured and which becomes part of the total force of consumer demand.

Unfortunately this does not stop some groups of people from seeking to dictate what the rest of the community should or should not want, consume or enjoy. This is a problem of all human societies and is beyond the scope of introductory economics. When Shakespeare's Maria in *Twelfth Night* accused the pompous Malvolio with the damning question "Dost thou think because thou art virtuous there shall be no more cakes and ale?" she was speaking for the market economy in opposition to the planners who would decide for the rest of humanity how to conduct their lives.

Consumer Sovereignty

Although the separation between supply and demand as two different forces has been stressed, the market economy operates on the assumption that, of these forces, consumer demand is dominant. The market production system is demand-led: supply adjusts to meet demand. In this sense the consumer is sovereign. Producers who cannot sell their goods at a profit fail and disappear from the production system. Profit is the driving force of the production system, and profit is achieved by the ability to produce goods that people will buy at prices that people will pay while enabling the producer to earn sufficient profit to stay in business – and to wish to stay in business. However strong the demand for goods, if they cannot be produced at a profit they will not, in the long run, be supplied.

If you have lived all your life in a market economy none of this will seem strange to you. But to someone who has lived in a command economy where production decisions and the quantity, quality and distribution of consumer goods have all been determined by the institutions of the state, the full implications of consumer sovereignty, particularly the implications for individual firms operating in a competitive market environment, can be very hard to grasp.

In the next five study units we shall be very largely concerned with different aspects of the forces of demand and supply and how they interact, or sometimes fail to interact, in the market economy.

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Study Unit 2

Consumption and Demand

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A. UTILITY

Meaning of Utility

Economists have always faced problems in explaining clearly why people are prepared to make sacrifices to obtain many of the goods and services which they evidently wish to have. In a market economy this difficulty can be stated as "Why do we buy the things we do buy?" Very often we do not "need" them in the strict sense that they are necessary to our survival. In fact our basic needs are really very small compared with all the things on which we spend our money in advanced market economies. We can talk in terms of "wants" and recognise that there seems to be no limit to these wants. We also have to recognise that at any given time we are likely to want some things more than others.

What, then, is the quality that goods must possess that make us want to acquire them? Clearly this will differ with different goods. Some may be pleasant to eat, some attractive to look at, some warm to wear and so on. The one general term we can apply to all goods and services is that they provide us with **utility**. This does not necessarily mean that they are useful in the sense that they help us to do something we could not do before we had them but simply that we perceive in them some quality that makes us willing to make some degree of sacrifice (usually of money) in order to acquire them.

Can we, then, measure this utility? In an absolute sense, the answer is almost certainly "No". Some economists have proposed adopting a measure called a "util" but no-one, not even the European Commission, has yet proposed that we mark all goods to show how many "utils" they contain. It is more practical to think in terms of money value since most of us measure the strength of our desire to buy something in terms of the price we are prepared to pay for it. When, therefore, an estate agent asks a potential house buyer, "How much are you prepared to offer for this house?" the agent is, in effect, asking the buyer to indicate the value of the utility which the house has for him or her.

More often we find ourselves making comparisons of utility. This arises partly because of the basic economic problem of unlimited wants and scarce resources, so that ranking our wants so we can decide what we can afford to buy is for most people an almost daily occurrence; but it also arises because, in modern advanced economies there is likely to be a range of different goods to satisfy any particular want. If I want to travel by public transport from Birmingham to Glasgow I could do so by motor coach, by train, or by air. My want is to get from Birmingham to Glasgow, and three options offer the utility to satisfy this want. Each involves different sacrifices of money and time and offers different associated utilities of convenience and comfort. My choice will depend on the resources available to me (how much money I can afford to pay and how much time I have) and on my valuation of the utility afforded by each option. Notice, further, that this utility is not an absolute quality but depends on why I want to make the journey. If it is part of a holiday then I might prefer the coach or train, but if I am attending a business meeting from which I hope to achieve a financial benefit and need to be fresh and alert then the air option is likely to offer the greatest utility – greater, probably, than the price of the fare.

All this may seem very involved, but an appreciation of utility and how it can influence our actions can be a very great help in understanding the true nature of economic demand.

Total and Marginal Utility

Our valuation of the utility provided by any good depends on how strongly we want to acquire it. While there may be several elements involved in this, e.g. we find it attractive or useful, or think it will impress our friends or neighbours, one factor that is always relevant is the amount of that or a

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similar good we already possess. Suppose I have enough spare cash at the end of the week to buy either a pair of trousers or a pair of shoes but not both, though I would like both. If I already have an adequate supply of trousers for the next few months but do not have any spare shoes then, assuming that their prices are roughly similar, I am likely to buy the shoes. This does not mean that I always value shoes more highly than trousers but that, considering what I already have at the present time, I perceive greater utility in some additional shoes than in additional trousers.

By now, especially if you have remembered the explanation of marginal product in Study Unit 1, you will recognise that I have just given an example of **marginal utility**, i.e. the *change in total utility for a good or group of goods when there is a change in the quantity of those goods already possessed*.

Most of the important decisions relating to the demand for goods and services are influenced by valuations of marginal utility compared with the prices of these goods. The more pairs of trousers I possess the less value am I likely to place an obtaining more and the more likely am I to spend my available money on other things of comparable price whose marginal utilities are higher.

Willingness to buy thus depends on the comparison of marginal utility with price so to some extent it is reasonable to value utility in terms of price. To return to the original house buyer example, if the buyer says to the agent, “My highest offer is £100,000”, then for this buyer the value of the marginal utility of the house is £100,000. If this is the buyer’s only house then, of course, it is also the total utility.

We must also bear in mind that money itself has utility. If I am saving money for a major holiday or for an expensive durable (long lasting) good such as a house or furniture, then I may place a high value on money savings and be less inclined to buy trousers and shoes as long as I have enough of these for my immediate needs. If my income is secure and rising, my valuation of the marginal utility of money could be low and I am more likely to spend it on goods. If, however, my job is not secure and redundancy or retirement is a serious possibility, my valuation of the marginal utility of money is likely to rise and I will spend less on goods and services. You can easily see the implications of this for the general demand for consumer goods during periods of economic uncertainty when people think they are likely to have less money in the future. Just as the marginal utility of a good diminishes as the quantity already possessed rises, so marginal utility rises as the quantity of a good already possessed falls – or is expected to fall in the near future.

Maximising Utility from Available Resources

This relationship between total and marginal utility can be illustrated in a simple graph as in Figure 2.1.

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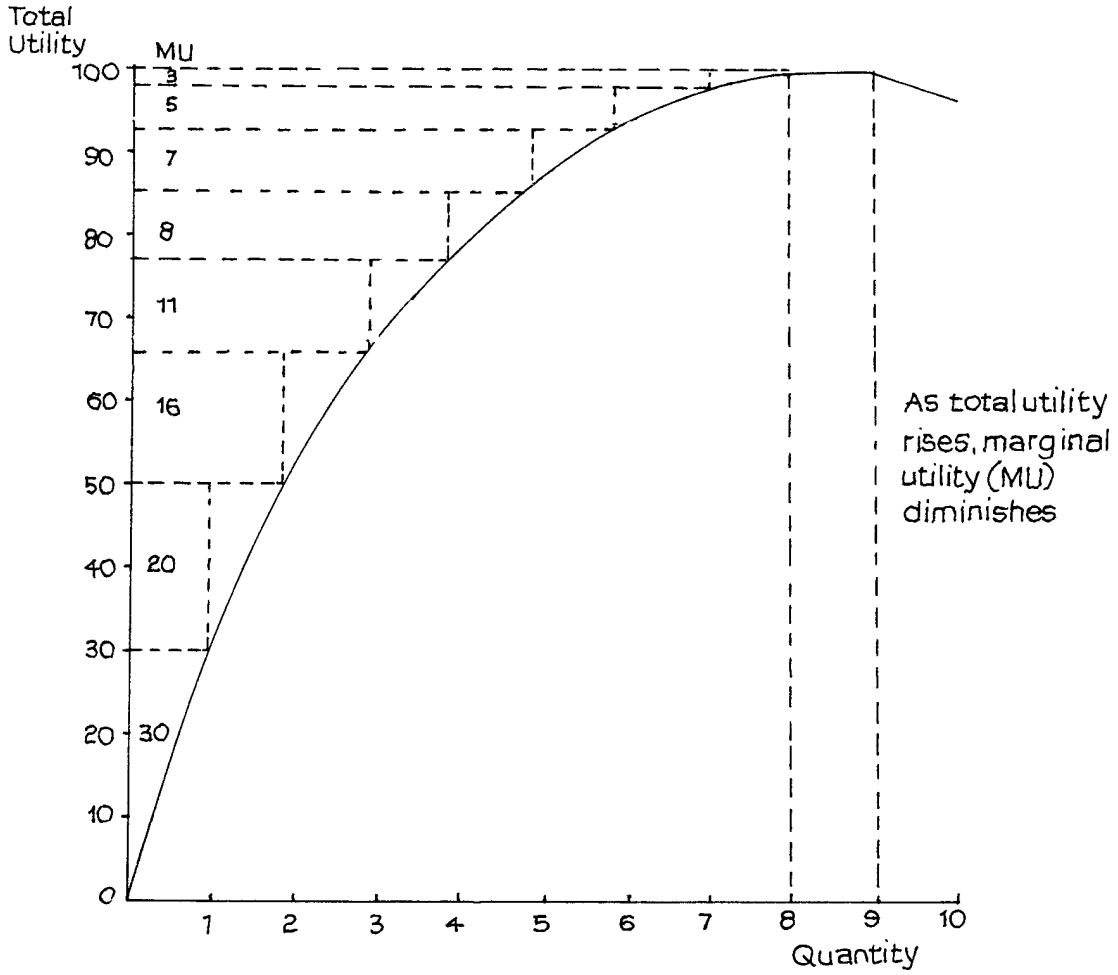

Figure 2.1: Marginal and Total Utility

Suppose I have no use for more than 8 pairs of trousers. This number would provide maximum utility to which we can give a hypothetical numerical value of, say, 100 (representing 100% of the total) but clearly the largest marginal utility would be provided by the first pair. After this purchase the marginal utility of each additional pair diminishes, as indicated by the figures under MU to the right of the vertical axis. The total of 100 is reached with the eighth pair. If I have a ninth, no further utility is added – the total remains at 100. Should I receive a tenth pair my total utility actually falls: perhaps they take up space in my wardrobe I would rather have for something else.

Does this, then, mean that I should aim at keeping eight pairs of trousers all the time? Not necessarily, since Figure 2.1 takes no account of other important considerations, which include:

- the price of trousers, i.e. the sacrifice I must make to buy them
- my desire for other goods and services, i.e. other marginal utilities (I would not, for example, be too pleased to have eight pairs of trousers if I possessed only one shirt, nor would trousers satisfy my hunger if I did not have enough food to eat)
- how much money I have, i.e. my marginal utility for money

Only when all these are taken into account would it be possible to estimate how many pairs of trousers would represent, for me, the best total to try and achieve.

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Assuming rationality, in the sense explained in Study Unit 1, the most satisfactory quantity of trousers for me would be where my marginal utility gained from the last £1 spent on trousers just equalled the marginal utility per £1 spent on all other available goods and services, and where this also equalled the marginal utility of money. On the assumption that we are valuing utility in monetary terms the marginal utility of the last £1 of money = 1.

Putting this statement a little more formally as an equation and using the symbols, MU_A to denote the marginal utility for the good A, MU_B for the marginal utility for the good B, P_A for the price of A, P_B for the price of B and so on, we can say that consumers achieve a position of equilibrium in their expenditure when for them:

$$\frac{MU_A}{P_A} = \frac{MU_B}{P_B} = \frac{MU_N}{P_N} = 1 \text{ (which = the marginal utility of money)}$$

In this state of equilibrium consumers cannot increase their total utility from all goods and services by any kind of redistribution of spending. Spending more on A and less on B, for example, would mean that the marginal utility of A would fall and so be less than that of the marginal utility of B, which would rise and be less than the marginal utility of other goods, including money. Also the utility gain from A would be less than the utility lost from B so total utility would have fallen. No one rationally spends £1 to receive less than £1's worth of utility.

You may object that this kind of reasoning takes no account of actions such as making contributions to charity, but our use of the term "utility" does embrace such gifts. Presumably we give to a charity because the act of giving to a use we perceive as worthy, affords us satisfaction. It has, therefore, utility and can be regarded in the same way as other forms of spending. This means, of course, as charities and the organisers of national charitable events have discovered, that giving to charity is also subject to diminishing marginal utility. "Aid fatigue" is the term sometimes used for this.

B. INDIFFERENCE CURVES

What is an Indifference Curve?

An indifference curve is a graph linking all the combinations of two goods or two groups of goods which provide the same level of total utility for an individual, group of people or community. It is called an indifference curve because there is no preference for one combination over any of the others. All offer the same amount of utility or satisfaction, so that people are indifferent as to which combination they have.

One curve can, of course, indicate only one level of utility. If the resources available to acquire the goods were increased people could move to a higher level, and if resources fell they would have to be satisfied with a lower level. We can, therefore, imagine that any one curve is really part of a map of very many curves all representing different levels of total utility.

A simple example of an indifference curve is shown in Figure 2.2.

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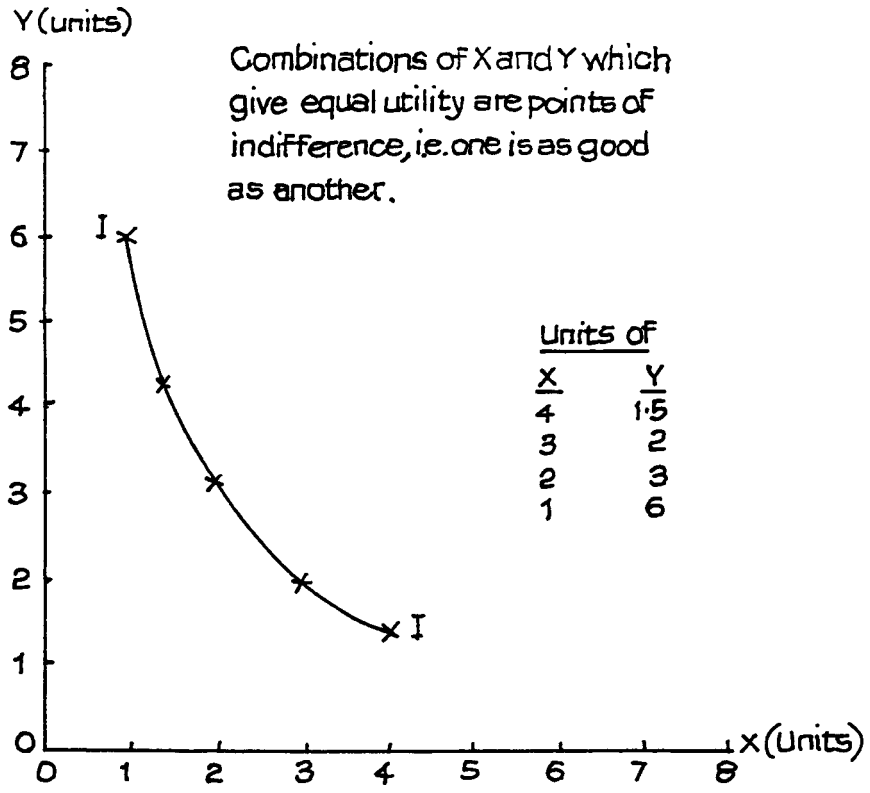

Figure 2.2

The figures given here for units of X and Y are purely hypothetical. They are not an actual case and are intended simply to illustrate a general situation. From the table and the curve we see that the person whose curve this is would have the same utility from 4 units of X and 1.5 of Y as from 3 units of X and 2 of Y or from 2 units of X and 3 of Y.

Although these figures are, to some extent, just "plucked out of the air", they are also chosen to illustrate the general shape which we can expect all indifference curves to take, i.e. the curve is convex to the origin of the graph since it is based on the principle already explained, of diminishing marginal utility.

According to this curve, when the person has just 1 unit of X but 6 of Y, he or she is prepared to give up 3 units of Y to gain 1 more unit of X, i.e. 1X has the same value as 6Y. However, when that person has 3 units of C he or she will only be prepared to give up 0.5Y in return for one more X, i.e. with 3 units of X possessed, a further unit of X is valued at only 0.5Y. Thus the marginal utility of X has diminished from 3Y to 0.5Y as more X is accumulated.

You may think this is a rather involved way to illustrate the fairly commonsense principle that most people readily accept – that the more we have of something the less value we put on gaining yet more of the same and the more we would prefer to have something else. This is all that we mean by diminishing marginal utility. However, the indifference curve has given rise to a technique of analysis that is used quite frequently in economics and which often helps to clarify thinking on some fairly controversial topics.

Indifference Curve Analysis and Income Changes

Remember that the indifference curve is *not* a demand curve. By itself it tells us nothing about how much of a good we are likely to buy; it only indicates relative preferences between different goods or

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groups of goods. As we noted earlier in this study unit, to be able to estimate how much of a good people may be prepared to buy, in a market economy, we also need to know:

- the price of the good
- the amount of money they have available.

To carry out any kind of indifference curve analysis, therefore, we must take these two factors into consideration.

Suppose that the price of X is £3 per unit while that of Y is £2 per unit. Suppose also that the amount of money available for spending on X and Y is limited to £12.

Assuming that the full £12 is spent there is a range of spending possibilities. These are:

- The whole £12 is used to buy X with nothing spent on Y. At a unit price of X of £3 this would buy 4 units of X.
- The whole £12 is used to buy Y with nothing spent on X. At a unit price of Y of £2 this would buy 6 units of Y.
- A combination of X and Y which involves a total price of £12, e.g. 2 units of X ($2 \times £3 = £6$) and 3 units of Y ($3 \times £2 = £6$).

These possibilities are illustrated in the linear (straight line) spending possibilities curve of Figure 2.3. (If you have studied some mathematics you will not be worried by the thought that there are linear, or straight-line curves. If you have not studied mathematics, you will soon get used to the expression.) The spending possibilities curve is sometimes called the spending possibilities line, to help to distinguish it from the indifference curve, and it is also sometimes called the budget line.

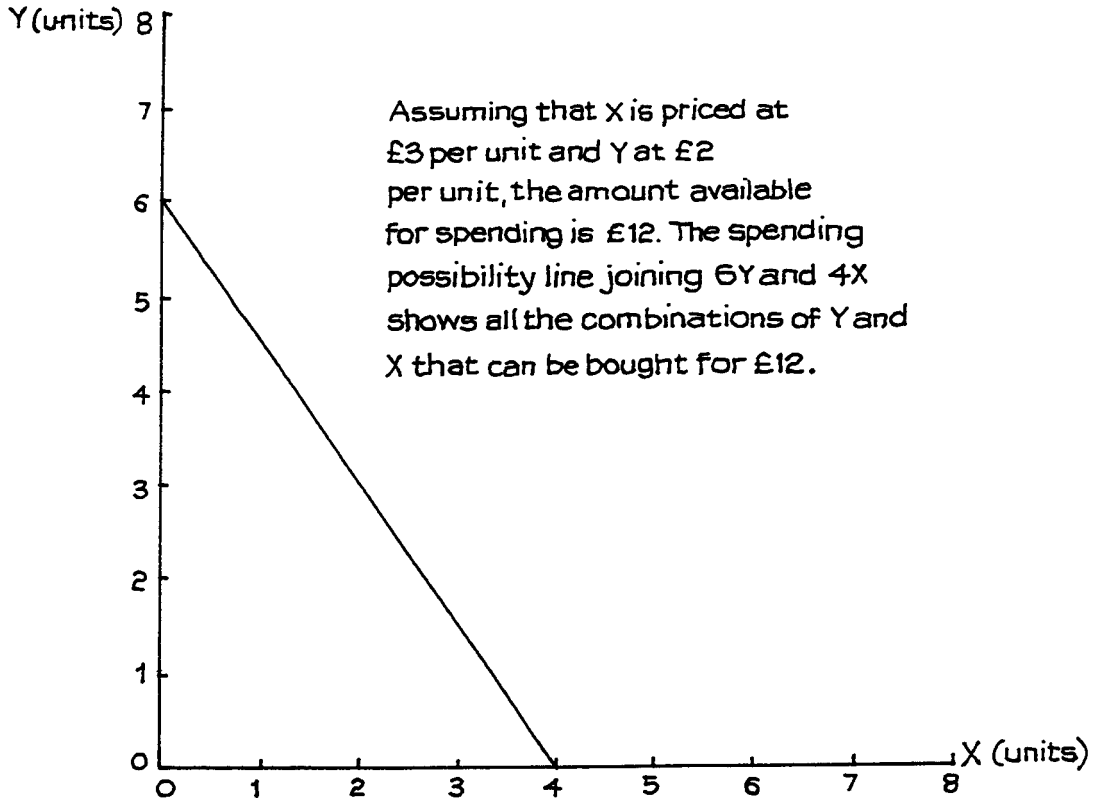

Figure 2.3

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We now have two curves: one, the indifference curve, shows us combinations of X and Y that provide us with the same level of total utility or satisfaction; the other, the spending possibilities line, tells us what it is *possible* to buy at given prices and a given amount of money for spending.

When the two curves are combined, as in Figure 2.4, we see that the only combination on the indifference curve that we can buy is 2X and 3Y. Had there been less than £12 to spend the spending possibilities line would not have reached this indifference curve and only a lower level of utility (a lower curve in the "map" mentioned earlier) would have been available.

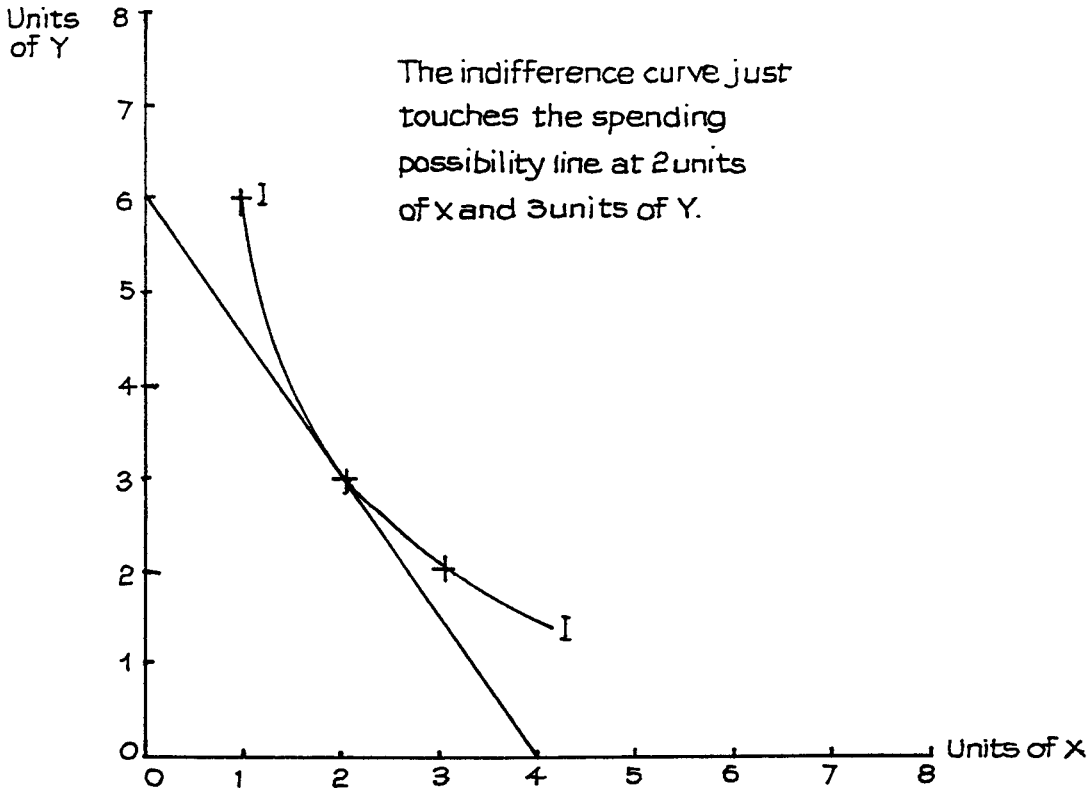

Figure 2.4

Consider now what would happen if the person had £16, not £12 to spend. The spending possibilities line changes as shown in Figure 2.5. The £16 can be used to obtain more of X or more of Y, or some new and larger combinations of the two.

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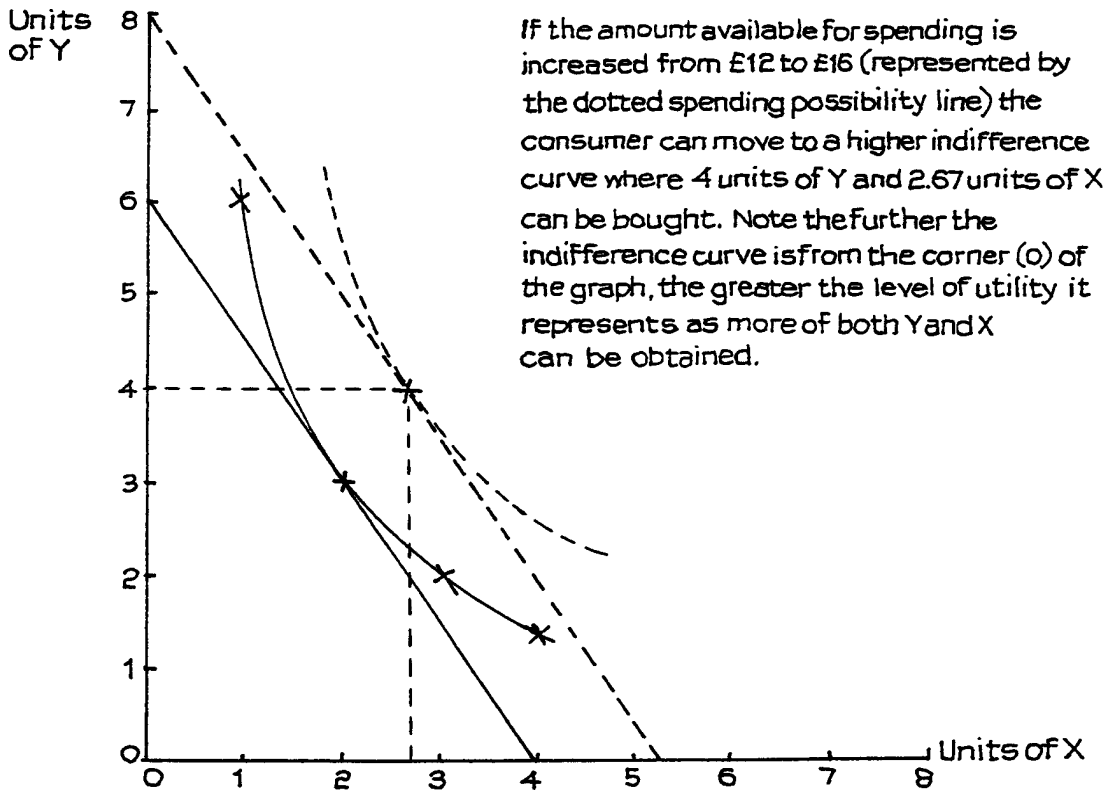

Figure 2.5

Figure 2.5 also shows how movement to a higher spending possibility line allows movement to a higher indifference curve, where there is a greater level of total utility or satisfaction. The point where the new curve just touches the higher spending possibility line is at a level where more of both X and Y is obtained.

This movement to a higher indifference curve results in more of both X and Y being bought. This is a reasonable expectation: if our income rises we can spend more on most goods. However, there may be some exceptions. As incomes rise, people's pattern of spending may change; the extra income may permit people to switch spending from some goods to preferred substitutes. The diet of people on low incomes may include a substantial amount of bread or potatoes, but as their incomes rise they may choose a more varied diet, spending less on bread or potatoes. If this happens we can say that bread and potatoes are perceived by such people as **inferior** goods; they may, perhaps, buy more fruit, biscuits and other foods.

When this happens there has been a change in the relative preferences between goods and this will be reflected in a change in the shape of a higher indifference curve, as illustrated in Figure 2.6. Here a rise in income allows the spending possibilities line to move outwards from AB to A_1B_1 and the higher spending permits movement to a preferred combination of goods on the higher indifference curve I_1. This indifference curve is flatter than the lower curve I, which means that X is valued less highly compared with Y. The amount of X that has to be given up to gain a given amount of Y is less as you move along I_1 than if you move along I. You can see this in Figure 2.7.

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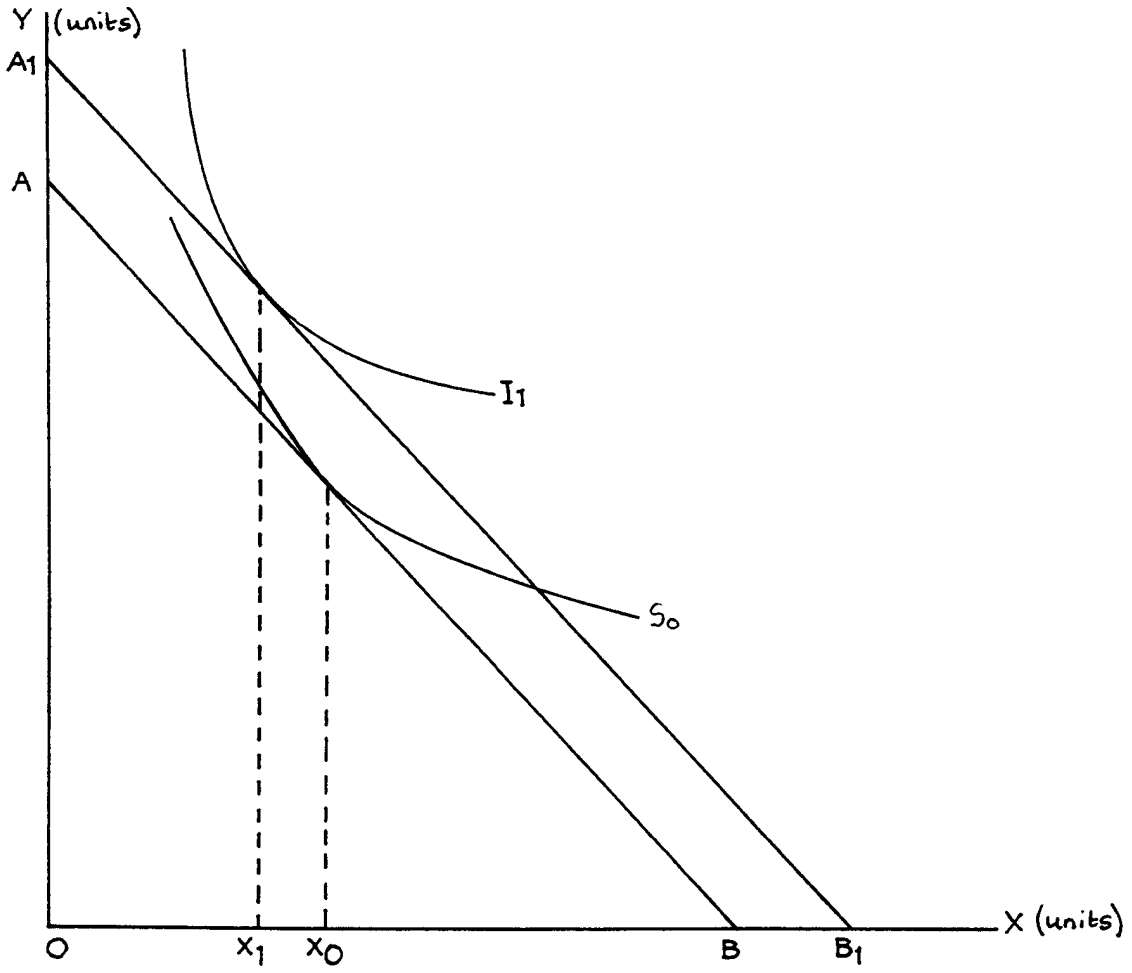
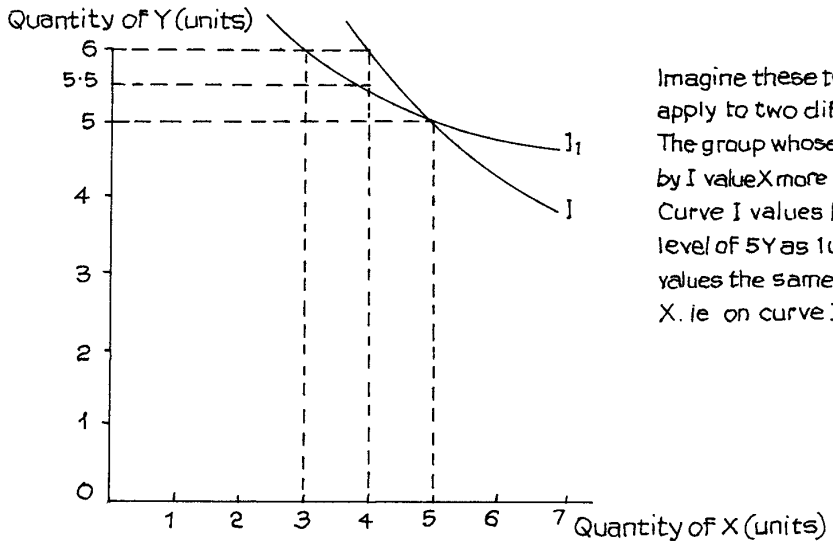


Figure 2.6



Imagine these two indifference curves apply to two different groups of people. The group whose preferences are reflected by I value X more highly than the group for I_1. Curve I values 1 additional unit of Y at a level of 5Y as 1 unit of X, whereas curve I_1 values the same unit of Y as 2 units of X. Ie on curve I 1X = 1Y but on I_1 1X = 0·5Y

Figure 2.7

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In curve I the group puts the same ability value on 5 units of X and 5 units of Y as it does on 4 units of X and 6 units of Y. Thus at this level on indifference curve I, 1 unit of X = 1 unit of Y.

In curve I_1 the different group puts the same utility value on 5X and 5Y as it does on 3 units of X and 6 units of Y or 4 units of X and 5.5 units of Y. The flatter curve, therefore, values X at half as much Y as the steeper curve at the levels examined.

Notice that showing two curves intersecting in this way indicates that they must either reflect the preferences of different groups or the same group at different times. They cannot possibly relate to the same group at the same time, since 5X and 5Y cannot at the same time have the same utility as both 4X and 6Y and 3X and 6Y.

Because of the danger of misleading examiners by appearing to show such an absurdity you should be careful never to show indifference curves intersecting on the same graph. I have broken this rule in Figure 2.7 only to give you a simple illustration of the difference between a flat and a steep indifference curve.

Remember the flatter the indifference curve the greater the preference for the good measured along the vertical or Y axis; the steeper the indifference curve the greater the preference for the good measured along the horizontal or X axis. Thus, if the indifference curves get flatter as income and total utility levels increase, this suggests that people are switching their spending preferences towards the good or goods measured along the Y axis. If they do this to the extent that the quantity purchased actually falls following an income rise then the goods on the horizontal axis can be described as "inferior" in economic terms.

Indifference Curve Analysis and Price Changes – Giffen Goods

The change illustrated in Figure 2.5 assumed that the prices of X and Y remained the same.

Suppose that, instead of a spending change, there was a price change. Let us say that the price of X is increased to £4 per unit but that of Y stays the same at £2. The two extreme possibilities for a total amount of spending of £12 are now 6 units of Y (no X) and 3 units of X (no Y). The line between these two points on the graph shows all possible combinations of X + Y that can be bought for the £12. This line no longer meets our original indifference curve. The old combinations of 2X + 3Y would now cost £14 – above the limit of £12. A new mixture of X and Y has to be obtained, and this we see in Figure 2.8.

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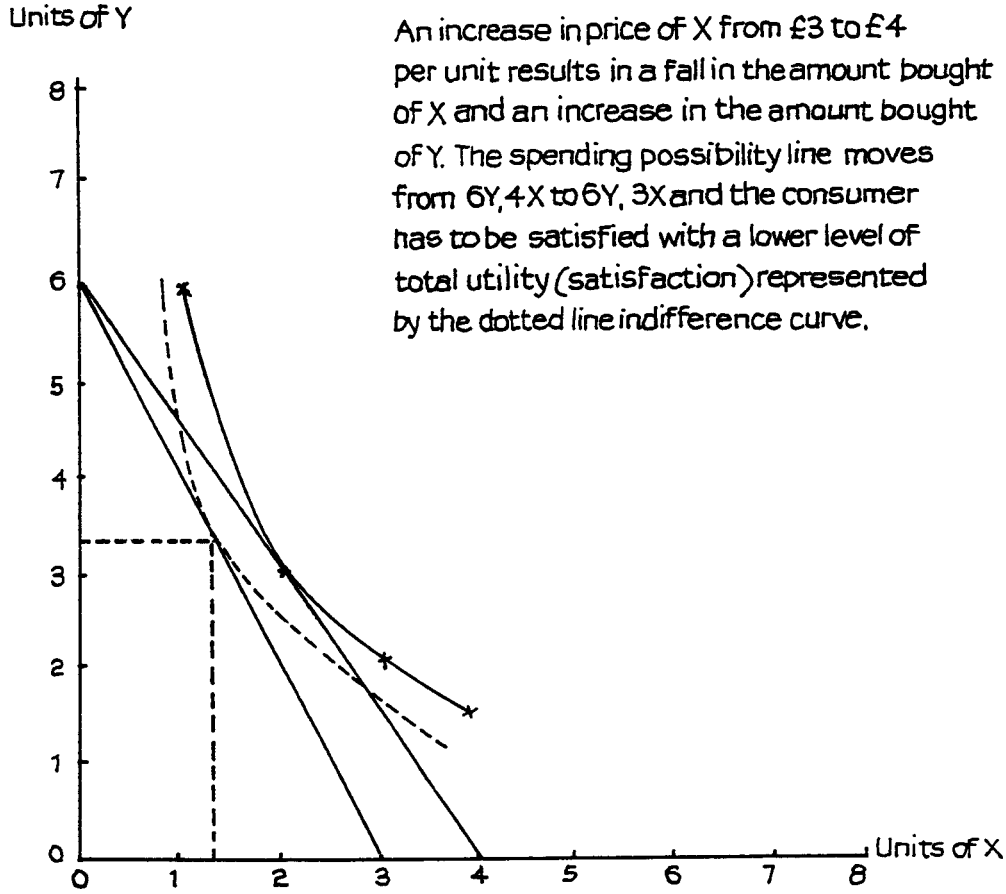

Figure 2.8

The lower indifference curve (dotted in the graph) touches the spending line, to give a package of rather less X but a little more Y. When using indifference curves in this way remember, as mentioned earlier in this study unit, to imagine that there is an indifference "map" containing a mass of curves, each representing a particular level of total utility or satisfaction. The further away from the origin (where the axes of the graph meet) we move, the higher the level of utility represented by the curve because it represents more of both X and Y.

The changes shown in these illustrations all support the earlier statement that a rise in price of a commodity will lead to a fall in the quantity demanded of that commodity.

In Figure 2.8 a price rise for X resulted in less of X being purchased; this is what we would normally expect for most goods. However, some economists have argued that this may not always be the case. They point out that a price change will not only change people's perception of other goods as substitutes but will also affect the income that is available for spending, particularly if the price in question relates to something which is bought regularly and so makes up a significant part of people's incomes, especially if the incomes were low. If the price of this basic good rose so that people could no longer afford to buy preferred substitutes then it is, perhaps, conceivable that they would be forced to buy more rather than less of the good whose price has risen. In this very special (and extremely rare) case a price rise could be said to lead to increased purchases while a price fall, by releasing spendable income to buy preferred goods, could lead to less being bought.

This possibility is illustrated in Figure 2.9, where a reduction in the price of X allows the spending possibility line AB to move to AC for the same level of income. This allows buyers to achieve the

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higher level of utility or satisfaction represented by the indifference curve I_1 which is higher than the curve I – the highest attainable by spending possibility AB. The preferred combination of X and Y is now Ox_1 and Oy_1. This provides more satisfaction than the old combination of Ox and Oy but, as we see from the diagram, x_1 represents a smaller quantity of X than x. Thus people have used the extra money made available by the price reduction of x to buy more of Y and less of X rather than more of both, which would have been the case if X had been a normal good.

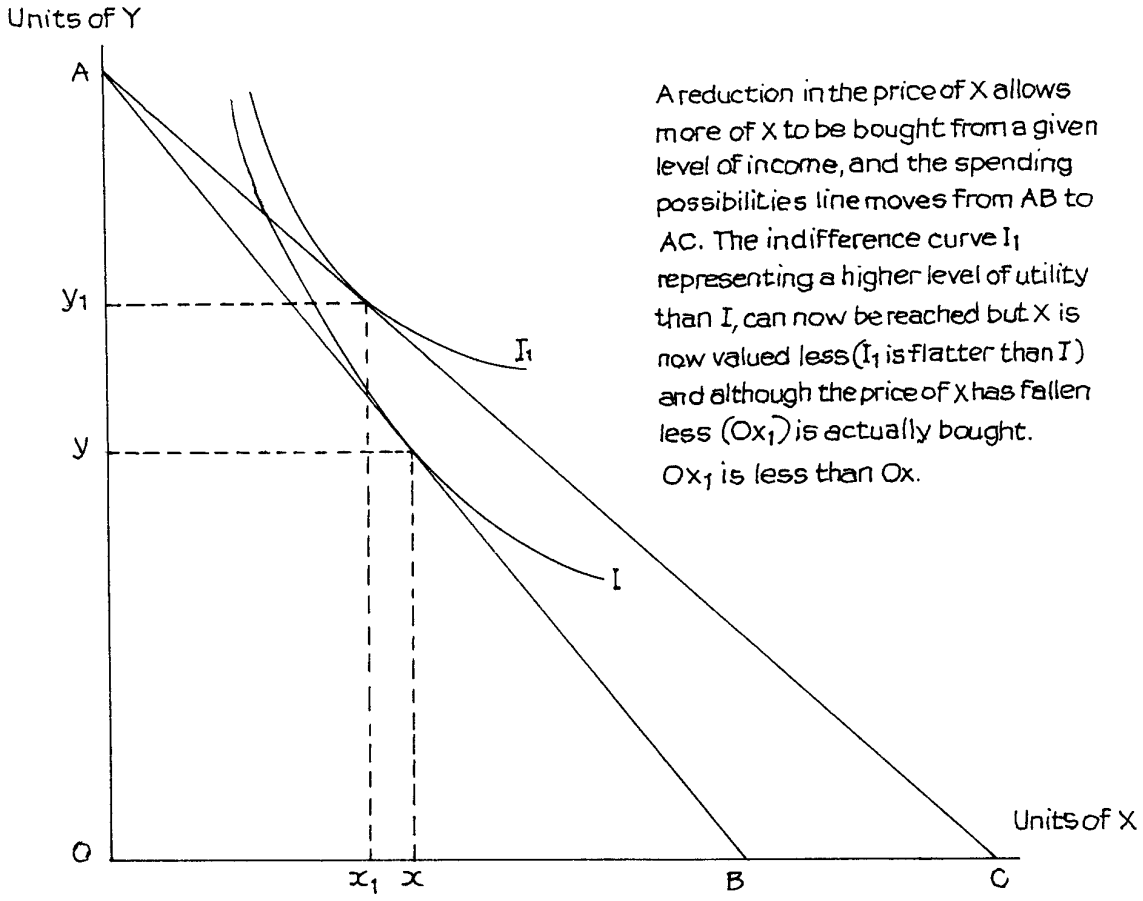

Figure 2.9

The reason for this is clear from the diagram. The higher indifference curve I_1 is flatter than the lower curve I. Thus X is perceived as being so inferior to Y that even the amount of spendable income change resulting from the price reduction is sufficient to allow people to switch their buying to Y from X. Such a good is known as a **Giffen good**, Giffen being the name of the person who first drew attention to the possibility.

You will see that this is a very special case and it is extremely difficult to think of an example for such a possibility in a modern advanced market economy. However, the term "Giffen good" has come to be used in a wider sense, which will be explained and discussed in Study Unit 3.

As well as illustrating the so-called Giffen effect, this example also shows that when a good's price changes there are two consequences, both of which are likely to affect people's purchases.

(a) If a price of, say, X changes while the prices of other goods, say Y, Z and so on, stay the same there is a change in the pattern of relative prices. If good Y is seen as substitute for X, and if the price of X rises with the price of Y staying unchanged, then X has become dearer compared with Y and some people who previously bought X are likely to transfer to Y which is now

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relatively cheaper than before. For X and Y, think of, perhaps, potatoes and rice or tea and coffee. If the price of tea rises, people will not stop drinking tea but some will start to switch to coffee when previously they would have drunk tea. We can expect that there will be some switching of purchases to substitutes when one good becomes relatively more expensive than its rivals. This is called the **substitution** effect of the price change.

(b) As we have seen earlier, if the price of tea rises any given quantity of tea purchased requires more income than it did before the price rise. This will reduce the amount of income available for spending on other things, including possible extra purchases of tea. In the same way if, say, the price of coffee were to fall, this would increase the amount of income available for spending on other things – including extra coffee. This is called the **income** effect of the price change.

These two effects together make up the total shift in buying following a price rise or fall. They can be analysed with the help, once more, of indifference curves.

Look at Figure 2.10. This uses the symbols X and Y as before to show they can apply to any goods but you can think of X as coffee and Y as tea, if you wish.

Here we see the effect of a reduction in the price of X from £3 per unit to £2 per unit. Y stays at £3 per unit and disposable income stays at £48. The maximum possible purchases of X, assuming no purchases of Y, rises from 16 to 24 units.

Suppose the original combination of X and Y actually purchased, given the indifference curve I, was:

9Y(£27) + 7X(£21) = £48 at B, before the price change.

After the change in price, the new combination on the higher indifference curve I_1 would be:

$9\frac{1}{3}$Y(£28) + 10X(£20) = £48 at A.

To help you understand the income and substitution effects, let us imagine that, after the price change, available income was reduced to an amount which just allowed consumption to stay on the lower indifference curve I at C. This is represented by the dotted line which runs parallel to the second consumption possibility line and which just touches indifference curve I at C. The dotted line is called the "income compensation line". At C, the consumption package would be 8Y + $8\frac{1}{3}$X.

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Figure 2.10

The increased consumption of X between points B and C on the same indifference curve, i.e. from 7 to $8\frac{1}{3}$Y units, the result of a movement along the indifference curve, is the **substitution effect**. It is the result purely of the change in price of X from £3 to £2, because the total utility gained from consuming both X and Y has not changed.

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Notice that the income effect of a price change can move the level of consumption for the affected good in either direction.

- For normal goods (the majority) a rise in income available for spending on the good produces an increase in purchases. Similarly a fall in income results in a reduction in purchases.
- For inferior goods a rise in income available for spending on the goods produces a reduction in purchases, while a fall in income results in an increase in purchases.

However the substitution effect is always in the same direction, i.e. in the reverse direction to that of the price change and in favour of the good whose price has become lower relative to the price of the substitute. In effect the substitution effect is a movement along the indifference curve caused by the change in gradient of the consumption possibilities line, which is itself caused by the changes in the relative prices. Thus we can say that:

- For all goods the substitution effect causes a rise in the consumption of the good whose price has become relatively lower and a reduction in consumption of the good whose price has become relatively more expensive.

The Giffen effect, where a price rise produces an increase in consumption and a price fall leads to a decline in consumption, occurs when the "inferior" income effect is actually greater than the substitution effect.

C. THE DEMAND CURVE

What is a Demand Curve?

So far in this study unit we have considered some of the consequences of price and income changes for the amounts of goods purchased. The general, and in most cases "normal" relationship between price and quantity changes is frequently illustrated by graphing the anticipated amounts of a good that people can be expected to buy, in a given time period, at a series of different prices within a given price range. This produces a **demand curve**.

Bear in mind that the demand curve is a simple two-dimensional graph. It shows the relationship between just two variables – the price of a good and the quantity of that good that we believe is likely to be purchased over a given time period.

In concentrating on just price and quantity we make the assumption that all other possible influences on demand (quantities of possible purchases) are held constant. These other influences, including income and prices of other goods, already noted, will be considered again in the next study unit but for now we can conveniently ignore them. Our concern, for the moment, is with price.

Indifference Curves and the Demand Curve

We can make use of simple indifference curve analysis for a normal good to show how it is possible to derive a demand curve. Suppose a group of consumers have, between them, an amount to spend each week of £840, and they spend this on a combination of products or product "baskets", X and Y. Assume that the price of Y stays constant at £8.40 per unit but that X varies between £12 and £5 per unit.

Given these figures, the maximum possible consumption of Y (no X consumed) is 100 units, whereas that of X (no Y consumed) moves from 70 units per week at a price of £12 to 168 units at the lower price of £5. These total possible consumption (spending) figures assume that the whole income is spent on Y or X only. This enables us to draw the series of possible consumption or spending

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possibility lines in Figure 2.11, which also shows the actual consumption of X at the prices of £12, £8.75, £7 and £5, given the indifference curves of the diagram.

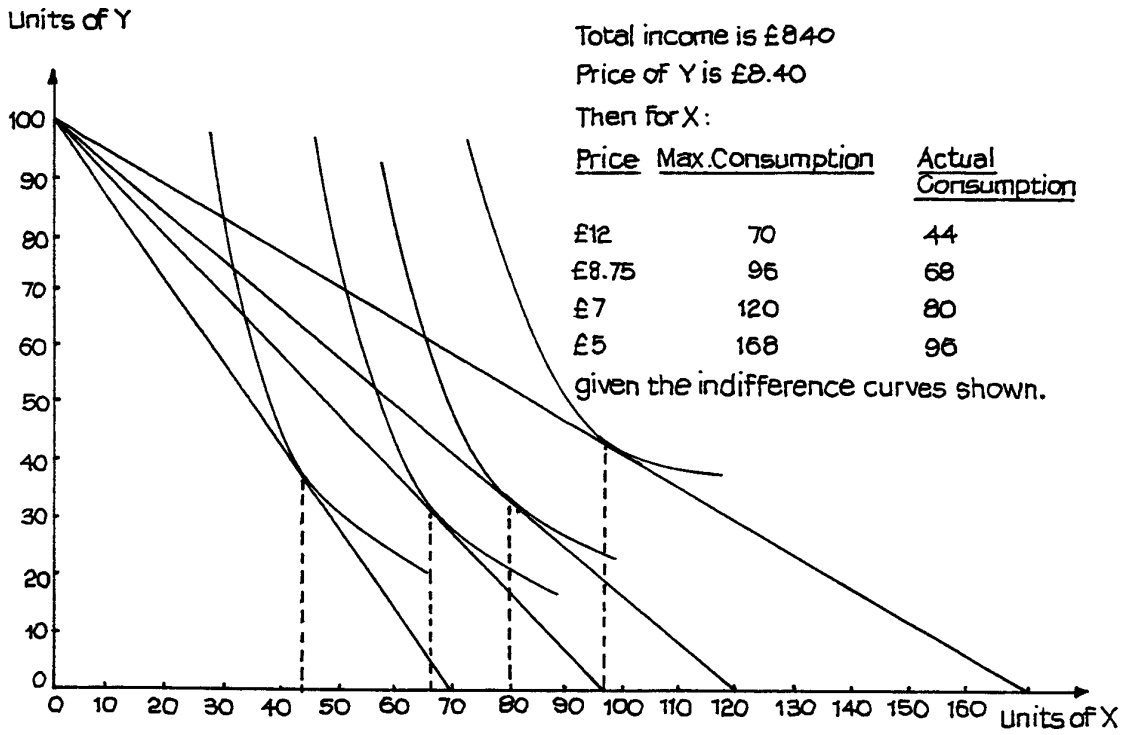

Figure 2.11

We see that actual consumption of X, given the relative preferences of X and Y represented by the indifference curves, rises from 44 units per week at the price of £12 per unit to 96 units per week at the price of £5 per unit. The actual consumption figures, related to these prices, are shown in Figure 2.12. This graph shows the demand for X at the range of prices £12 to £5. It is the demand curve for the good X.

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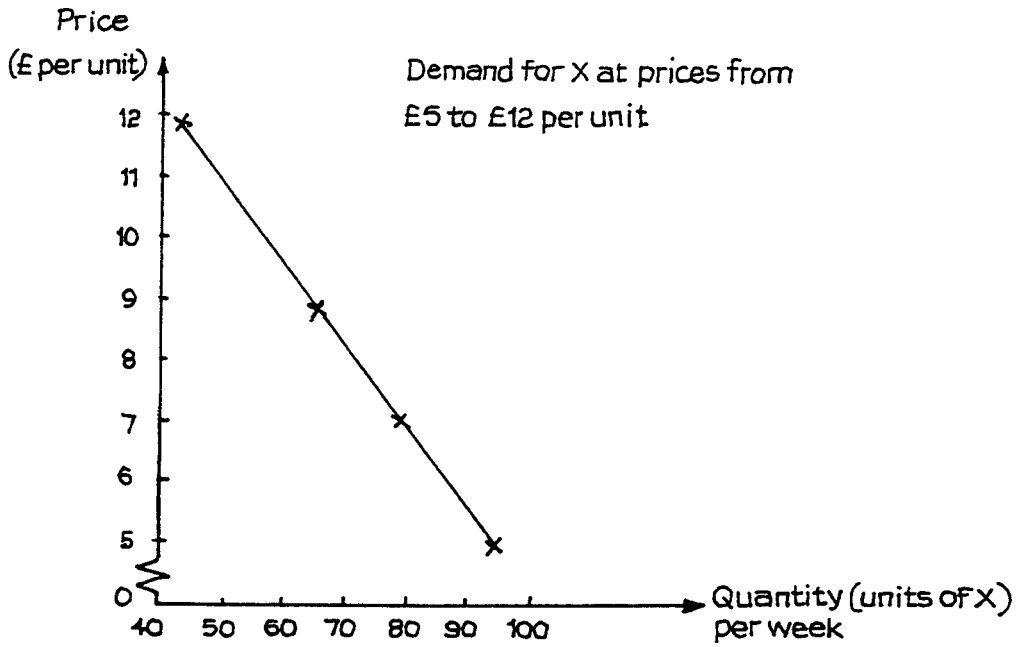

Figure 2.12

This example illustrates the general shape of the demand curve and the normal relationship between price and quantity demanded of a product. If all other influences remain constant, we would expect the quantity demanded to rise as price falls and to fall as price rises. Notice that, in our example, we have made the following assumptions:

(a) Other prices, represented by Y, stay constant at £8.40 per unit.

(b) Income also stays constant, at £840. Another point to remember is that we are here considering a flow of demand related to a set period of time. It is always necessary to do this. We cannot compare a weekly amount at one price directly with a monthly amount at another. When we change one variable – here price – to analyse its effect on quantity, we have to keep all other elements constant, including the time period to which the stated quantity relates. In our example, this period was a week.

Use and Importance of Demand Curves

As you will see as you progress through this course, the demand curve is used extensively in economic analysis. The price-quantity relationship is one of the most important things we need to know when considering sales of products. A firm must know the likely result of a change in price, because any alteration in quantity demanded will affect the total sales revenue.

Governments also need to know the probable effects of any change in a tax imposed on products. Because such a tax will influence price, the price-quantity relationship is, again, an important issue. If a government is considering an increase in a tax such as value added tax, which influences a very wide range of goods, it needs to know what extra total revenue it can expect to gain from the tax increase. It cannot assume that quantities consumed of all goods affected will remain the same; it must take into account the probable changes in quantity demanded that will result from the changes in price.

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General Form of Demand Curves

At this stage of study, you will meet demand curves chiefly in relation to general analytical problems. Actual figures are then less important than the general shape and slope of the curves. It is normal, therefore, to draw general curves, in which price and quantity are denoted simply by letters. For reasons that will become clearer in later study units, it is simpler to draw what are called "linear curves", i.e. straight-line graphs, for part only of the full price and quantity range. This is because, for most purposes, we are concerned only with a limited range of possible prices and quantities. When there are special reasons for departing from these normal practices, we shall explain these. Examples of typical general demand curves are given in Figures 2.13 and 2.14.

Notice that in Figure 2.13 a given change in price appears to produce a greater change in quantity demanded than in Figure 2.14. This is assuming that they are drawn to the same scale. You must remember that the steepness of a demand curve will be affected by the scale of the (horizontal) X-axis, and graphs must be drawn to the same scale, so that comparisons can be made.

It is a convention (general rule) in economics that price per unit is measured on the vertical (often called the Y) axis, while quantity in units per period of time is measured along the horizontal X-axis. It is often custom to label the axes simply "Price" and "Quantity".

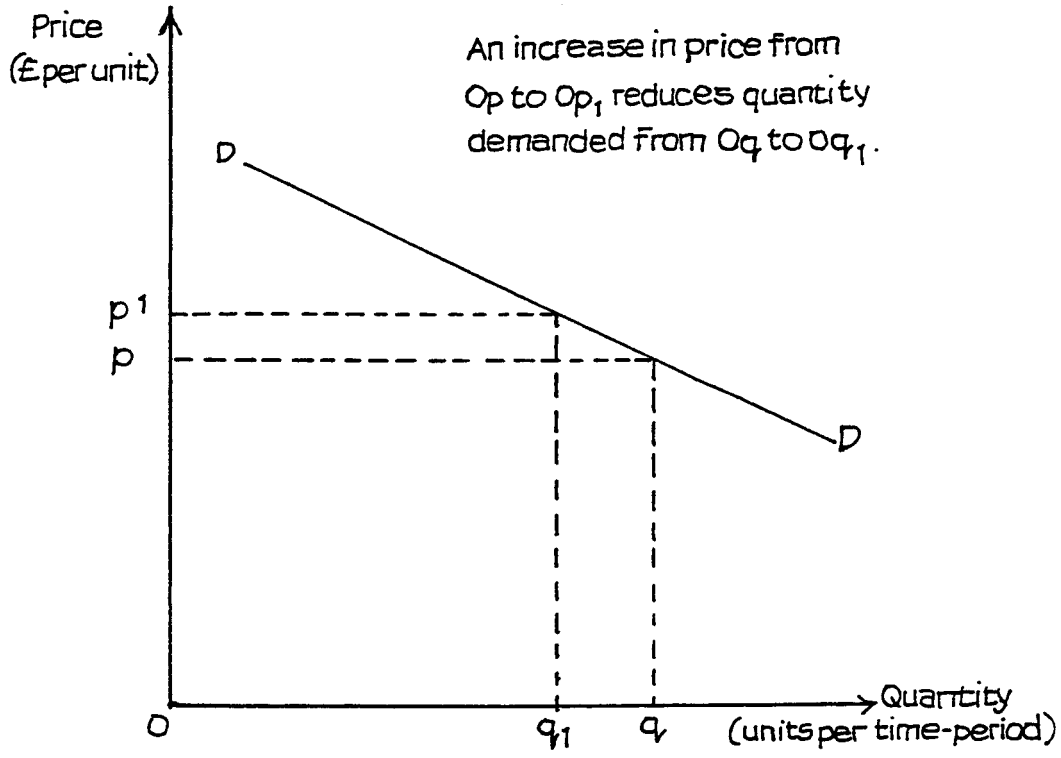

Figure 2.13

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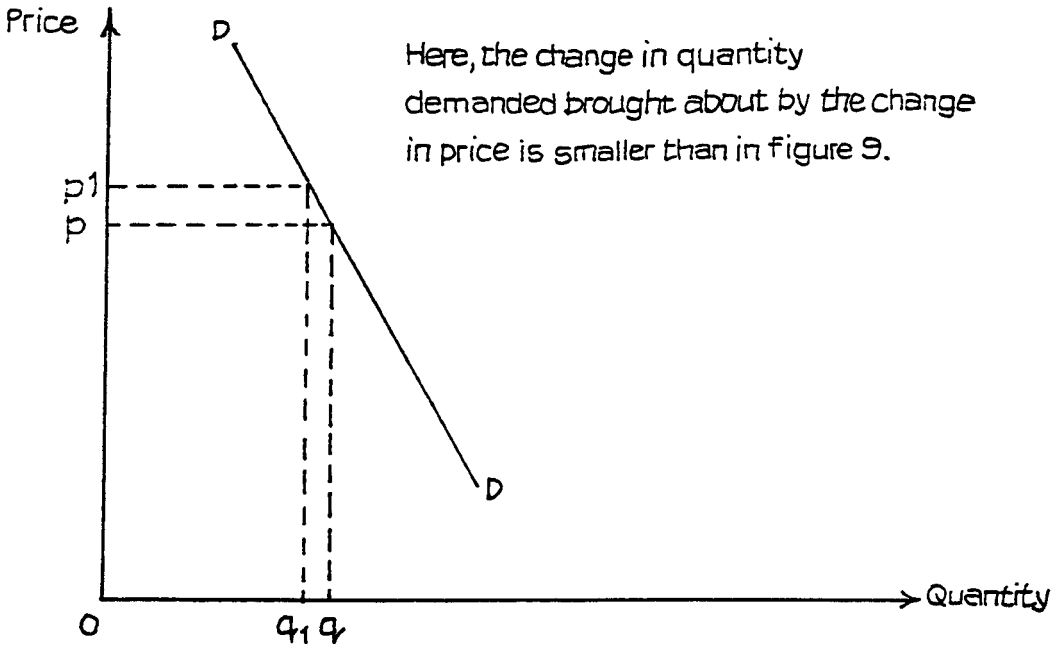

Figure 2.14

D. UTILITY, PRICE AND CONSUMER SURPLUS

The idea of utility is not too hard to grasp. We can all recognise that we will only buy something if, for us, it satisfies a want, i.e. that it is of some use to use – for us it possesses utility. We can also appreciate that the utility we perceive for one more unit of a good depends on how much of that good we already have. Suppose I have some apple trees in my garden. In a year when, for some reason, the trees bear very little fruit, I value highly the few apples that do grow and will go to some trouble to pick them carefully when they are ripe. However, in another year the same trees may fruit abundantly and produce more apples than I really want. I that year I may not bother to pick them all and may allow some to stay on the trees or lie on the ground. Thus, to me, the value of the apples depends on the quantity available and is equal to their **marginal utility** – the usefulness to me of some additional apples to those I already have.

The same principle applies if I have no trees at all and I have to buy apples or any other goods. I will only pay the price to obtain them if this price is not more than the value of their marginal utility. This idea gives us a means of putting a monetary value on marginal utility. Let us say that I like to eat apples but do not have to do so. There is other fruit readily available. I will only buy them at a price I consider reasonable. Suppose that, one week, I see that apples are priced at 80p per pound. This, to me, is dear and above my valuation of the utility of a pound of apples. I do not buy any. Next week the price has fallen to 60p per pound, but I still think this is too dear and again do not buy. The third week the price has fallen to 50p per pound. I give this more thought but, in the end, still do not buy. By the fourth week, however, the price has fallen to 40p per pound, and this time I am prepared to buy a pound. My marginal utility for apples is such that 40p is the highest price I am prepared to pay for a pound of apples. I can thus put a value on my marginal utility for a pound of apples: it is 40p.

Suppose now that the next time I visit the store the price of apples has fallen yet again and it is now 30p. Again I buy a pound. The value of my marginal utility for a pound of apples has remained at 40p and I would have been prepared to pay 40p, but the price asked by the store was only 30p, so this

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is what I paid. Consequently I gained a surplus of 10p. The value of my sacrifice was less than the value of the additional utility I gained: the difference was a surplus to me.

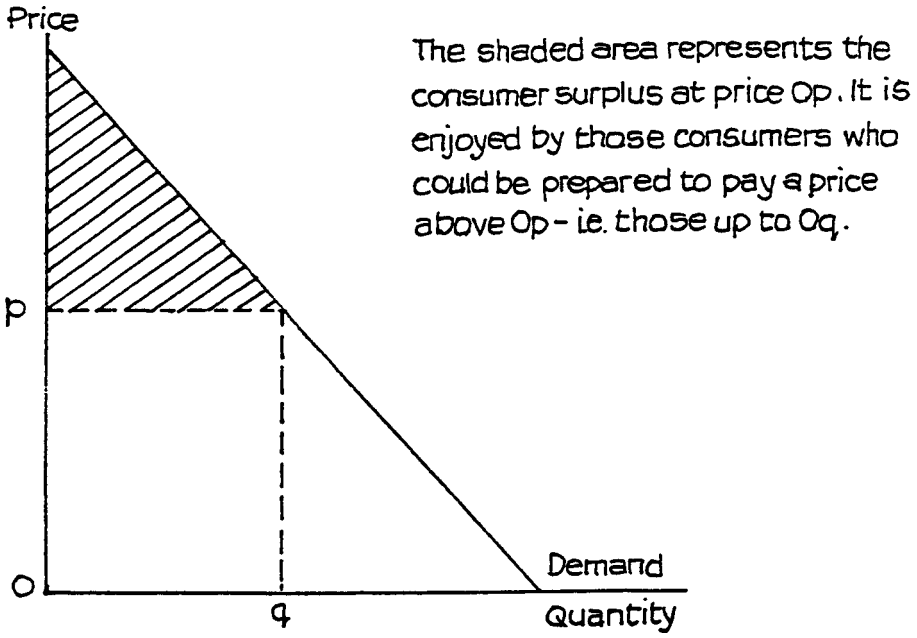

Figure 2.15

Since the price of 30p per pound was below my valuation of the marginal utility of a pound of apples I might decide to buy two or perhaps three pounds. In this case I was valuing the marginal utility of the additional amount bought above my usual quantity at less than the 40p but still now below 30p. If, as seems likely, most consumers react in this way then we have no difficulty in accepting the general shape of the demand curve outlined in the previous section, i.e. that people are prepared to buy more of a good at a lower than at a higher price.

These ideas are illustrated in Figure 2.15, which shows a normal demand curve for a product the price of which is 0p. The fact that the demand curve extends to prices higher than 0p indicates that there are consumers who are willing to pay a higher price. However, if the price charged is 0p, then these consumers achieve a surplus which is represented by the shaded area.

The demand curve is downward sloping to indicate that more of the product will be bought as the price falls. This follows the assumption that most people will buy more of a product if they think the price is favourable. Marginal utility diminishes as the quantity already possessed rises so, to sell more, the supplier is likely to have to reduce price. Remember, as always, when considering the effect of one change we make the assumption that other things remain unchanged. In practice they will not, and in the next study unit we recognise this. My valuation of the marginal utility of apples will change if I discover that the store has received a large consignment of nectarines and peaches and is selling these at prices around my marginal utility for these fruits.

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Study Unit 3

Demand and Revenue

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A. INFLUENCES ON DEMAND

Flow of Demand

The demand curve which we identified in the previous study unit illustrates the quantities of a product that a group of consumers are prepared to buy at a range of possible prices. We must remember that these quantities are always related to a time period. Demand is seen in terms of a flow of purchases over a stated time. A greengrocer, for example, may want to know the weekly quantity of apples he can sell at a price of 80p per kilo, and compare this with the weekly quantity he could sell at 90p per kilo. The time is not always shown in simple demand graphs, but we must not forget its importance. It is not much use being able to sell 100 kilos instead of 50 kilos if it takes three times as long to do so.

If we clearly understand this idea of demand flow, remembering the points we made in Study Unit 2, we can go on to identify the various influences which affect that flow.

Product's Own Price

This is regarded as the most important influence on demand: normally, we expect a rise in price to lead to a fall in quantity demanded, and a price fall to produce a rise in quantity.

It is claimed that some goods operate in the reverse way, as explained in Study Unit 2. These are known as "Giffen goods". Although, strictly, the term "Giffen" applies only when the "inferior" income effect is more powerful than the normal price substitution effect, it is often used more widely whenever demand appears to rise as price rises for whatever reason. There are a number of other possible explanations. For example, people may, rightly or wrongly, associate price with quality – e.g. for tomatoes – and prefer to pay a little more in anticipation of obtaining a more satisfactory fruit. If there were some other trusted mark of quality, the normal price-quantity relationship would hold. Demand may also rise for a work of art which people think is gaining acceptance in the art world. If people think that the price is going to rise even more in the future, they may buy the work of art as an investment and not simply because they get pleasure from looking at it. In this case, we are really dealing with a different product. In yet more cases, the rise in demand is just the result of other influences as described in this study unit and these are proving more powerful than the influence of price on its own.

In general, therefore, we can accept that, if all other considerations are equal (which they seldom are), people will prefer to pay a lower rather than a higher price for a product the quality of which they know and accept.

We should also recognise that expectations of future price movements can influence current demand. If people expect prices to rise next week, they will, if possible, prefer to buy now at the lower price. On the other hand, this may be regarded as a temporary distortion of demand which will have little effect over a longer period of time. If the longer-term effect is not taken into account, it might look as though demand was rising as prices rose – when, in fact, people had taken the view that a price rise today was likely to be followed by further rises tomorrow, and were acting accordingly.

If a new product is introduced to the market, there is likely to be an effect on other goods. The introduction of cheap electronic calculators destroyed the demand for slide rules. On the other hand the development of portable radios and personal stereos also created a demand for the associated (complementary) product – the batteries needed for their operation. If a major product is introduced and becomes popular enough to absorb a significant part of personal income then people will reduce purchases of other products which they may consider less desirable. There may be no obvious association between the desired product and the one neglected. For example, a person who decides to

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pay for a part-time degree course to enhance career prospects may think it worthwhile, perhaps, to spend less on entertainment or to put off replacing a car or furniture.

Prices of Other Products

In our earlier illustrations, a little more was bought of Y when the price of X rose. This was because Y and X were, to some extent, substitutes for each other. The indifference curve was based on the assumption that more X could compensate for less Y. This will not always be the case. Sometimes, two products are clearly associated – petrol and motor oil or motor-car tyres, for instance. A rise in petrol costs may lead to a fall in the use of cars and, hence, to reductions in demand for oil and tyres. Even when products are not directly linked, a change in the price of one may still influence a wider demand. If a man smokes heavily and is unable to check his habit, a rise in tobacco prices will lead him to spend less on a wide range of other products. In the same way, a rise in mortgage interest will force families to spend less on other goods.

Income Available for Spending

In Study Unit 2 substitution analysis showed how an increase in income could lead either to a rise or a fall in the demand for goods. For the majority of goods and services, i.e. for **normal** goods, we would expect the change in demand to be in the same direction as the change in income but for some, **inferior** goods, the changes would be in the reverse direction so that a rise in income produces a fall in demand and vice versa.

Notice that a good is inferior only if it is perceived as offering less satisfaction for a particular type of want. Thus, as a normal means of transport a motor cycle may be perceived as inferior to a car even though, as a piece of engineering, it may be superior. Suppliers may be able to revive demand for an inferior good by changing its appeal; adapted and marketed as sporting and leisure good the motor cycle has enjoyed such a demand revival and as such is often bought by people who also possess cars.

Price and Availability of Money and Credit

Many goods are bought with the help of borrowed money (credit). Money and credit have an influence on demand separate from the effect of income. If the cost of credit, i.e. the rate of interest, rises there is likely to be a reduction in demand for the more expensive goods.

Market Size

Many factors can change market size. A firm selling clothes to teenagers will benefit from any increase in the numbers of teenagers in the population. Specialist shops selling babies' and children's wear suffered from the declining birth rate of the early 1970s. Market size can be increased by improvements in communications and technology. The development of commercial television greatly increased the market area open to many consumer-goods firms. Increased foreign travel in the 1960s helped to extend the demand and market area for foreign wines and foods. Improved techniques of refrigeration extended the market for frozen vegetables.

Advertising or Marketing Effort

Very few products sell themselves. Most have to be marketed, and the more extensive the advertising effort, the more is likely to be sold. Some marketing specialists suggest that there is a direct relationship between the firm's share of market advertising and its share of market sales. Certainly, it is the volume of advertising in relation to competitors' advertising that is likely to be important.

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Taste

This is a quality difficult to define. People's desire to buy products is the result of many influences, not all of which are fully understood. Fashions change, and these changes cannot always be caused by advertising. The successful firm is often the one that is able to make an accurate prediction of changes in fashion and taste.

Expectations

Expectations of future changes in any of the above influences can affect present demand. For example, people expecting rising prices will buy now rather than later. On the other hand, if they fear unemployment and falling incomes, they will cut down their present spending. Notice that these reactions may actually help to bring about the feared future changes.

Other Influences

Certain products may be subject to special influences other than the ones we have already mentioned. The demand for soft drinks or for waterproof clothing, for instance, will be influenced by weather conditions. The demand for private education in an area will be influenced by the reputation of State-owned schools in that area.

Summary of Influences

All these influences on demand for a product can be expressed in a form of mathematical shorthand. Thus, we can say that:

$$Q = f(P_o, P_a, Y_d, N, A, T).$$

This simply means that the quantity demanded of any product (Q) is a function of, i.e. is dependent upon (f), its own price (P_o), the prices of other goods (P_a), disposable income (Y_d), market size (N), marketing effort (A), and customer taste (T).

The Relative Importance of Influences

The relative importance of these influences varies, of course, for different products and it is necessary for suppliers to estimate this if they are to avoid damaging errors. For example, if price is not of first importance, a price reduction will simply reduce revenue and profit. The supplier would, perhaps, have more to gain from increases in price and advertising expenditure.

Suppliers can attempt to estimate the relative importance of the demand influences by recording and measuring the effect of those, such as price and advertising, under their control and also noting the effects of other measurable changes such as movements in average incomes. Much information may also be gained from market research, e.g. by asking people why they favour certain brands and what their reactions would be to price movements. In some cases, shopping simulations can be staged with people given a certain amount of money and then asked to spend it on a range of goods displayed in a store. The scientific study and calculation of demand functions from information gained from all available sources is known as **econometrics**. In some cases these studies have resulted in calculations that have proved remarkably accurate but others have been less successful. There are many things that can go wrong in the estimation of future demand! Business decisions still have to be made against a background of market uncertainty.

Shifts in the Demand Curve

Because a normal two-dimensional graph can cope with only one influence in addition to quantity changes, and because the normal demand curve relates quantity to the product's own price, a change

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in quantity demanded brought about by a change in one or more of the other influences has to be represented graphically by a shift in the whole demand curve.

Suppose there is an increase in disposable income which increases the quantity demanded at each price within a given range. This effect can be shown as in Figure 3.1, where the price remains constant at 0p but the increase in income has shifted the curve from DD to D_1D_1, so that the quantity demanded at 0p rises from 0q to $0q_1$. A fall in income or a decline in taste, etc. would produce the reverse result, i.e. a shift from D_1D_1 to DD.

Remember always to distinguish a movement along a demand curve produced by a change in price (all other influences remaining unchanged) as shown in Figure 2.14 from a shift in the whole curve, showing that demand has moved at all prices within the range under consideration.

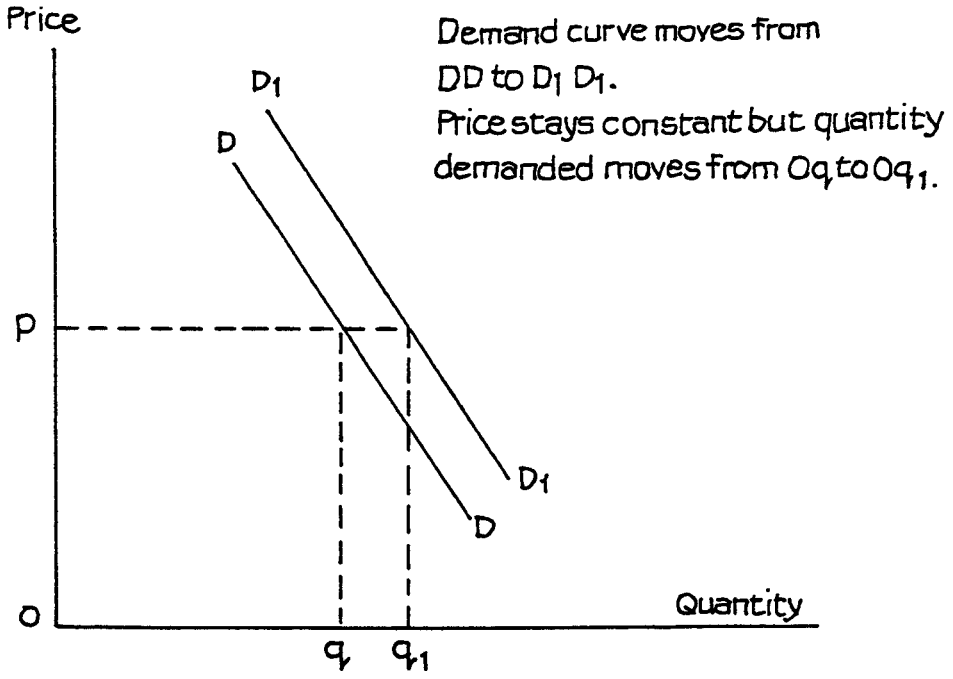

Figure 3.1

Some Further Considerations

It has been argued that the "normal" influences identified above do not tell the full story, and that a fuller understanding of social psychology can give further insights into consumer behaviour. For example, supermarket chains well know the importance of impulse buying, when goods are skilfully displayed. There is also a recognised "snob" effect, when goods may be bought because they are expensive and they appear to be indicators of the owner's wealth and status. While these considerations are interesting and are clearly of importance to marketing specialists, we can include them under the more general headings of advertising and taste, for the purposes of general analysis of consumer demand.

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B. REVENUE AND REVENUE CHANGES

Total Revenue

Revenue, in general, refers to the money received from the sales of a product. For this reason, the term "sales revenue" is often used. To have any practical meaning, revenue should also be related either to a time period or to a definite quantity of goods sold. For example, a shopkeeper may refer to his weekly sales revenue (the total amounts of sales achieved in a week) or to his revenue from the sales of, say, n pairs of shoes or k kilos of potatoes. A statement that his revenue is £y means nothing, unless we can relate it to some quantity of time.

Revenue will not always increase as more goods are sold – this will be the case only if the firm can continue to charge the same price, regardless of quantity it sells. If, say, I make leather belts and can sell all the belts I can make at a standard price of £5, then my total revenue is always £5 multiplied by whatever quantity I sell.

This can be shown in the form of a total revenue curve, as in Figure 3.2.

However, if I continue to produce more and more belts, there will come a time when customer resistance sets in. I shall have difficulty in finding more people who value belts at this price of £5, i.e. the marginal utility of which is at least £5. When this time comes, I may still, however, find more people who are willing to pay £4.

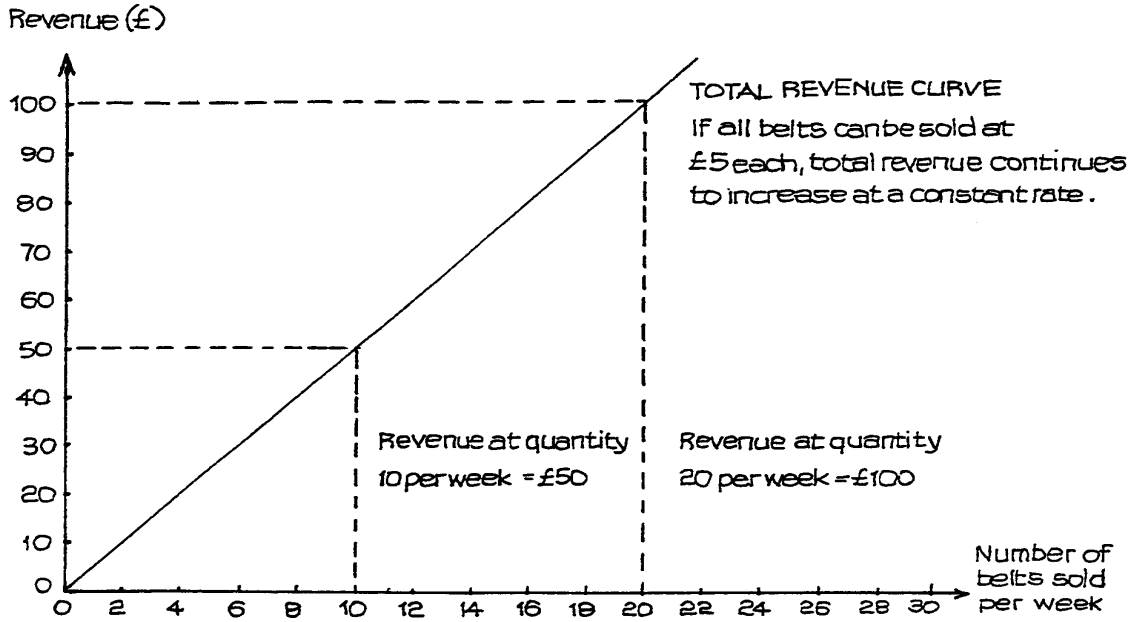

Figure 3.2

Now, in the Western world, shopping conditions are such that I cannot leave my belts unpriced and hope to sort out from the people who visit my shop those willing to pay £5 and those willing to pay £4. If I want to sell more belts and am willing to charge £4, then I must charge this price to everyone. If I continue to produce even more, I might then find that, to sell the increased quantity, I have to charge £3. If I go on doing this, I am likely to find that my total revenue starts to fall.

Suppose I find that total revenue rises if I reduce the price from £5 to £4, but falls if I reduce the price to £3. This will happen if the reduction from £4 to £3 does not produce enough additional sales to

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make good the loss suffered when I charge £3 to those people who would still have bought at prices of £5 or £4. My sales schedule at the three prices might, perhaps, be as follows:

Price per belt	Number of belts I can sell per month	Total revenue
£5	200	£1,000
£4	280	£1,120
£3	340	£1,020

This effect can be shown in the form of a simple graph but this time the turning point can be seen (Figure 3.3). If I try to reduce the price still further, below £3, I shall lose even more revenue.

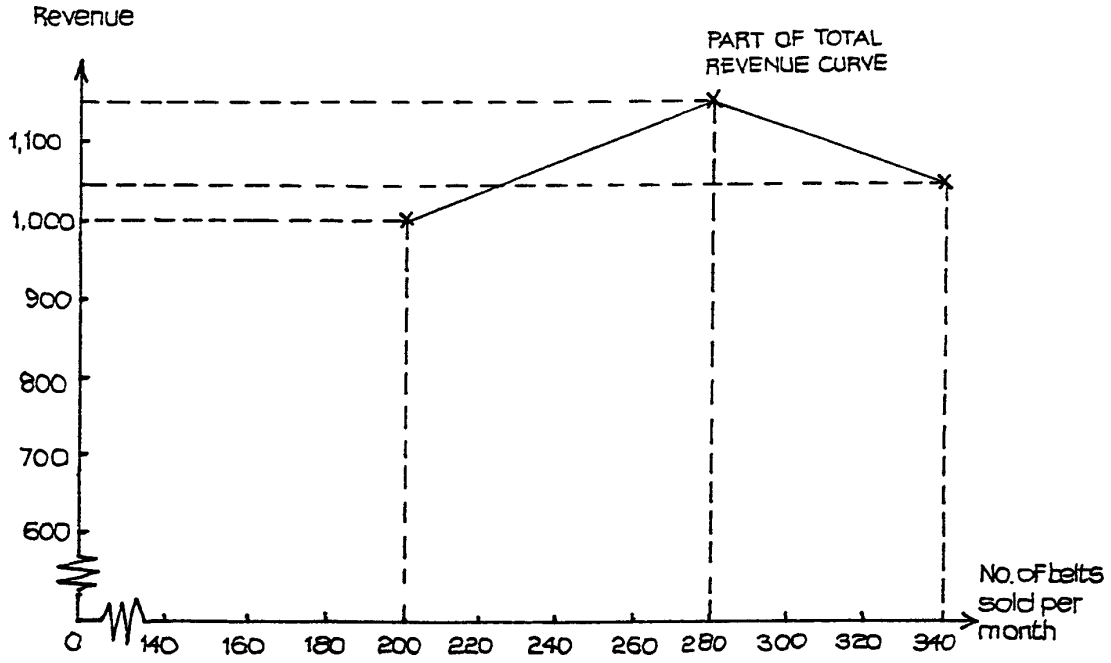

Figure 3.3

Average Revenue

The term "average" here is used in its commonest sense – that familiar to you, perhaps, in the form of "cricket average" or "goal average". It is the total revenue divided by the quantity of goods sold. If a shop's weekly revenue from selling broccoli is £600 and it sells 300 kilos in the week, the average revenue of the broccoli sold is £2 per kilo.

If all goods are sold at the same price in the given time period – as, say, with our leather belts – then the average revenue is the same as the price. The average revenue curve for the belts is shown in Figure 3.4.

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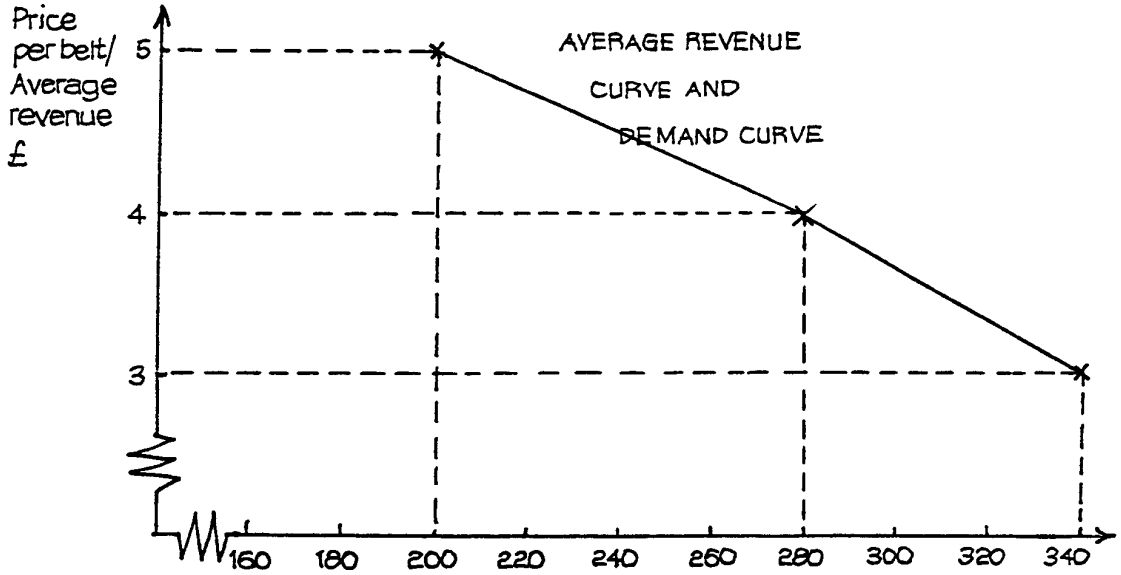

Figure 3.4

Notice, in this case, that the average revenue curve is really just the same as the demand curve. This will always be the case where all items sold in the time period are sold at the same price, i.e. where there is no price discrimination between different customers.

Now, to return to our shopkeeper selling broccoli at £2 per kilo; let us suppose that he is selling every kilo for £2 and that he finds he can sell as much broccoli as he can handle at that price. He does not need to reduce his price to increase quantity sold from, say, 200 kilos per week to 300, to 400, and again to 500 kilos. The average revenue curve in this case is still the same as the demand curve but it reflects this increasing quantity sold at a constant price. This produces the horizontal line graph shown in Figure 3.5.

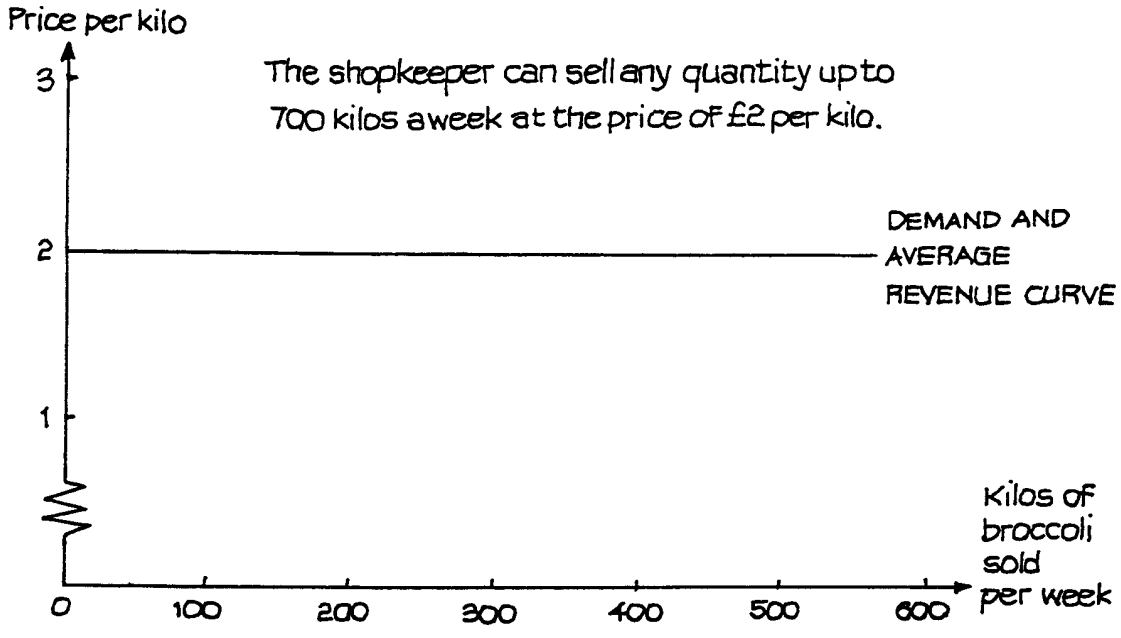

Figure 3.5

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Marginal Revenue

If the firm is able to maintain a constant price as it increases output, then the additional amount it receives for each extra unit sold is, of course, that unit's price. In this case, the price, which is the same as average revenue, is also the same as the change in total revenue resulting from the sale of the extra unit. The change in total revenue brought about by a small or unit change in the quantity flow of sales is known as the marginal revenue.

Marginal revenue is not always the same as the price or average revenue. Remember the example of the leather belts.

There, an increase in sales from 280 to 340 belts per month produced a fall in total revenue. For the change in this output range, the marginal revenue must be negative. The reason is the same as for the fall in total revenue – in order to increase sales, the price had to be brought down and, in this case, the revenue gained on the additional quantity sold was not enough to make good the revenue lost for customers who would have been prepared to buy at the higher price.

A simple example will show how marginal revenue can change when price has to be reduced in order to increase the quantity sold. Look at Table 3.1. There are some important features to note about this table. The marginal revenue column has its figures placed mid-way between the rows. This emphasises that the marginal revenue relates to the change from one output level to the next. On a graph, the marginal revenue is also plotted mid-way between the output levels. This is shown in Figure 3.6.

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Number of TV sets sold per week	Price per set £	Total Revenue £	Marginal Revenue £
1	600	600	
			550
2	575	1,150	
			500
3	550	1,650	
			450
4	525	2,100	
			400
5	500	2,500	
			350
6	475	2,850	
			300
7	450	3,150	
			250
8	425	3,400	
			200
9	400	3,600	
			150
10	375	3,750	
			100
11	350	3,850	
			50
12	325	3,900	
			0
13	300	3,900	
			–50
14	275	3,850	

Table 3.1

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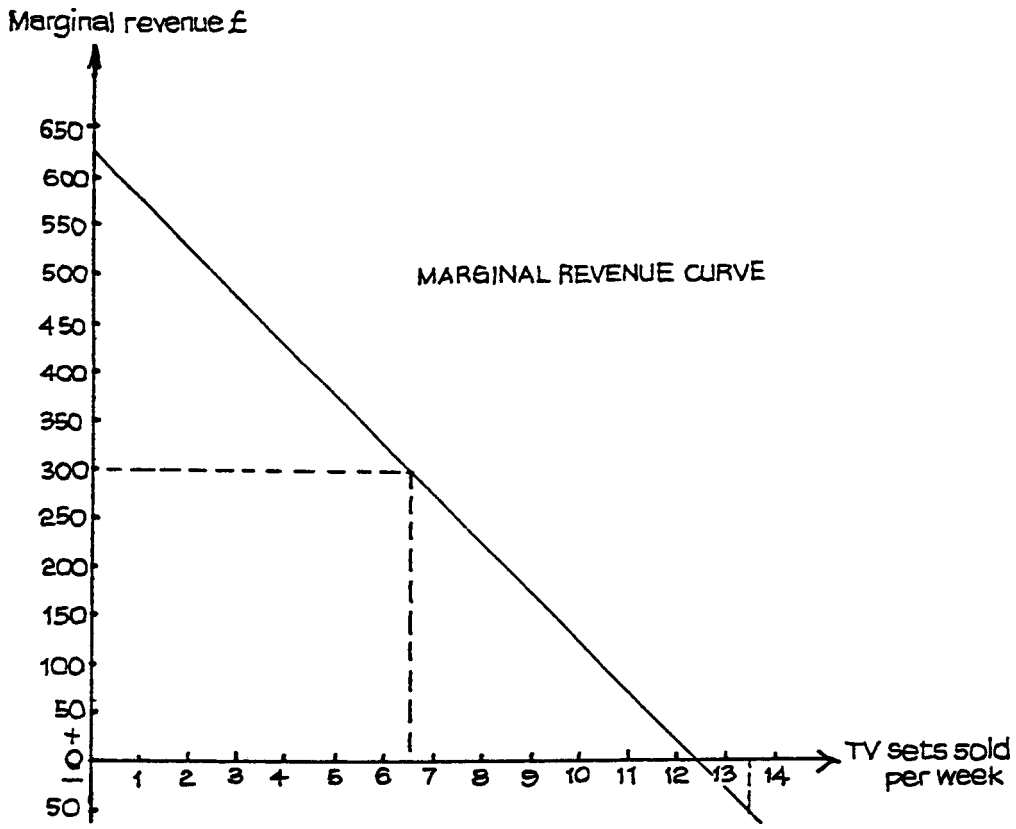

Figure 3.6

Look carefully at the price and marginal revenue columns. Notice that, as each additional TV set is sold, the price (average revenue) falls £25. The fall in marginal revenue for each additional set is exactly double this – £50. In Figure 3.7, we see the marginal and the average revenue curves together. Notice that, at each price level, the marginal revenue is exactly halfway between the price axis and the average revenue. Although Figure 3.7 does not continue the average curve until it meets the quantity axis, we can deduce where it would meet if continued in the same straight line. It would meet the quantity axis at 25 TV sets – twice the marginal revenue quantity when marginal revenue = 0, thus indicating that this supplier would be able to dispose of only 25 sets, even if he did not charge any price at all.

The average revenue curve cannot, of course, pass below the quantity axis, as we do not expect suppliers to pay customers to take their goods. The marginal revenue curve can, however, pass into the negative area of the graph, and so indicate quantities where continued price reductions would result in an actual fall in total revenue. We can see this clearly from Table 3.1. Marginal revenue remains positive until 12 sets are sold. The increase from 12 to 13 sets does not change total revenue at all, so marginal revenue here is zero. If we continue to reduce price and sell 14 sets, then total revenue falls to £3,850 and marginal revenue indicates the loss as –£50.

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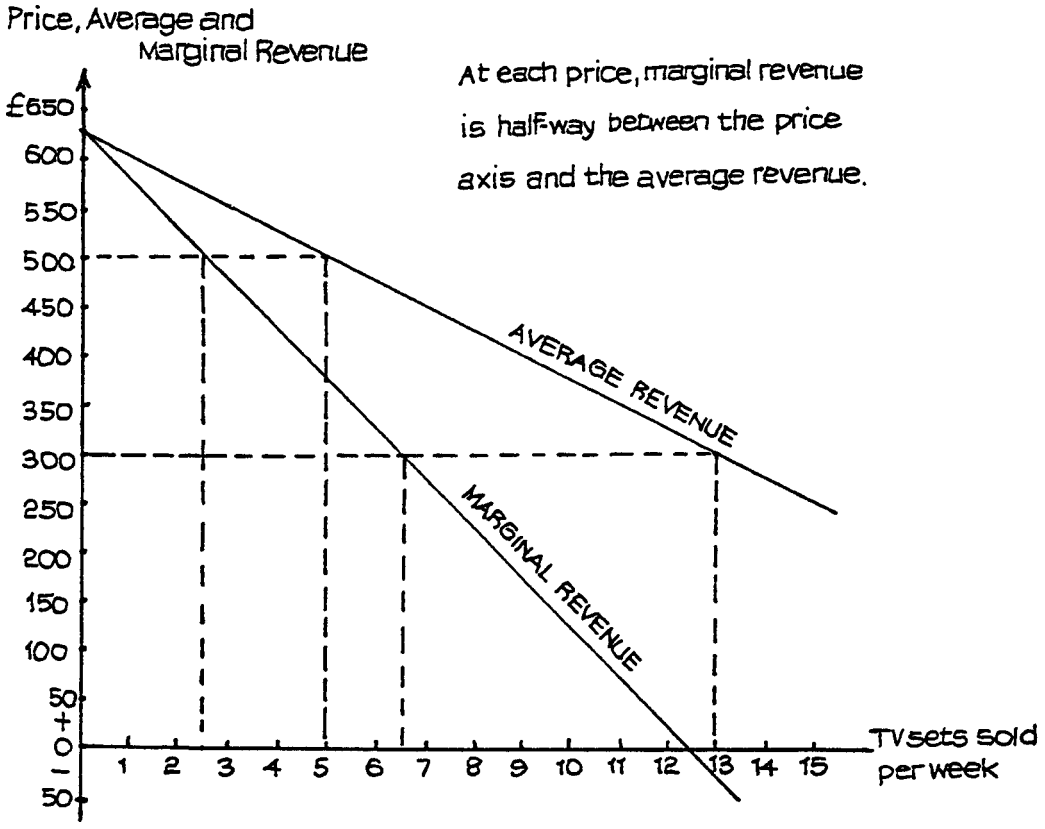

Figure 3.7

The total revenue curve for this table is shown in Figure 3.8. Compare this with Figure 3.7 and see how the marginal revenue relates to the total revenue at the various numbers of TV sets sold.

This example has illustrated an important rule. Whenever we have a linear average revenue curve, i.e. where there is a constant relationship between price and quantity changes, resulting in a "straight-line graph", then the marginal revenue curve is also linear (a straight line) and always bisects (cuts into two equal halves) the horizontal distance between the price/revenue axis and the average revenue curve.

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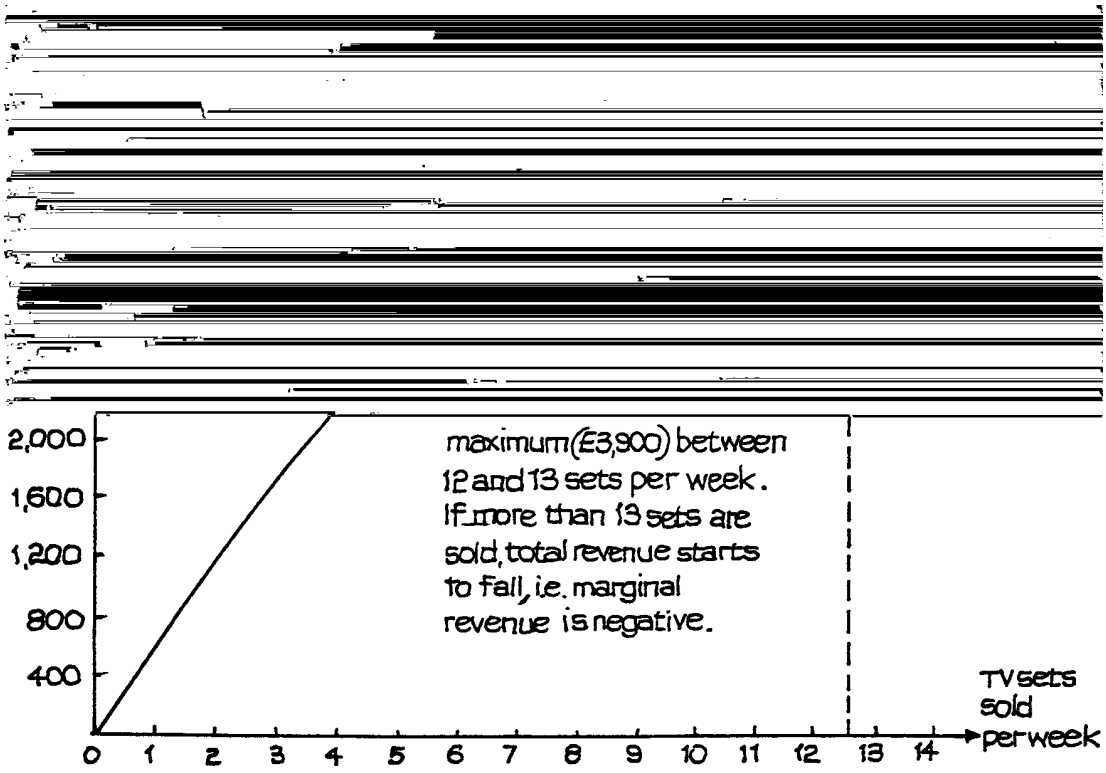

Figure 3.8

C. PRICE ELASTICITY OF DEMAND

We have now seen that there is a definite relationship between price, revenue and quantity changes. This is most important for practical studies of price and sales movements, and we need to have a precise way of measuring and analysing the various possible relationships. Because demand is seen as stretching and shrinking in response to price movements, the concept we use is called the price elasticity of demand.

Calculation

This can be denoted by the symbol E_d. It is the relationship between a proportional change in quantity demanded and a proportional change in price, so that E_d = proportional change in quantity demanded ÷ proportional change in price, or

$$\frac{\Delta Q}{Q} \div \frac{DP}{P}$$

where: P = price of the product

Q = quantity demanded of the product

Δ = a significant change in.

As explained earlier, for the great majority of goods a rise in price leads to a reduction in quantity demanded and a fall in price leads to an increase in quantity demanded. Thus the change in quantity is the reverse of the change in price. One of the changes will be negative, indicating a reduction; thus

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Influences on Price Elasticity of Demand

We have seen that the price elasticity of demand can be expected to change as price changes, so that the product's own price can normally be regarded as an influence on its elasticity. The important point, really, is whether buyers are likely to pay much attention to the price when deciding whether to buy, or if other influences are more important. These may include current fashion or social attitudes, strong habits (even addiction, in some cases such as tobacco smoking) or the need to buy in order to achieve some other desired objective, such as buying petrol in order to drive to work.

If the product price is only a relatively small amount compared with normal income then price is likely to be less important than the other influences affecting demand, which is thus likely to be price inelastic. Toothbrushes, matches, shoe polish, are all examples of products likely to be price inelastic. Here, high relative price changes at normal price levels are unlikely to weigh heavily with consumers, because annual spending on these items is only a very small part of total income. Other influences, e.g. social attitudes (toothbrushes), smoking decline, the move away from coal fires (matches), and development of non-leather shoes (polish), are likely to be much more important.

We must also be careful to distinguish between the demand elasticity for the class or product and that for a particular brand of the product. My decision whether or not to buy household soap is not likely to be greatly influenced by a 10% rise in its price, but when I am actually making my purchase I am quite likely to compare the prices of two brands and choose the cheaper, assuming that I do not think that one is superior in quality to the other. Thus, demand for a product can be price inelastic, whereas demand for a specific brand of the product can be price elastic. This difference can often be seen in foods. Families may keep to a tradition of the "Sunday joint of meat" and pay roughly the same price for this each week – thus showing a demand price elasticity of around unity. However, the choice of which meat to buy can be very much influenced by its price, so that we can expect the demand price elasticity for pork, beef and lamb, and certainly for some particular cuts of beef and lamb, to be higher than unity, especially if the general level of all meat prices has been rising.

D. FURTHER DEMAND ELASTICITIES

The general concept of elasticity can be applied to any of the influences on demand. If you think about the concept, you will realise that it is simply the ratio of a proportional change in quantity demanded to the proportional change in the influence considered to be responsible for that quantity movement. The only limiting element in using elasticity is that the influence must be capable of some sort of precise measurement or evaluation. This makes it difficult to produce a definite calculation for, say, changes in taste or fashion, as this is very difficult to measure. The most commonly used elasticities, in addition to the product's own price, are those for income and for other prices.

Income Elasticity of Demand

This relates to proportional change in quantity demanded to the proportional change in disposable income or customers for the product.

It can be denoted by E_y, so that

E_y = proportional change in quantity demanded ÷ proportional change in disposable income.

This may be positive or negative, because there may be an increase in demand following an income increase or a fall in demand. If the income and quantity changes are in the same direction, then the figure for E_y is positive. If the changes are in the opposite directions to each other, then the figure carries the negative sign (**–**). A rise in income usually leads to a rise in demand, but demand for some

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goods may fall. In the 1950s, in Britain, demand for motor cycles fell as incomes rose and people bought cars. As we saw earlier, such goods are known as **inferior goods**.

Notice that we are referring here to "disposable income", i.e. the income left to the consumer after compulsory deductions have been taken. The most important of these are income tax and National Insurance contributions. We may also include contributions to pension schemes or to trade unions or professional bodies, where membership is necessary for employment.

In recent years, some economists have argued that we should really be thinking in terms of "discretionary income". This is the income that is left after all the regular and largely essential household payments have been made, over which the individual has very little control once a particular pattern of life has been chosen. The further deductions which would, then, be made to arrive at discretionary income would be such items as rent or mortgage interest, water rates, essential fuel charges (gas and/or electricity) and possibly the cost of travelling to and from work. When these items have all been allowed for, the amount of discretionary income, i.e. the income which people are genuinely free to spend as they choose, is usually very small in relation to the original gross income.

Influences on Income Elasticity of Demand

The following influences are likely to increase a product's income elasticity of demand:

- A high price in relation to income. If a period of saving is required before purchase is possible, or if consumers have to borrow money to obtain a product, then demand can increase only when an income rise makes this possible.
- If goods are preferred to "inferior" substitutes, then people may be ready to buy more of these when income increases make this possible.
- Association with a higher living standard than that currently enjoyed is likely to lead to rising demand when incomes do rise.

In general, the more highly-priced durable goods (household machines, motor vehicles, etc.) and services are more likely to be income elastic than the staple items of food and clothing. We do not usually buy twice as much of these if we receive double our former income. On the other hand, our spending on holidays may increase by far more than double. Increased spending on motor transport is also associated with rising incomes. Although we have been considering income rises, very similar comments apply to income reductions. Holidays and motor cars are often the first things to be sacrificed in the face of a sudden drop in income.

Cross Elasticity of Demand

This relates the proportional change in demand of one product to the proportional change in price of another:

E_x = proportional change in quantity demanded of X ÷ proportional change in price of Y.

Again, the demand movement may be in the same or the opposite direction to the price movement, and the same rules for negative signs apply.

If two products are substitutes for each other, we can expect a rise in price of one to lead to a rise in demand for the other. Beef and pork are in this position, or meat and fish.

If, however, the two products are linked together, e.g. petrol and motor-car tyres, then a rise in price in one leads to a fall in demand for the other, and E_x carries the negative sign (**–**).

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Influences on Cross Elasticity of Demand

The more close substitutes a product has, the more likely it is to react to changes in price of any of those substitutes. The demand for coach travel reacts to changes in rail fares, and the link became closer in the UK when motorways cut down the times of road journeys between the major cities and long-distance coaches became more directly comparable with inter-city trains. Brands of goods are normally much more cross elastic with each other than the good itself is with other goods. We are not unduly influenced by other price movements when we decide how much soap to buy, but we are much more ready to switch to a competing brand when there is a rise in the price of the brand we normally buy.

In the same way, the intensity of negative cross elasticity depends on how closely products are associated with each other. For people in England, the demand for sun-tan lotion is likely to fall if the price of "package holidays in the sun" rises.

The Importance of Elasticity Calculations

The calculation of elasticities is not just of academic interest. Anyone, including the business manager and the member of government who wishes to predict accurately the effect of changes in price or income on revenue and on quantities bought, needs to have a clear idea of elasticity and their calculation. If a business manager thinks that a price rise will always increase sales revenue, then he or she needs to be reminded that this is far from being true. A price rise when demand is price elastic will, as you have seen, reduce total sales revenue.

Governments making changes in income or expenditure taxes must be able to calculate their effects on demand. If they do not, then their predictions about the results of the tax change are likely to prove badly out of line with reality.

A government wishing to increase its tax revenue will tend to choose goods the demand for which is price inelastic – tobacco for example, or petrol. If, however, it goes on increasing the tax, the time will eventually come when demand becomes price elastic and any further increase will result in a reduction in sales revenue and a fall in tax receipts. This can be seen by referring to Figure 3.9 where a price rise from, say 5 to 7 will move the good to that part of the demand curve where price rises produce a reduction in total revenue. Price elasticity of demand can also change as a result of other influences. If, for example, there is a long-term trend away from smoking, we can expect demand for cigarettes to become price elastic at lower price levels in the future.

If governments wish to influence consumer demand by price changes, they are likely to try to make demand more price elastic by ensuring that suitable substitutes are available for the target product. For instance, if they wish to reduce consumption of leaded petrol, they must encourage the availability and demand for unleaded petrol, and ensure that vehicle engines can be converted easily and cheaply to unleaded petrol. They may wish to support any tax changes by changes in the law, perhaps requiring all new vehicles to be adapted to use unleaded fuel.

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Study Unit 4

Costs of Production

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A. FACTOR AND INPUT COSTS

Production Factors and Costs

In Study Unit 1 we examined how the factors of production – land, labour and capital – contributed to total production. We also saw that some factors could be regarded as fixed and others variable, and that this distinction helped to provide us with the important distinction between the short run, when at least one significant production factor was fixed, and the long run when all factors could be varied.

If you are unsure of these terms, and especially if you are unsure of the meaning of diminishing marginal product (diminishing returns), you should revise Study Unit 1 before continuing with this one.

The payments made to the owners of production factors in return for their use in the process of production are, of course, the costs of production which the production organisation (firm) has to pay in order to produce goods and services. More strictly these are termed the **private** production costs. These factor payments, in very general terms are rent to the owners of land, interest to the owners of capital and wages to the providers of labour. Disregarding land for the sake of using very simple models we can, initially, regard capital as the major fixed production factor and labour as the variable factor.

Fixed Costs

These are the costs of the fixed factors, i.e. those elements which are not being increased as production or output is being raised. The total fixed costs for a given range of output can be illustrated in the simple graph shown in Figure 4.1.

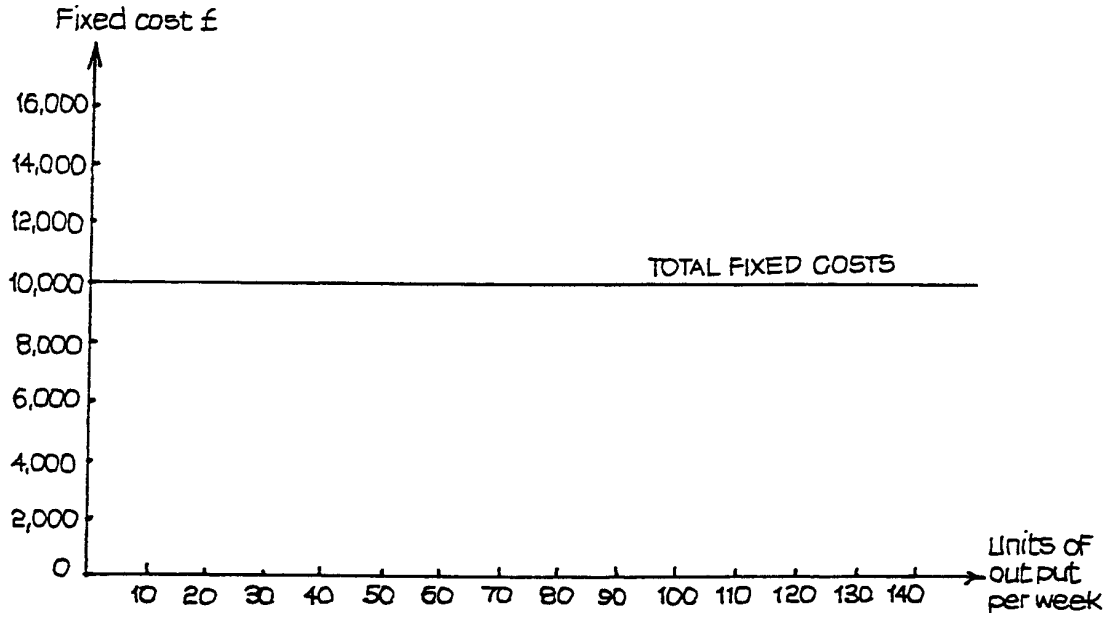

Figure 4.1

Examples of fixed costs include rent for land or buildings, the rental charge for telephone or telex, rates, the salary of a manager, and the fee for a licence to make use of another company's patent. All these costs can change, but the point is they do not change as production level changes. The cost has to be met, whatever the level of output and sales.

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The graph of average fixed costs, i.e. total fixed costs divided by the number of units of output produced, is shown in Figure 4.2. This is based on the fixed costs of £10,000 assumed in Figure 4.1. Notice the steep fall at the lower levels of output, and the much more gentle slope of the curve at higher levels. Between 140 and 150 units of output per week, the fall in average fixed costs is only from £71 to £67 (approximately).

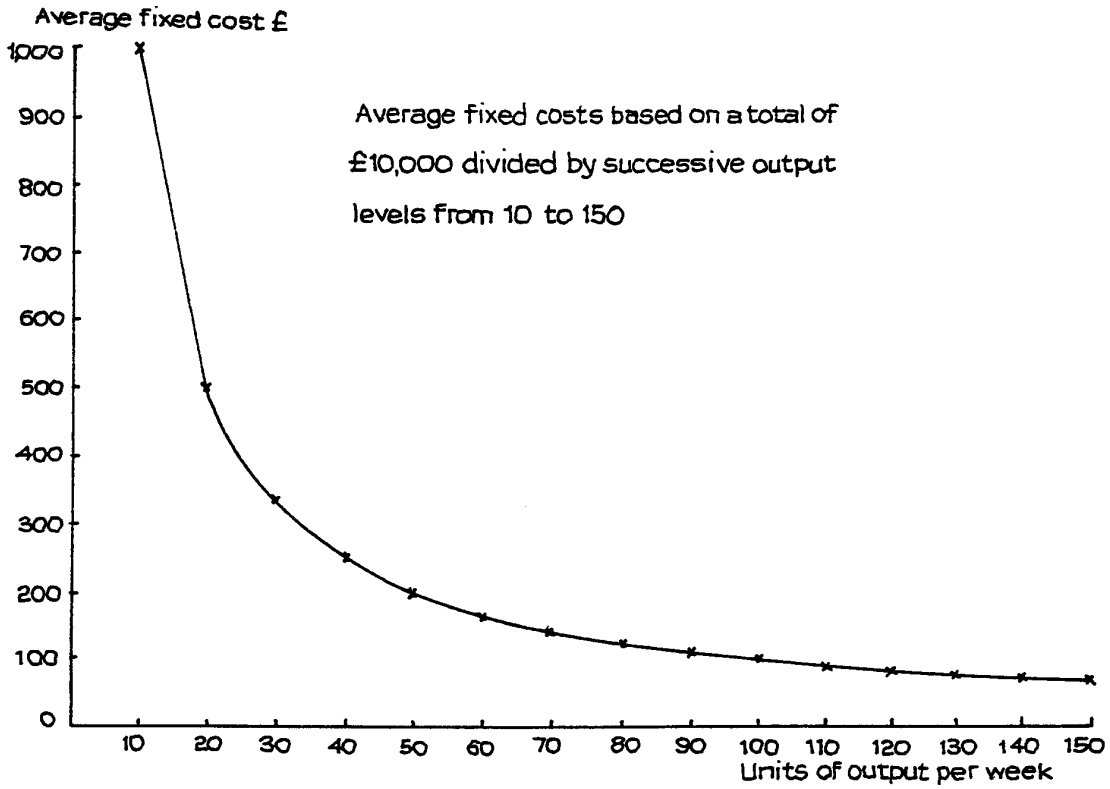

Figure 4.2

Variable Costs

These are the costs of inputs which are increased as output increases. They include the costs of basic materials, of some labour – e.g. engineering machinists paid on "piece rates" (according to the amount produced) – petrol for delivery vehicles, and so on.

The behaviour of variable costs depends on the pattern of production returns. If production is rising faster than the input of variable elements, then costs are increasing less than proportionally to the rise in output. This is because each extra unit of input is adding more to production than it is to cost. This is possible at the lower levels of production represented by 0a in Figure 4.3.

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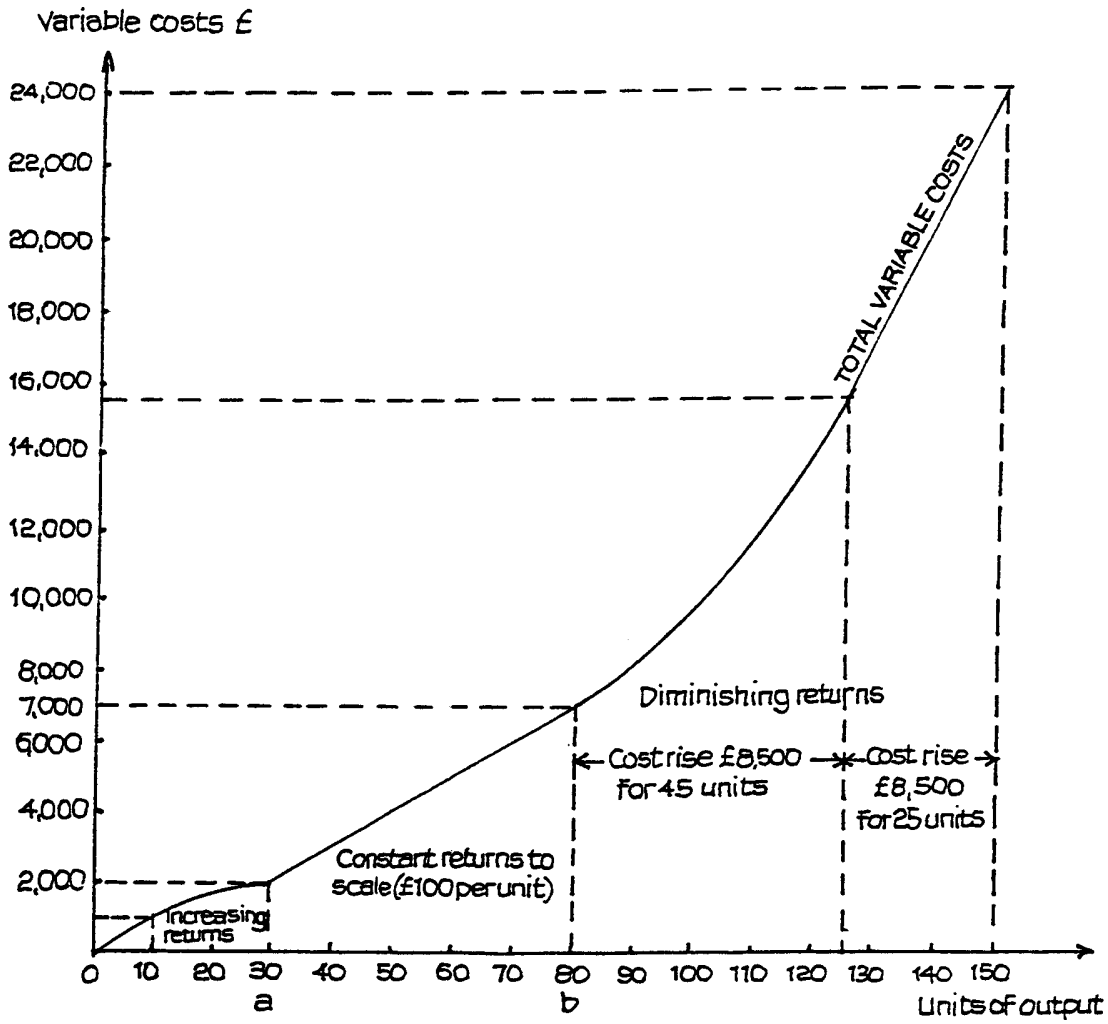

Figure 4.3

Later, costs are likely to rise in the same proportion as output – this being the stage of constant returns, shown between output levels 0a and 0b. Then, as we reach the level of diminishing returns, costs rise faster (more steeply) than production. This is shown beyond level 0b.

Total and Average Costs

If we combine fixed and variable costs, we obtain total costs. So, if we combine Figure 4.1 which shows total fixed costs, with Figure 4.3, we obtain the graph of total costs. This is shown in Figure 4.5.

From the total costs we can obtain average total costs, simply by dividing the total by each successive level of output. Average total costs are often referred to just as average costs. Figure 4.4 shows the graph of average total costs, which has been derived from the total cost curve shown in Figure 4.5.

Notice how the shape of the average cost curve at the lower levels of output is very similar to that of the average fixed cost curve in Figure 4.2. This is because, at these levels, fixed costs form a high proportion of total costs. As fixed costs become a smaller proportion of total costs, the curve falls much less steeply. In this illustration, it reaches its lowest point a little below the 110 units per week output level and then begins to rise, as variable costs become steeper in response to diminishing returns to scale.

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This is the typical shape of the curve in the short run (remember, while fixed costs remain fixed). Because it falls to a minimum point and then rises, it is often referred to as the "U- shaped" average cost curve, although as you can see, a more accurate description is that of an L with its toe turned upwards. Only if there are particularly severe increasing costs (diminishing returns) to scale, and fixed costs are a very small proportion of total costs, will the second half of the "U" be at all steep, and the efficient firm should never allow itself to reach this position.

The modern firm is more likely to have a high proportion of fixed to total costs, because of the swing from labour to labour-saving machinery. This movement is described as production becoming more and more capital-intensive. In this case, we can expect the average total cost curve increasingly to resemble the average fixed cost curve.

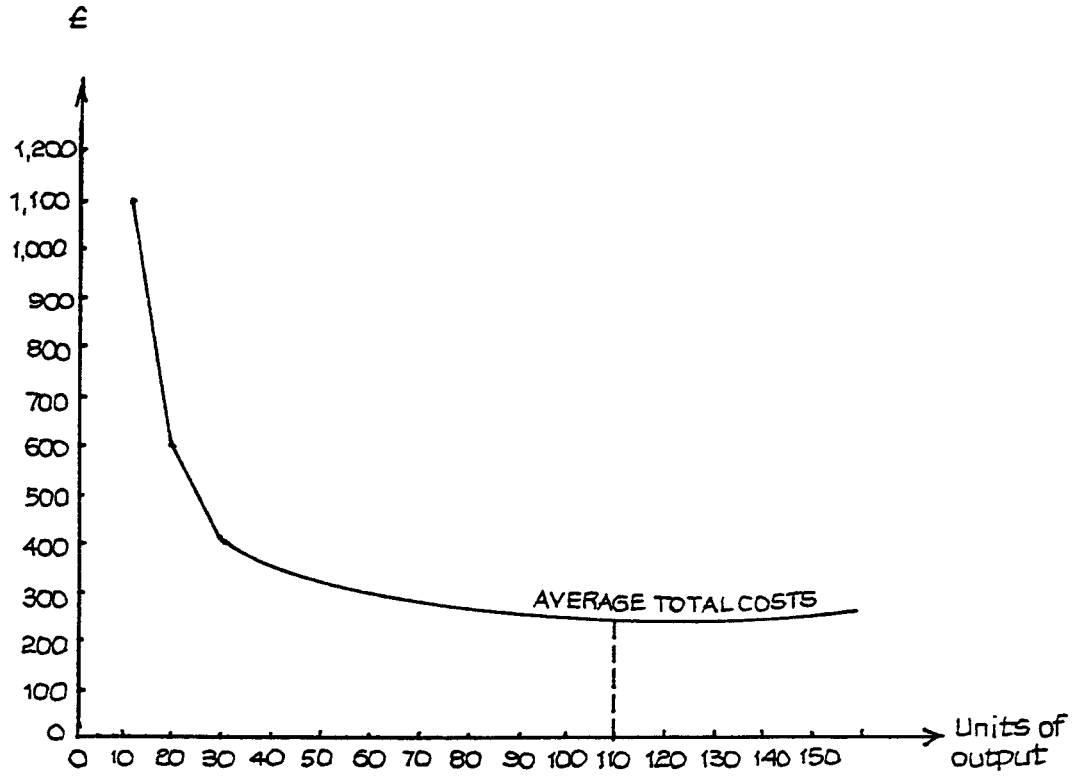

Figure 4.4

Marginal Costs

You have already met marginal utility and marginal revenue – the change in total utility or revenue as output changes. You will not then be surprised to know what marginal cost is the change in total cost as output changes. Once again, we relate this change to a single unit of output, so that, if we are moving in steps of ten, as in our cost example so far, we shall have to divide any change from one step to the next by ten.

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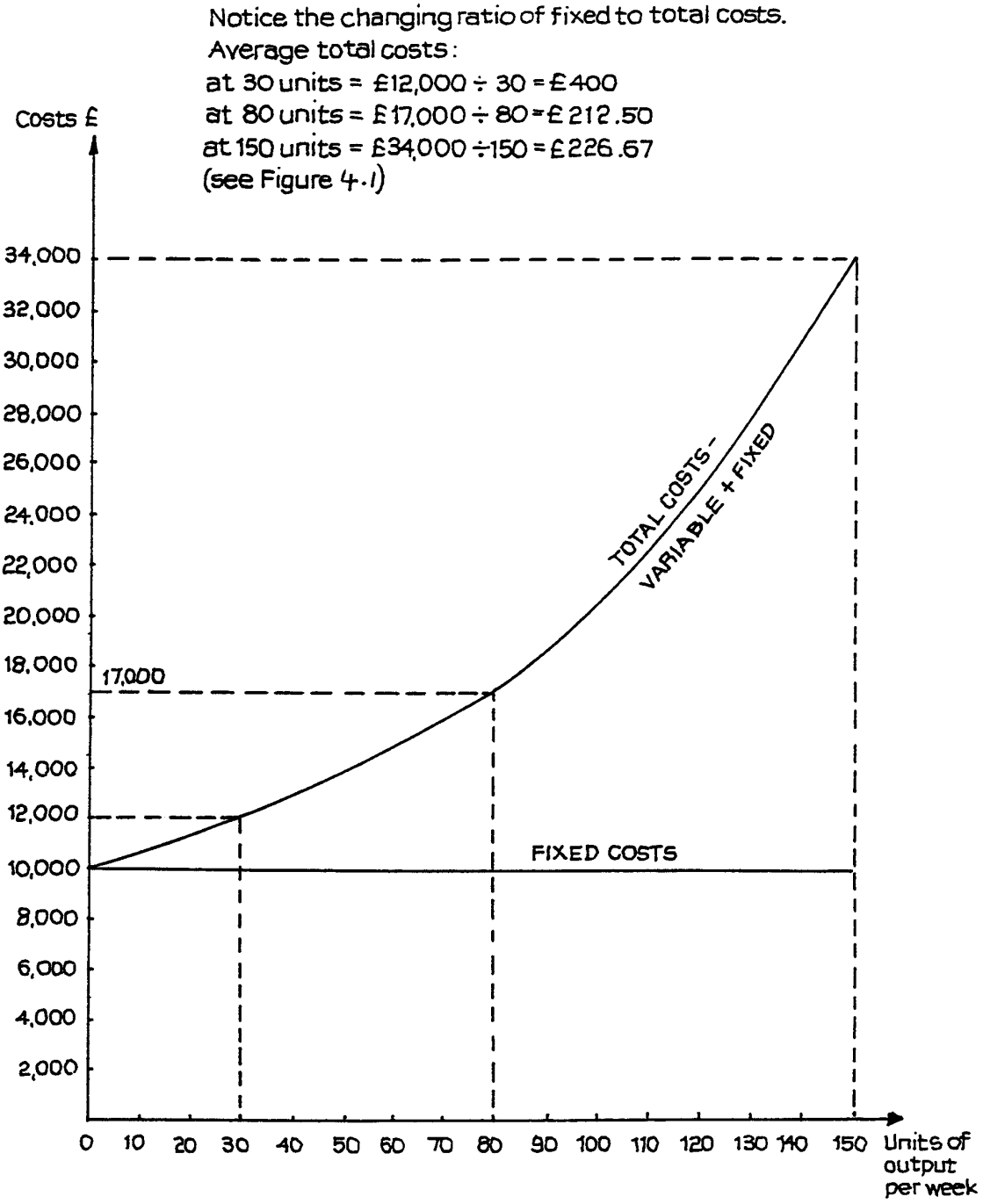

Figure 4.5

Table 4.1 is a table of total (fixed plus variable) costs which correspond to our previous graphs. In this table, further columns have been added to show the change in total cost between each output step of ten units per week, and then division by ten to produce the marginal cost. Notice that the figures of the marginal cost column have been placed mid-way between the figures of the other columns, to emphasise that they relate to a change from one output level to the next.

On a graph, the marginal cost is plotted at the mid-points of the various output levels. You will see that this has been done in Figure 4.6, which illustrates the marginal costs shown in Table 4.1.

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1 **Quantity** *(units per week)*	2 **Total Cost** £	3 **Changes in Total Cost from One Quantity Level to the Next** £	4 **Marginal Cost** (column 3 divided by 10) £
0	10,000		
			100
10	11,000	1,000	
			60
20	11,600	600	
			40
30	12,000	400	
			100
40	13,000	1,000	
			100
50	14,000	1,000	
			100
60	15,000	1,000	
			100
70	16,000	1,000	
			100
80	17,000	1,000	
			115
90	18,150	1,150	
			135
100	19,500	1,350	
			165
110	21,150	1,650	
			210
120	23,250	2,100	
			275
130	26,000	2,750	
			355
140	29,550	3,550	
			445
150	34,000	4,450	

Table 4.1: Cost Table

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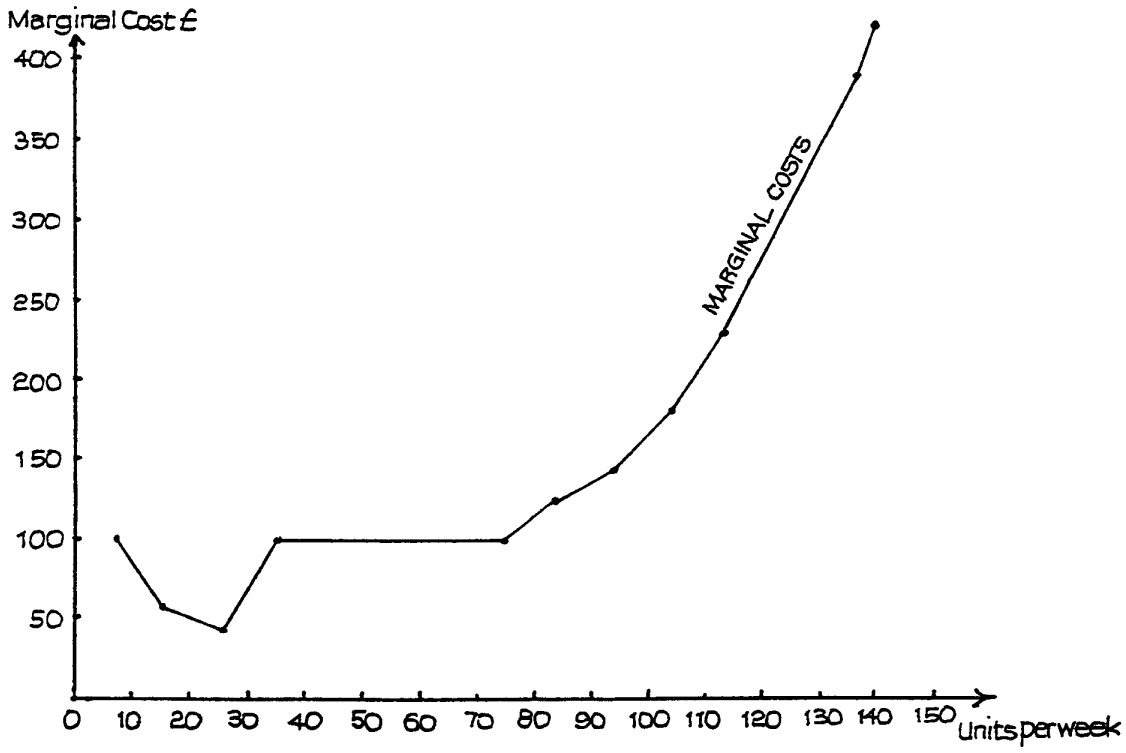

Figure 4.6

In Figure 4.7, the marginal cost graph has been combined with the average cost graph. Notice where these two curves intersect.

The rising marginal cost curve cuts the average cost curve roughly at 110 units per week. This is the output level which we have already noted as the lowest level of the average total cost curve. This illustrates a rule that you must remember. The rising marginal cost curve always cuts the average cost curve at its lowest point. If you think a little, you will see that it must do that. If the cost of the last unit to be produced is less than the average up to that point, then the new average will be a little lower. If the cost of the last unit is higher than the average up to that point, then the new average will be a little higher.

Experiment with any simple figures and you will see that this always must be true. This is a relationship that you must remember, and you must always show the correct intersection when you draw graphical illustrations.

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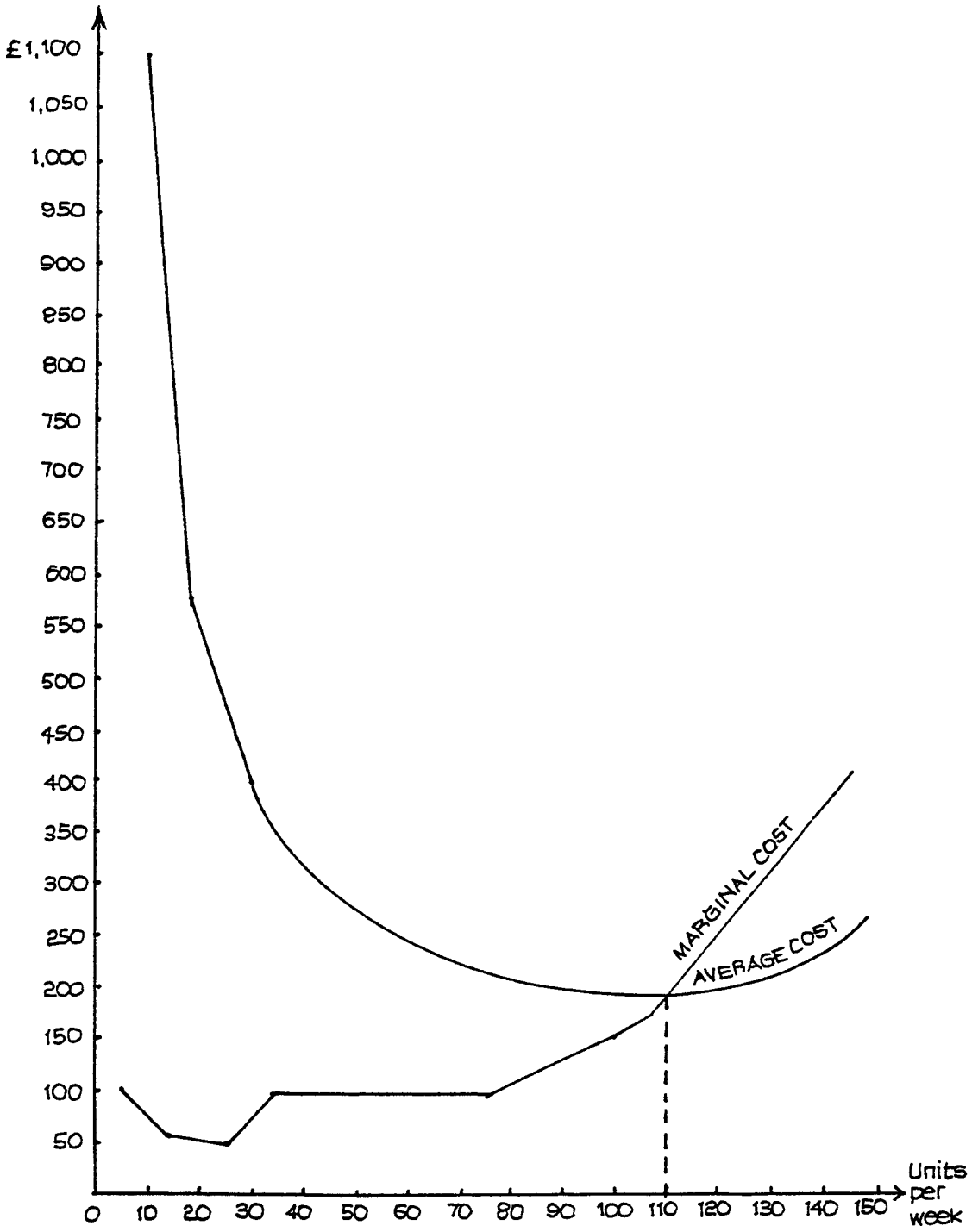

Figure 4.7

Long-run Costs

In the long run all factors of production may be increased, i.e. no costs are completely fixed. In practice, of course, the factors which are fixed in the short run will be increased in definite stages – e.g. when a new factory is built, new technology introduced, etc. The graph of fixed costs in the long run, therefore, appears as in Figure 4.8.

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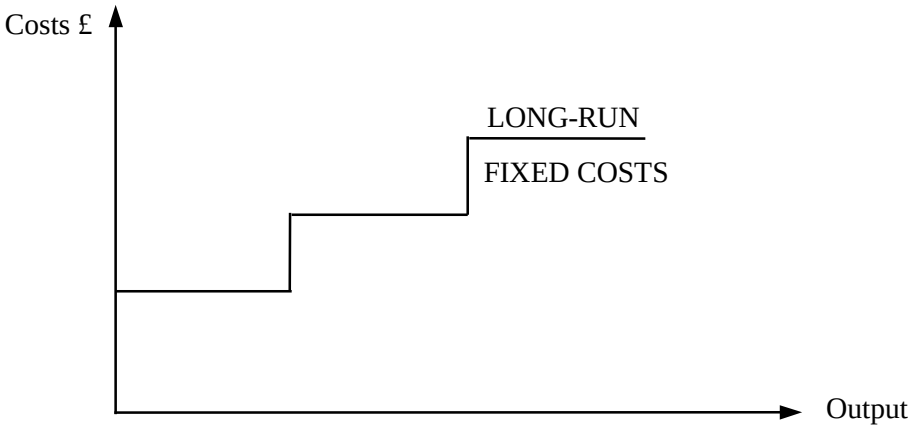

Figure 4.8

The effect of this on the average total cost curve in the long run is shown in Figure 4.9.

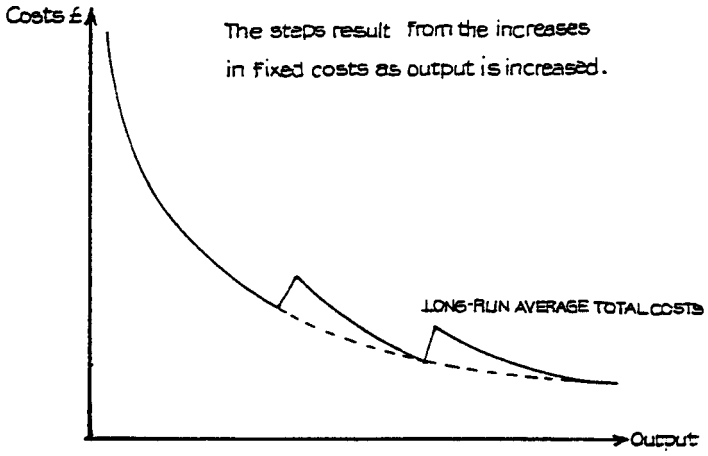

Figure 4.9

The "flat" part of the average cost curve is prolonged. The question, then, is whether this merely stretches the average cost curve – delaying the point of eventual diminishing returns and the rise of the U shape – or whether it can be continued indefinitely in order to prevent the U shape completely and make the long-run average cost curve L-shaped.

The relationship between short- and long-run average cost curves is sometimes shown as in Figure 4.10. This emphasises the fact that one reason for the increase in fixed factors and costs is to overcome the effect of short-run diminishing returns.

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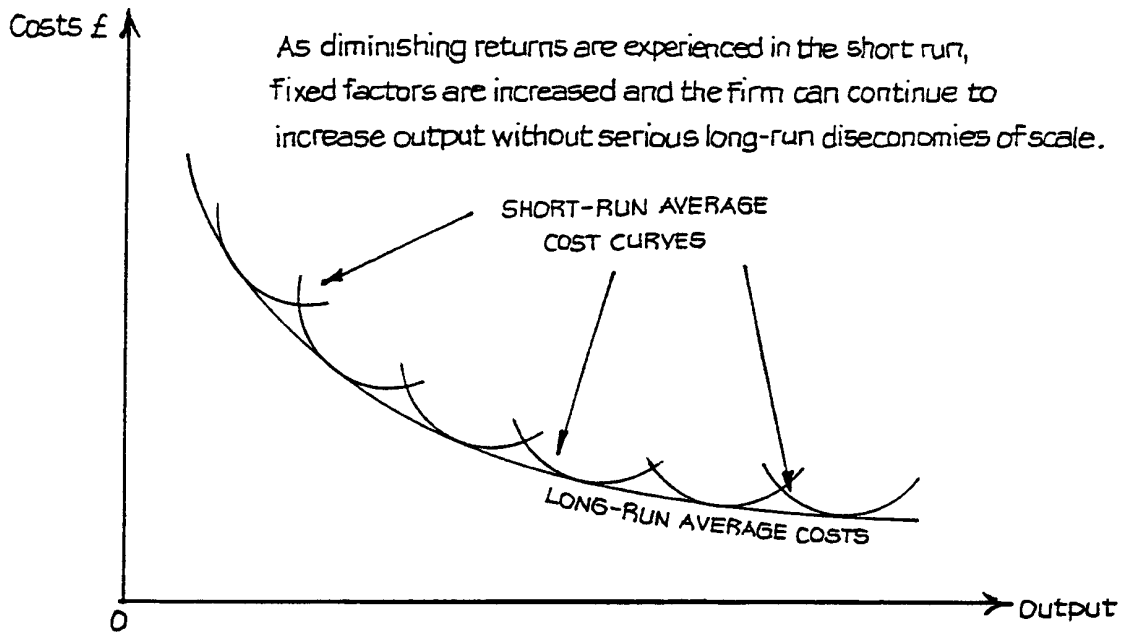

Figure 4.10

B. ECONOMIC COSTS

We are now beginning to see production costs from a variety of angles.

- **Opportunity Costs**

  These were identified in Study Unit 1 and may be defined as the cost of using resources in one activity measured in terms of the lost opportunity of using them to produce the best alternative that had to be sacrificed.

- **Absolute Costs**

  These are the full costs of the factors used in the activity under consideration. They may be measured in monetary terms but the real absolute cost is best measured by the actual quantity of factors used, e.g. the amount of land or the numbers of people employed.

- **Private Costs**

  These are the costs actually paid by the producer to the owners or providers of the production factors employed. They are the costs usually taken into account by the accountant and are measured in monetary terms, since the accountant has to account for the use of whatever finance has been entrusted to the production organisation. We have been looking at these costs in this study unit and have also examined the important distinction between fixed and variable costs.

- **External Costs**

  We will go on to look at these now.

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C. EXTERNAL COSTS AND BENEFITS

These are also sometimes referred to as “externalities”.

External Costs

Not all the costs of factors used in the production process are paid by the producer as private costs. Suppose, for example, that, during a dry summer, a farmer watered his crops with water pumped from a canal, and as a result, the canal level fell and it could no longer be used by waterway travellers. Unless the farmer paid compensation to the travellers, it is clear that they would be contributing to the costs of the farmer’s production. Because these costs are being paid by people external to the production process, they are called “external costs”.

We can think of many examples of such costs. Travellers who incur additional fuel and machine-wear costs resulting from motorway delays, when these delays are caused by repairs needed to make good damage brought about by very heavy lorries travelling at high speeds, are contributing to the costs of transporting goods by these heavy lorries. If a proportion of the cost of road repairs is paid from general taxation, then all taxpayers are contributing to the costs of road travel – even those tax payers who rarely travel at all.

Other examples of external costs include the poisoning of rivers by industrial waste, the pollution of sea coasts by waste oil discharged by oil tankers, the sickness and early deaths of workers from industrial diseases. The list is almost endless, and you can probably add to it from your own observation. Some costs may even be borne by later generations. In the 20th century, the UK has had to pay to make good much of the damage caused by 19th-century industry. The schoolchildren of Aberfan who were killed when an old coal waste tip moved and smothered their school in 1966 paid a bitter price for the coal produced by their forefathers.

External Benefits

In contrast, it is possible for people to receive benefits from production towards the cost of which they have not contributed. These are external benefits. If a large firm builds modern roads or provides other transport facilities which are then available for use by the general community, then that community gains external benefits. If a business firm provides a good canteen and housing for its workers and, by improving standards of housing and welfare, improves the health of workers and their families, then this, too, is an external benefit. We are well aware of cases where firms cause damage to the environment but there are also cases were firms improve the environment by renovating property, creating sports grounds, or even parks. The power of a large successful business firm to bring benefits to a community was well known to such industrialists as the Cadbury family in Birmingham and the Rowntree family in York.

Economics of Externalities

It might be thought that economists would favour external benefits and dislike external costs but, in fact, economic theory suggests that all externalities distort the use of resources, and that even external benefits are probably better provided in other ways. The danger of external costs can easily be recognised. If, for example, road users, especially heavy goods vehicle users, do not pay the full costs of their road use but pass some of these on to the rest of the community, then the relative costs of, say, transporting goods by road – as opposed to by rail or water – are distorted in favour of road. Consequently, goods are carried by road transport at a higher cost to the community than it would have paid if they had been carried, say, by rail. The community is not making the most efficient possible use of its available resources, and its living standards are lower than they would otherwise

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be because some production is being lost. Moreover, the problem tends to increase. If road transport is artificially cheap, then goods are diverted to road from rail. Road services are overcrowded, and there is pressure to devote more land to roads. Rail services are under-used. Agricultural and residential land is lost to roads to carry traffic which could otherwise have been carried by substitute services.

This is what we mean when we say that externalities distort the use of scarce economic resources.

Externalities and the Government

What can be done about externalities? Does the community just have to accept their existence? Clearly neither the producers who are able to pass costs to others nor the buyers of their goods or services who obtain reduced prices because of the reduction in private costs are likely to volunteer to pay more unless they are obliged to do so. They could not do so as individuals in competitive markets. Only the government, acting on behalf of the community as a whole and reacting to political pressures, can take effective measures and the options open to government are the following.

- Legislate to make actions considered undesirable illegal, and enforce the law. In a democracy such laws must be acceptable to the community as a whole; care must be taken to ensure that desirable benefits are not lost and that the cost of law enforcement is not out of proportion to the costs avoided.
- Legislate to ensure that producers behave in a socially acceptable way and follow practices designed to avoid the undesirable external costs. Water and sewerage companies may be required to achieve certain minimum standards. The costs of complying with the law thus become private costs and part of the production cost which must be met by users of the goods and services. All producers then become subject to the same requirements so that none can gain a competitive advantage by not complying with the standards. If producers have to compete with foreign imports the government will have to ensure that these imports are subject to the same minimum standards.
- Impose special taxes designed to make some products very expensive and so discourage their use. There are several objections to this course of action. The government might start to rely on the revenue from the taxes and so take care to keep them at a level where the products are still bought and used; the taxes may well then cease to deter or reduce the external costs. Alternatively the government might impose very high taxes with the result that there is widespread tax evasion; the cost of collecting the tax and punishing evaders then rises to impose additional burdens on the community.

Clearly it is more desirable to try and ensure that external costs are removed altogether than that they should simply become private costs. Even if employers are forced to pay adequate compensation to workers whose lungs are damaged by dusty manufacturing processes, the workers still suffer. However, if manufacturers are required to have efficient dust extraction equipment, private costs are increased but the health of the workers is improved. At the same time care must be taken to ensure that external costs are not simply exported. For example, one way of dealing with dangerous gases might be to ensure that they are expelled through very high chimneys, but unfortunately these may simply redirect the gases to another country for that country to bear the cost.

There is no universal and simple method of dealing with externalities, but on the whole it does appear that the market economies have been more successful in controlling and reducing undesirable external costs associated with environmental pollution than have the old command economies. This is probably because in the more open and consumer-orientated societies producers and government

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have had to be willing to respond to pressures from the public when that public has been determined to eliminate socially unacceptable practices.

D. COSTS AND THE GROWTH OF ORGANISATIONS

Returns to Scale

We have already seen the results of increasing inputs of a variable factor when at least one other production factor is held constant. We saw that this was likely to bring about increasing, then constant, and then diminishing marginal returns. However, we have also pointed out that, in the long run, all factors can be increased, and there is the possibility of economies of scale resulting for the continued growth in size of the firm. We must now look at this possibility more closely, but first we must be clear as to the meaning of returns to scale when all factors are being increased. If a given proportional increase in factors results in a larger proportional increase in output, then the firm is enjoying increasing returns, or economies of scale. This would be the case, for example, if a 10% increase in factor inputs produced a 20% increase in production output.

If the proportional increase in output is the same as the proportional increase in factor inputs – e.g. when a 15% increase in factors produces a 15% increase in output – then the firm is experiencing constant returns. If, however, a 15% increase in factor inputs produces less than a 15% increase in output – only 10%, say – then the firm is suffering decreasing returns, or diseconomies of scale.

Economies of Scale

Real scale economies, as defined above, should be distinguished from purely pecuniary or monetary economies which do not represent a more efficient use of factors but which are the result of the superior bargaining power of the large firm in the market. A large customer, for instance, can often gain discounts greater than can be justified on the grounds of savings in delivery or distribution costs, and workers in some large firms may be willing to accept a lower wage in return for what is believed to be greater security of employment or the social prestige of working for a famous organisation. Real economies – the genuine efficiencies in the use of production factors resulting from growth in the scale of activities – can be identified in the following main areas.

(a) Labour Economies

These result from greater opportunities for the division of labour which increase with the skills of the work-force, save time and allow greater mechanisation. The automated assembly line in modern motor-vehicle assembly is an extreme example of this.

(b) Technical Economies

These result chiefly from the use of specialised capital equipment. Large firms are able to make use of equipment that could not be fully employed by smaller operations, and large firms are also able to support reserve machines to avoid disruption following breakdown. A small firm, using three machines, adds one-third to its capital cost if it tries to add a further machine to keep in reserve. A large firm employing 20 machines adds only one-twentieth if it decides to do likewise.

(c) Marketing Economies

Very great economies are available from large-scale advertising. A television-commercial film using “top” stars is very expensive to make, but the cost per potential customer is very low if essentially the same film can be shown in several different countries. Large firms can also afford to keep very skilled marketing specialists fully employed.

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(d) Financial Economies

Large firms are able to obtain finance from markets that are denied to small firms, and multinationals can raise money in many different countries. Nevertheless, although financial economies still exist, we do have to recognise that finance markets have, in recent years, become more responsive to the needs of smaller enterprises.

(e) Distribution and Transport Economies

Transport movements and the location of depots can be carefully planned by large organisations, so that vehicles and storage space are used efficiently.

(f) Managerial Economies

These arise from the employment of specialised managers and managerial techniques, although many of these techniques have been developed in order to overcome the problems of managing large organisations, so that many economists suggest that managerial economies of scale are often exaggerated and difficult to achieve in practice.

Diseconomies of Scale

Diseconomies of scale are usually associated with the problems rising out of the management and control of large organisations. Formal communication systems are necessary but are expensive to maintain. Whereas the manager of a small organisation can see what is going on around him in the course of his daily work, the manager of a large firm may have to establish an inspection system to obtain equivalent information – which is unlikely to be as reliable.

There can also be a loss of control over managers at the lower levels of the "managerial pyramid". These managers may then pursue their own private objectives – e.g. building up the power of their own department – at the expense of efficiency and profitability.

Diseconomies of scale, then, are mostly managerial. If diseconomies just balance economies, i.e. when a 10% increase in factor inputs produces the same (10%) increase in production output, the long-run average cost curve will have the L shape of Figure 4.11. If economies of scale continue roughly to balance diseconomies, this shape may be retained over a long period. If, however, diseconomies start to rise substantially, then the long-run average cost will again start to rise.

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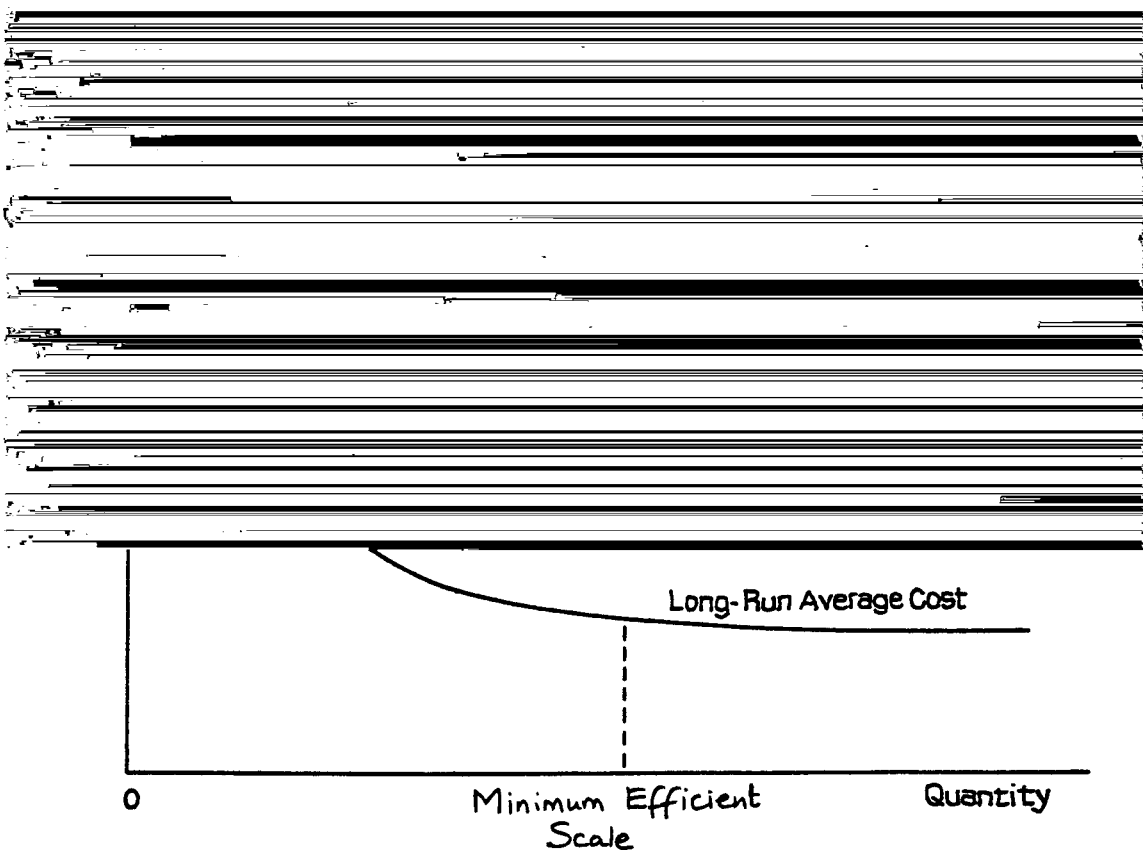

Figure 4.11

Notice here the position of what is called the **Minimum Efficient Size (or Scale) (MES)**, also known as the Minimum Optimum Scale (MOS). Up to this output level there are significant gains from internal economies of scale, and firms below the MES are at a cost disadvantage when competing against those up to or beyond that size. However, beyond the MES, further cost savings are not significant, and there is no cost advantage in further growth. On the other hand the shape of the curve can change as firms learn how to overcome sources of inefficiency, in particular managerial inefficiency, especially when new managerial skills and communication technology are introduced. It is possible to control very large firms today in ways that would have been impossible half a century ago. Jet travel and modern telecommunications, not to mention computers and microelectronics, have transformed management techniques.

External Economies

The economies of scale listed earlier all apply to the individual firm and they are known as internal economies of scale. There are other economies that are external to the firm and which arise when an industry grows large or when business firms congregate in a particular area. External economies usually arise from the development of specialised services available to many firms. For example, an area containing numbers of small engineering companies may provide opportunities to support one or more specialised toolmakers. Each engineering company can call on the specialist, without having to carry the full cost of having its own specialised department. External economies help small firms to survive in competition with larger organisations. However, if one or two companies become dominant and they internalise these economies by setting up their own specialised departments which

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specialised components. These activities are not really comparable and the MES for a component manufacturer could be much smaller than for vehicle assembly. Nevertheless it is the giant corporations which dominate the industry. If one of these fails, large numbers of the satellite firms which supply goods and services to it are also likely to fail. If the dominant firms all prosper, the satellites also flourish.

Services

Services generally tend to be smaller than manufacturing organisations, although there are, of course, some very large service firms developing in activities such as the law, accounting and business consultancy. On the other hand, these large firms tend to serve large-scale customers. A leading international accountant is not really suited to "do the books" of the small corner shop. In any case, the shop would not be able to pay the accountant's fees. There will always, therefore, be small local firms of accountants, solicitors and so on. If any of these meet problems they cannot handle themselves, then they may be able to call on the specialist services of the giant.

As the service sector of the economy, including the rising leisure services, grows, so the scope for small firms continues to increase and as already suggested, new technology based on the chip and the microcomputer is enabling the small firm to achieve a level of administrative efficiency that would have seemed impossible only a short while ago. A business-owner who can afford to spend around two to three thousand pounds on a computer, software packages and a good printer can maintain accounting and secretarial services with just one or two people, whereas the same standard of service would have required an office of 15 or more people – or a very expensive mainframe computer complete with specialist programmer – only a decade or so ago.

Traditionally, the small-firm sector has been seen as the seed-bed of enterprise and the nursery in which tomorrow's giants are reared. The microcomputer industry itself is an example. It was not the giant computer monopolists that produced the microcomputer but brilliant electronics engineers working on their own initiative. There will always be scope for the entrepreneurial genius.

Recent Trends

During the 1980s, small firms faced a more favourable financial climate. Small-scale enterprise became fashionable and received government support through the Business Expansion and Small Business Loans Guarantee Schemes. The Stock Exchange also sought to make it easier for smaller companies to raise capital by developing the Unlisted Securities Market (USM) and, for a time, a Third Market. The USM was closed in the mid-1990s and is to be replaced by an "alternative market" which is intended to operate more effectively for smaller companies within the structure of the Stock Exchange. You should look out for this development and watch its progress.

The environment for small businesses turned increasingly hostile as the boom years turned to recession and, more recently, to the much deeper depression of the 1990s. Government anti-inflationary policies based on high interest rates and attempts to link the value of sterling to the German mark helped to destroy those firms, large and small, that had expanded over-ambitiously. The government realised that providing guarantees for firms unable to obtain finance through normal commercial channels was a sure way of squandering taxpayers' money and abandoned earlier experiments.

Any form of government intervention tends to distort markets. Even socially worthy schemes to assist the unemployed can create as many problems as they solve. If, for example, an unemployed person is given government financial help to start a new window-cleaning business in an area where demand is roughly in equilibrium with supply from existing window cleaners, the entry of a new, subsidised cleaner is likely to undermine and drive out of business one or more of the established

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small firms which do not enjoy government financial help. The result may be that one person leaves the dole queue and is replaced in it by two others.

The banks also became disillusioned with the small-firm sector and reversed the policies that were proving to lead to heavy losses. There is still official encouragement for the creation of new small firms, and the number of people entering self-employment always increases when unemployment rises, as many people decide that the risks of starting in business are preferable to unemployment; but no one any longer believes that small firms offer a serious solution to current economic problems.

In an economic depression, large as well as small firms suffer and many companies which had developed into conglomerates of different, often unrelated, activities as a result of the mergers of the 1960s and 1970s rediscovered the virtues of specialisation and sold, closed or allowed managers to "buy out" those enterprises which did not fit into the mainstream of their "core activities". Many of the management buy-outs were heavily dependent on bank finance and a high proportion have become victims of the depression. Others have survived and prospered once released from the weight of large company bureaucracy. In spite of the difficulties, there are still large numbers of small firms and as the 1990s have shown that growth and size are no guarantee of security, fewer of these will wish to grow too rapidly and become too dependent on borrowed funds.

In recent years earlier tendencies which resulted in large firms internalising specialised activities have been reversed. Specialist departments which had proved difficult to keep fully employed have been closed and in many cases the specialists have been helped to form their own businesses, supported with contracts from their former employers. These newly independent firms are once again able to provide their specialist services to large and small organisations.

New communications technology is leading to a revival of a very old form of enterprise – what may be seen as a collection of independent firms, all working under the overall guidance of a central, largely marketing, organisation. Computer software production is often produced on this basis, with self-employed programmers producing software to detailed requirements set by the central marketing body.

Many small retailers have found it possible to survive as members of a larger "voluntary chain" made up of retailers and wholesalers, e.g. Mace, Spar.

Franchising is another way in which independent traders work under a degree of central control. These organisational structures all combine some of the advantages of large-scale operation with the benefits of the small entrepreneur working for him/herself.

Although the life expectancy of the majority of small firms continues to be short, there are nearly always people willing to fill the gaps left by the casualties. The small firm sector as such continues to exist and the record of innovation and enterprise from small firms compares favourably with the large corporations. A healthy and dynamic economy requires a diversity of firms of all sizes and activities. Most large organisations have occasion to rely on the services of small firms: often they use them to fulfil contracts which are too small for them to carry out profitably but which are necessary to retain the goodwill of valued customers. Moreover the continued existence of smaller rivals can often be a healthy reminder to large corporations that they are neither immortal nor indispensable. The growth of own-brand labels developed by the large supermarket chains has provided openings for many smaller manufacturers who could not otherwise have hoped to compete with the established food corporations.

The flexibility and versatility of the modern market economy, then, depends on the existence of many different sorts and sizes of organisation, and this diversity is essential to the maintenance of high living standards and wide employment opportunities.

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Study Unit 5

Profit, Supply and Expenditure Taxes

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A. THE NATURE OF PROFIT

The simplest definition of profit is that it is **the excess of revenue over cost**. This is a little deceptive because it is not always easy, in practice, to decide what is revenue and what is cost, and there are also problems arising from changes in the value of property. For example, the value of a building may rise or fall for reasons that have nothing to do with the trade carried on in that building. At this stage, however, it is convenient to overlook problems of this kind and keep simply to the idea of profit as the excess of the revenue gained by selling products over the cost of producing those products.

Nevertheless the above definition does not satisfy the economist's desire to explain why profit exists and what its economic function really is; and here we come up against two rather conflicting ideas. On the one hand there is what might be called the traditional view of profit as a payment to a factor of production, just as wage is the payment to labour or rent the payment to capital; while on the other there is the view that profit is surplus which remains when the payments to production factors have all been made. Both views present difficulties as we shall now see.

Profit as a Factor Payment

Although considered by many as being rather old-fashioned and difficult to reconcile with modern realities, this is the view which still dominates most of the basic economics text books and, as far as it is possible to tell, the thinking of most of today's examiners of economics in the professional examinations. You must, therefore, take it into account. Attempts to reconcile the idea of profit as a factor payment with the reality that it is very uncertain and subject to all kinds of pressures, as well as being impossible to predict or guarantee, have resulted in the development of the concepts of "normal" and "abnormal" profit.

Normal and Abnormal Profit

Here profit is seen as a payment to a fourth factor of production, the factor "enterprise" provided by **entrepreneurs**, people who take economic risks by organising and combining the other factors to produce goods and services for sale in the markets. Normal profit is, thus, frequently described as the reward to the entrepreneur – an attractive idea, but one which raises many difficulties.

- How do we quantify "normal"? The usual answer to this question is to suggest that it is the minimum necessary to keep the entrepreneur in the market. However, this surely depends as much on conditions in other possible markets as on the amount of profit available in the one under scrutiny. Firms that have been operating in a particular market for a lengthy period, or which operate in that market only, face greater costs of transfer to another market than newcomers, especially those which already operate in many markets. Thus, the minimum required to keep firm A in the market is unlikely to be the same amount as that sought by firm B. As economics has become more and more precise, scientific and mathematical, fewer people have been prepared to accept a concept as vague and unquantifiable as "normal" profit, in this sense.
- Who is the entrepreneur entitled to "normal" profit? The early economists who developed the concept were accustomed to markets containing small, individually owned and controlled firms, so that the entrepreneur who was the driving force behind the firm was usually identifiable without much trouble.

  Modern markets, on the other hand, are dominated by large, corporate organisations with clear, bureaucratic, managerial structures. The success of this type of enterprise may lie as much in

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> the ability of managers to reduce risks as to take them and, while individual managers may be expected to show enterprise in their work, this is rarely rewarded directly with a proportionate share in profits – even if the profit attributable to the enterprise shown could be calculated. The statistical profit of the organisation belongs legally to the ordinary shareholders, who are specifically denied any right to share in management and who rarely have much detailed knowledge of the activities of the organisation. When we further recognise that the large public company, today, is likely to operate in many markets, in many countries, we have to agree that all this is impossible to reconcile with the definition of "normal profit".

If, however, it is accepted that there is such a thing as normal profit then this implies that there can be "abnormal" profit. Some text books do, in fact, describe all profits above the normal as abnormal. Others, clearly unhappy at the emotive implications of this term, use the less derogatory "supernormal". In either case, the impression is usually given that firms should not be permitted to earn profits above normal.

Instead of either abnormal or supernormal, some writers have referred to what they call "pure profit", by which they appear to mean any surplus over and above all payments to factors including the "normal" profit due to the entrepreneur.

Profit as a Surplus

If we see profit not as a factor payment but as a surplus remaining after the production factors have been paid for, the question then arises as to who owns, or should own, this surplus.

To Marxist economists the answer is clear. Economic value is created by human labour, without which there can be no economic activity. The berries growing wild on the bush belong to the picker, whose labour of picking has turned them into food. Thus any surplus created by work belongs to those who carry out the work. Profit, therefore, to the Marxist who does not recognise a separate entrepreneur, belongs to the workers. However, the Marxist recognises that, in the modern capitalist society where production is organised by the owners of capital and, in the Marxist view, for the benefit of the owners of capital, profit is, in practice, allocated to the owners of capital.

If this view is accepted, profit, not interest, becomes the payment to the owners of capital. To the Marxist, the fact that it is paid to the owners of capital rather than to the rightful owners, the contributors of labour, is the result of the domination of capital over labour in the modern capitalist society.

In support of this view it is possible to point to company law, which provides that a company's profit belongs to the company's shareholders or, more precisely, to the contributors of the "risk capital" or "equity", the ordinary shareholders – in American terminology, the common stock holders. There is no legal requirement that the company should share its profits with the suppliers of labour (employees) or with the suppliers of loan capital, who receive their agreed rate of interest.

Still largely accepting this concept of profit as a surplus other economists, some of whom belong to what has been called the "Austrian school", take a very different view of its economic function. They see it as the driving force of the modern economy and the incentive which has been largely instrumental in bringing about the enormous improvement in general living standards in the market economies over the past two centuries. They see the striving for profit as the force that produces new products, new production technology, new forms of business organisation and new uses for basic resources. The profit that produces this economic energy and invites people of all kinds to take risks with their own resources of money, time and futures, is not "normal profit" but the largest possible profit that can be made in the circumstances within which business operates. There is no need to distinguish between normal and abnormal profit. All profit is necessary to stimulate future economic

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activity and to provide the investment finance necessary to make the activity possible and raise the level of technology.

Unlike Marxists, the economists who take this view do not see profit as being stolen from workers, nor do they see any need for labour to be given only the lowest possible wage. Indeed for business enterprise to succeed, goods and services have to be sold to workers whose incomes are well above subsistence levels, who have disposable incomes and the freedom to choose how to spend these incomes and who expect to have rising incomes. Workers therefore, benefit from profitable economic activity by earning rising wages.

Summary of Explanations of Profit

One economist who recognised the various ways in which profit has been explained was the great American writer and teacher, Professor Samuelson. He identified six distinct "views", which can be summarised as follows:

(a) Profit is seen as a **balancing item** and a result of accounting conventions but should properly be seen as a return to one or more of the production factors. For example, most of what accountants show as the "profit" of the majority of small family firms would better be described as the proprietor's wage for his physical and mental effort and interest on his personal savings invested in the business.

(b) The second view sees profit as a **reward to "enterprise and innovation**" and a return for the temporary monopoly achieved by being first in the field with a successful new commercial idea.

(c) The third sees profit as a **reward for successful risk-taking** and, although willingness to take risks does not always (or often) bring compensating profits, it is usually the hope of earning such profits that provides the spur to help business people overcome their natural inclination to avoid risk.

(d) The fourth view simply takes the third view further; profit is a **positive incentive to "coax out the supply of risk-bearing capital"**. It is the high return sought by providers of what is often known as "venture capital".

(e) The fifth view regards profit as a **return to monopoly**, whether natural or achieved by artificial means. It is this association of "abnormal" profit with monopoly that has coloured so much teaching about business profits and objectives.

(f) The sixth view recognises the Marxist explanation of profit as **surplus value** which, for Marx, is properly the reward of the labour that created the value but which, in a capitalist economy, is appropriated by the owners of capital.

Clearly there is no simple or generally agreed explanation of the economic function of profit, though most would agree that both profit and a spirit of enterprise are extremely important elements in modern market economies.

B. MAXIMISATION OF PROFIT

Calculation

We can arrive at the amount of profit for any given level of output in at least two ways. We can calculate total revenue and total cost and find the difference, or we can calculate the average revenue and the average cost, find the difference and multiply this by the quantity sold.

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We shall first consider profit as the difference between total revenue and total cost. Suppose we return to the example of the last study unit and assume that all units of the product are sold at a given market price of £210 per unit. Costs remain as before. We can now show total revenue and cost columns for each range of output up to 150 units per week – as in Table 5.1.

Quantity *(units per week)*	**Total Cost** £	**Total Revenue** (output level × £210) £
0	10,000	0
10	11,000	2,100
20	11,600	4,200
30	12,000	6,300
40	13,000	8,400
50	14,000	10,500
60	15,000	12,600
70	16,000	14,700
80	17,000	16,800
90	18,150	18,900
100	19,500	21,000
110	21,150	23,100
120	23,250	25,200
130	26,000	27,300
140	29,550	29,400
150	34,000	31,500

Table 5.1

From this table we can see that revenue exceeds total cost at output levels 90 to 130 units per week. At all other output levels, total costs are greater than total revenue, so losses would be suffered.

The following table shows the profit at each output level.

Quantity	**Profit** £
90	750
100	1,500
110	1,950
120	1,950
130	1,300

The position is illustrated in Figure 5.1, where the shaded area represents the profit produced when total revenue is greater than total cost.

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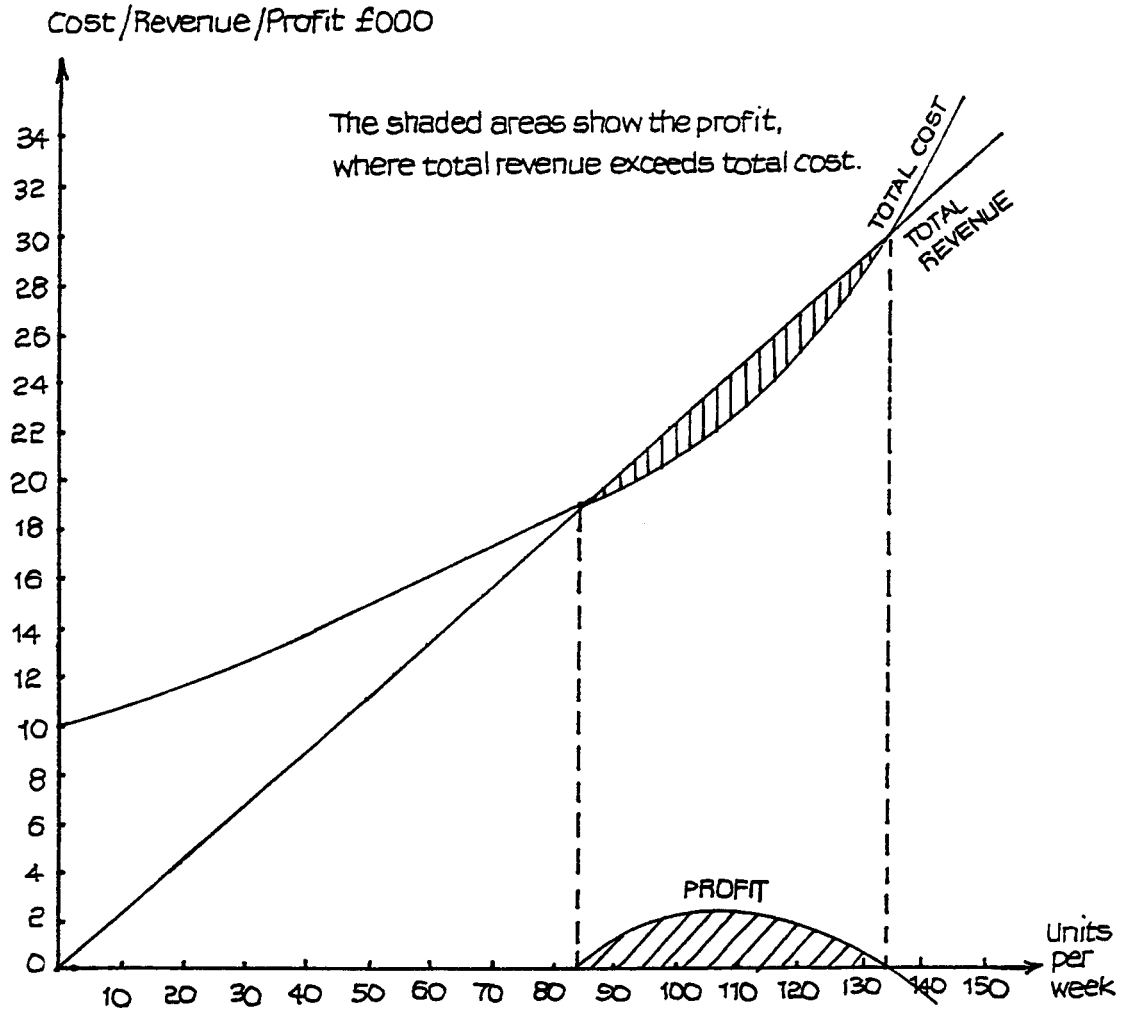

Figure 5.1

The same position is shown by the average cost and price/average revenue curves of Figure 5.2. In this case, however, the shaded area does not represent the total profit but the profit per unit of output. Total profit would be given by multiplying the profit per unit by the number of units produced.

In this example, the firm is selling all units at a given price, so that the total revenue curve continues to increase – though this does not, of course, mean that it is possible to make a profit at output levels above 130 or so units per week.

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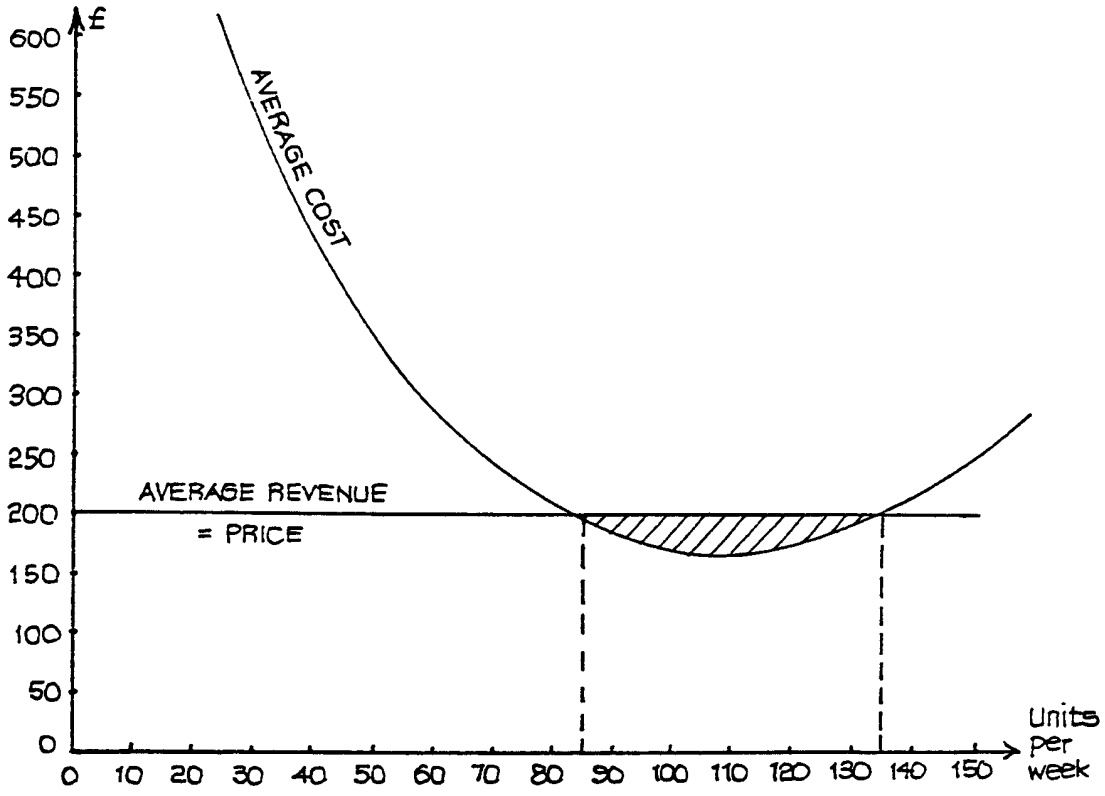

Figure 5.2

We saw in an earlier study unit that the revenue position could be rather different where the firm had to reduce price in order to increase output. Such a situation is illustrated in Figure 5.3. No figures are shown here – this is a general model – and it shows that the firm can make profits at all output levels between 0a and 0b.

These levels, where total revenue just equals total cost, are called the break-even output levels or sometimes “break-even points”.

It is often more convenient, however, to show the average cost and revenue curves (see Figure 5.4).

If we assume that the firm is selling all units at any given output level at the same price, i.e. is not discriminating between different customers over price, then the average revenue curve is also the price/output curve, i.e. the demand curve. In this model, we can also see that the firm makes profits between output levels 0a and 0b. This is the quantity range where average revenue is greater than average cost.

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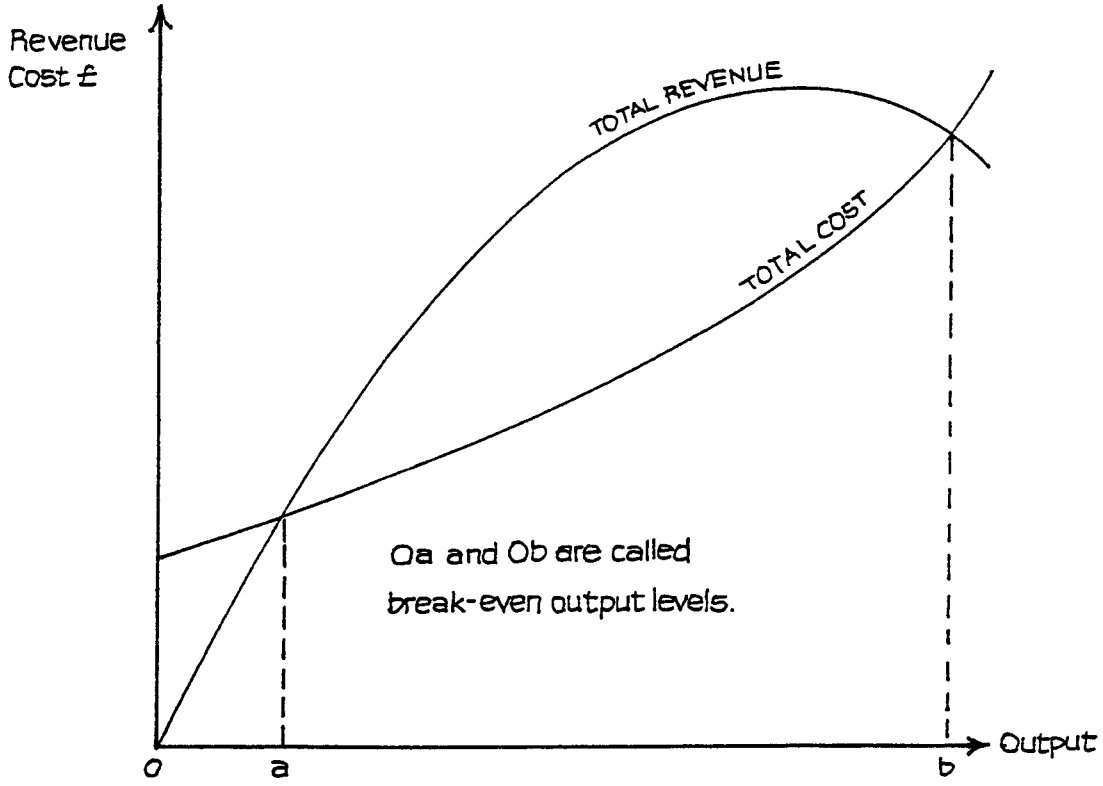

Figure 5.3

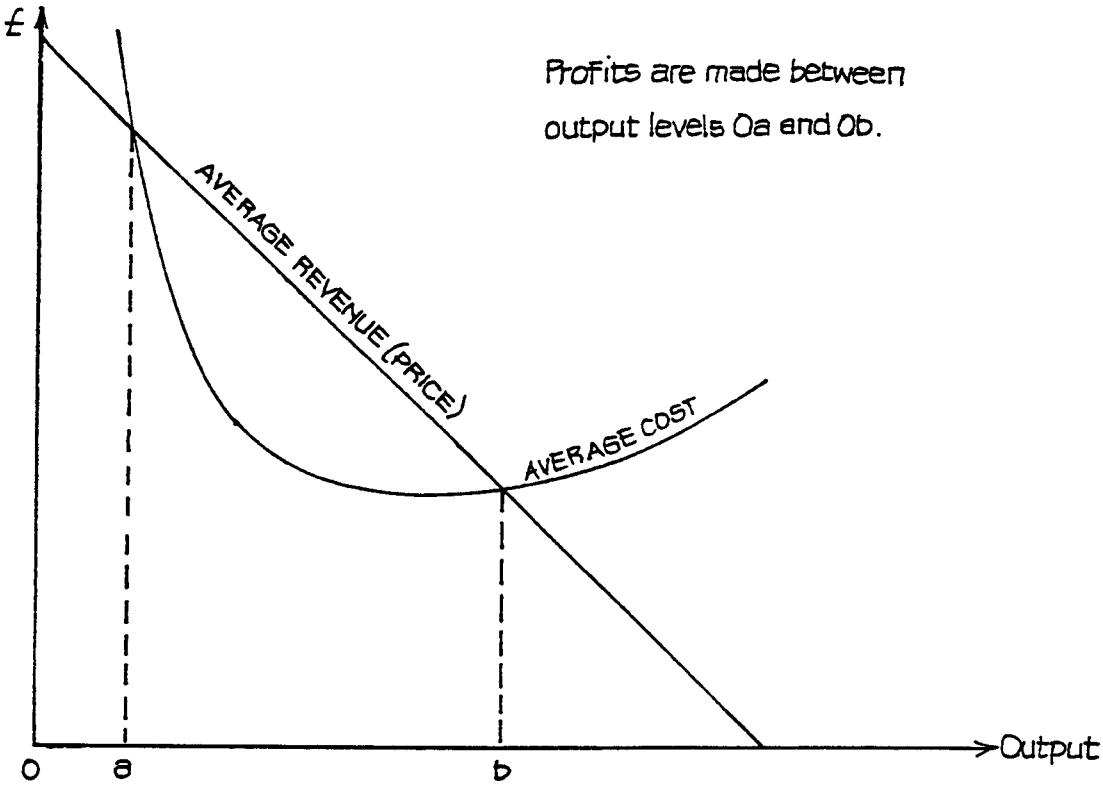

Figure 5.4

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Profit Maximisation

So far, we have seen the output levels where profits are made, but we have not yet identified the output level where the largest possible (maximum) profit can be made. However, if we refer back to our profit table, we see that there are two points where points are at their largest – at output levels of 110 and 120 units per week. Here, total profit stays at £1,950. If the firm wants to make the largest possible profit, it can choose either of these two levels. It is not unusual for profit to have a rather "flat top" and stretch across two stages in this way. In other cases it can peak at a single stage.

Now look back at Table 4.1 in the last study unit, which showed marginal costs. Bearing in mind that we assumed the firm to be selling at a constant price of £210, look at the marginal cost column. We have explained that, when the firm can sell at a constant price at all levels of output, the price is also the average and the marginal revenue. Thus, in this case, the firm's marginal revenue is £210. If you look down column 4, you will see that the marginal cost is £210 at the mid-point, representing the change from output level 110 to 120 units per week. This is precisely the output range where profits are at their highest level, i.e. £1,950.

This is no accident. It illustrates the general rule that profits are always maximised at the output levels where marginal cost is equal to marginal revenue.

The general position is illustrated in Figures 5.5 and 5.6. Figure 5.5 shows the case where average revenue = marginal revenue (constant price at all output levels) and Figure 5.6 shows the sloping average revenue curve with the marginal revenue curve in the correct position, as we explained before.

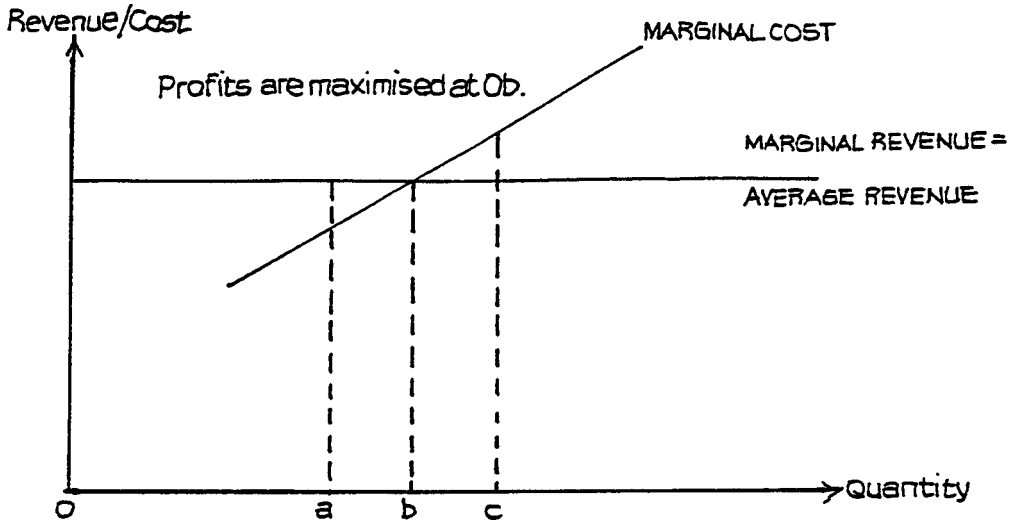

Figure 5.5

In both cases, the argument is the same. It does not matter whether the marginal revenue curve slopes or not. If the firm produces at output level 0a, i.e. below the level where marginal cost = marginal revenue, it would pay it to increase output because the revenue received for each additional unit is greater than the cost of producing that unit. If the firm is producing at output level 0c, above the level where marginal cost = marginal revenue, then it will pay it to reduce output because revenue lost for each unit of output sacrificed is less than the cost of its production. Only at output level 0b, where marginal cost = marginal revenue, will it pay the firm to stay at the same level. It cannot then increase profit by any change in quantity produced. This is the level where profits are maximised.

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This is a most important rule which you should remember carefully, i.e. to maximise profits the firm produces at the output level where marginal cost is equal to marginal revenue.

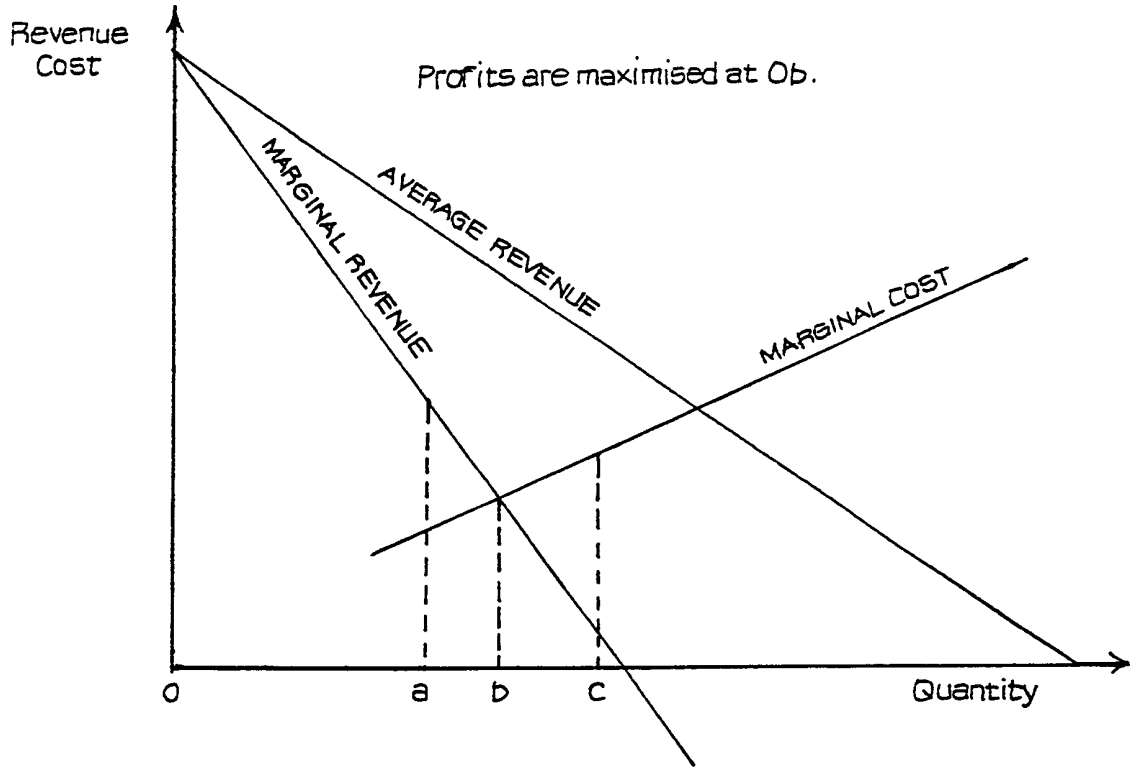

Figure 5.6

Do Firms Maximise Profits?

It is often argued that we should not automatically assume firms do seek to maximise profit. It is suggested that they may have other objectives, e.g. to maximise revenue, to increase output or to achieve a given share of the market, or simply to please and reconcile the conflicting objectives of shareholders, managers and employees.

All this may be true – many firms may not be seeking to maximise their profits. Many may not have sufficient information about market demand and their costs to profit-maximise even if they wished. On the other hand, this does not rule out our view that the profit-maximising output level and the rule for achieving this are matters of very great importance for an understanding of business decisions. The firm may decide to sacrifice some profit in order to pursue some other objective, but it should know how much profit is being sacrificed.

An assumption of profit-maximising behaviour is an essential starting point for the analysis of the business organisation. As long as we recognise that it is not necessarily the finishing point, then we can accept this assumption at this stage of our studies unless there is a very good reason to do otherwise.

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C. INFLUENCES ON SUPPLY

Costs and Supply

If we accept that business firms exist to make profits, then we can recognise that there must be a close link between costs, profits and the willingness of firms to produce the goods and services that consumers wish to buy. After all, profit is the difference between revenue and costs, so that at any given price the amount of profit will depend on production costs. If price remains constant and costs rise, then profit falls and we can expect firms to be less willing to supply goods and services. Similarly, if costs remain unchanged and price rises, then profits will rise and firms will wish to supply more in order to secure the increased profit.

We thus have no difficulty in accepting the link between costs and the amount that firms are prepared to supply at a given price or range of prices. If we accept the aim of profit maximisation, then we can be a little more precise than this.

Suppose a firm is seeking to maximise profits and can sell all it can produce at the ruling market price. Suppose, too, that this market price can change. What, then, will be the firm's response? Look at Figure 5.7. The profit-maximising firm will seek to produce at that output level where marginal cost is equal to price, i.e. at quantity 0q at price 0p, at $0q_1$ at price $0p_1$, and $0q_2$ at price $0p_2$.

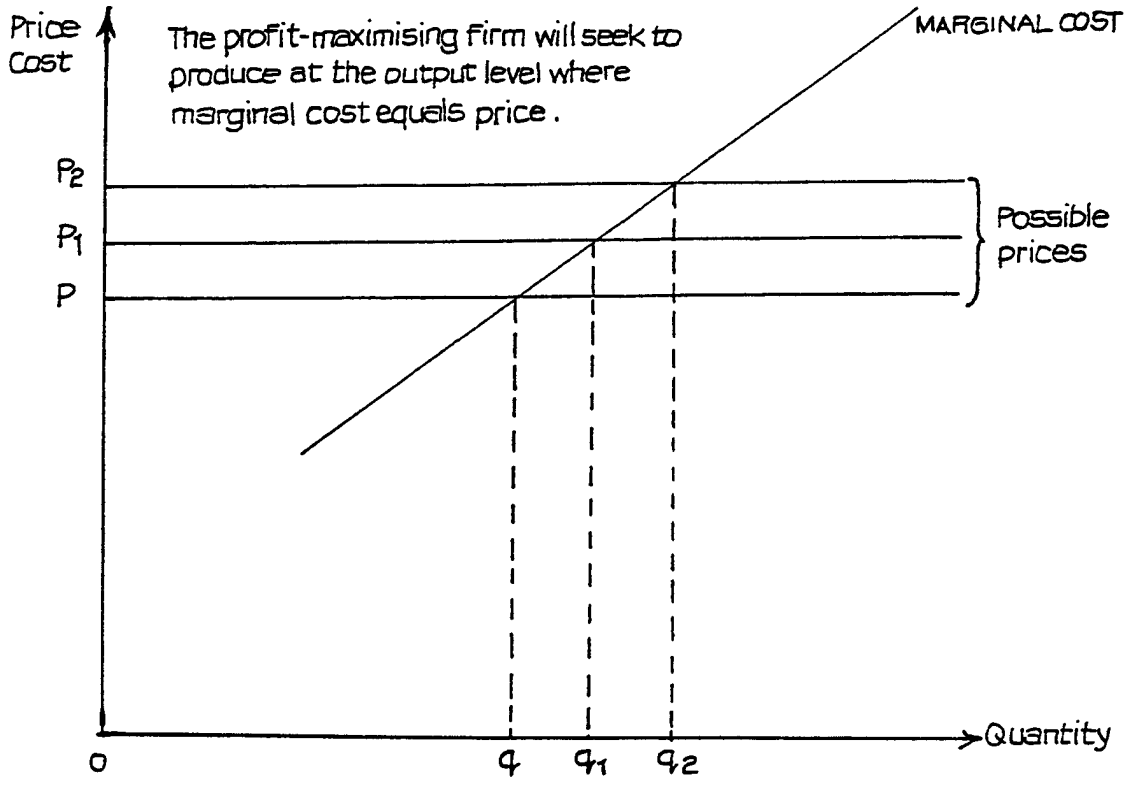

Figure 5.7

Thus, we can see that the firm will increase the quantity it is willing to supply as price increases – and, conversely, reduce quantity as price falls – and that the actual change in quantity will be governed by the marginal cost curve.

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Under conditions of perfect competition, therefore, the individual firm's supply curve is its marginal cost curve and, consequently, the market supply curve is derived from the sum of the marginal cost curves of all the firms operating within the market.

This argument continues to hold good when we abandon the assumption of the firm accepting the market price. If the firm faces a downward-sloping demand curve for its product, and hence a downward-sloping marginal revenue curve, we still get the same increase in quantity following the marginal cost curve if we again move the marginal revenue curve outwards, further from the point of origin. This is shown in Figure 5.8.

Notice, however, that Figure 5.8 is drawn on the assumption that the average revenue curve is moving outwards evenly and with its slope unchanged. There is no guarantee that this will ever happen in practice. If the slope of the average revenue curve changes, then so too will the slope of the marginal revenue curve, and there will no longer be the smooth increase in quantity suggested by Figure 5.8. For this reason, we cannot say that, in imperfect markets, the market supply curve will represent the sum of the marginal cost curves of the individual firms. Nevertheless, the general link between supply and marginal costs remains, although it is unlikely to be as direct as in perfect competition.

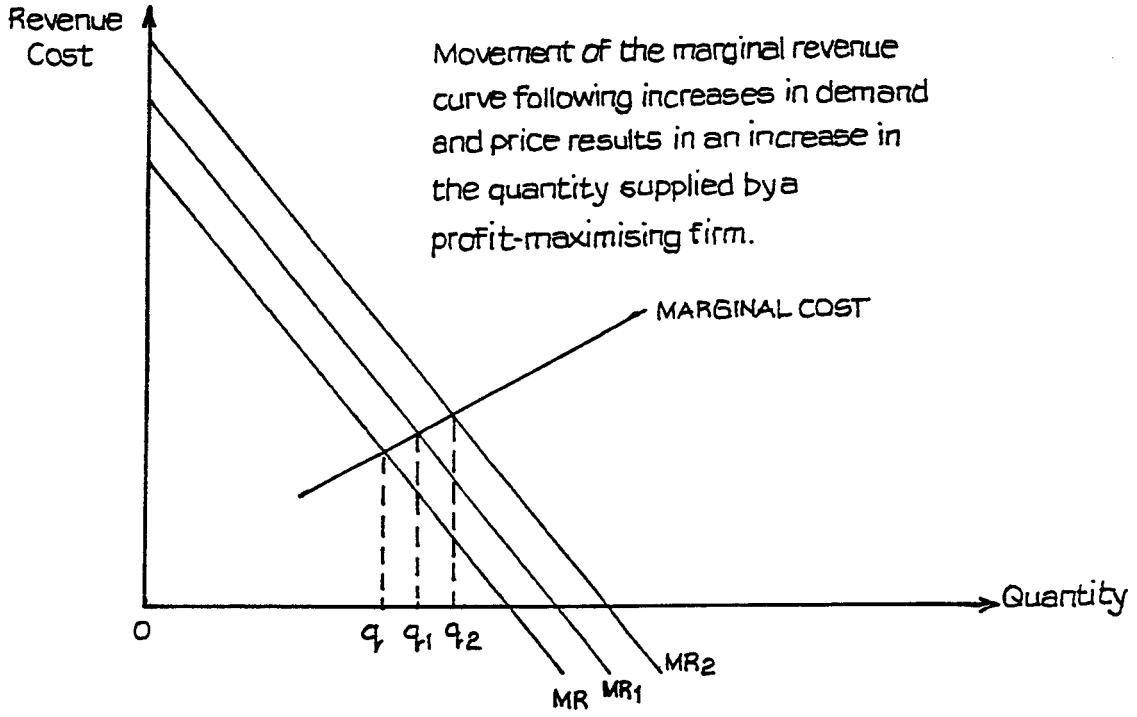

Figure 5.8

Here again, a movement of the marginal revenue curve produces a shift in quantity supplied, in accordance with the marginal cost curve.

You can, if you wish, add the average revenue curves to this graph, and thus show the prices corresponding to the three quantity levels 0q, $0q_1$ and $0q_2$. Remember the relationship between average and marginal revenue, and remember that price will be shown by the vertical line from any given quantity level to the average revenue curve.

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Supply Curve

If we accept this view that firms will seek to increase the quantity supplied if price increases, and reduce it if price falls, then we can produce a supply curve showing the amounts involved. A supply curve can be for an individual firm – in which case, assuming profit-maximising objectives, it will be the marginal cost curve – or for all firms supplying a particular product, where it will be made up of the sum of the marginal cost curves of all the firms supplying the product.

However the supply curve is formed, we can accept that its general shape will be as in Figure 5.9. This shows the general assumption that more will be supplied as the price rises – all other influences remaining the same.

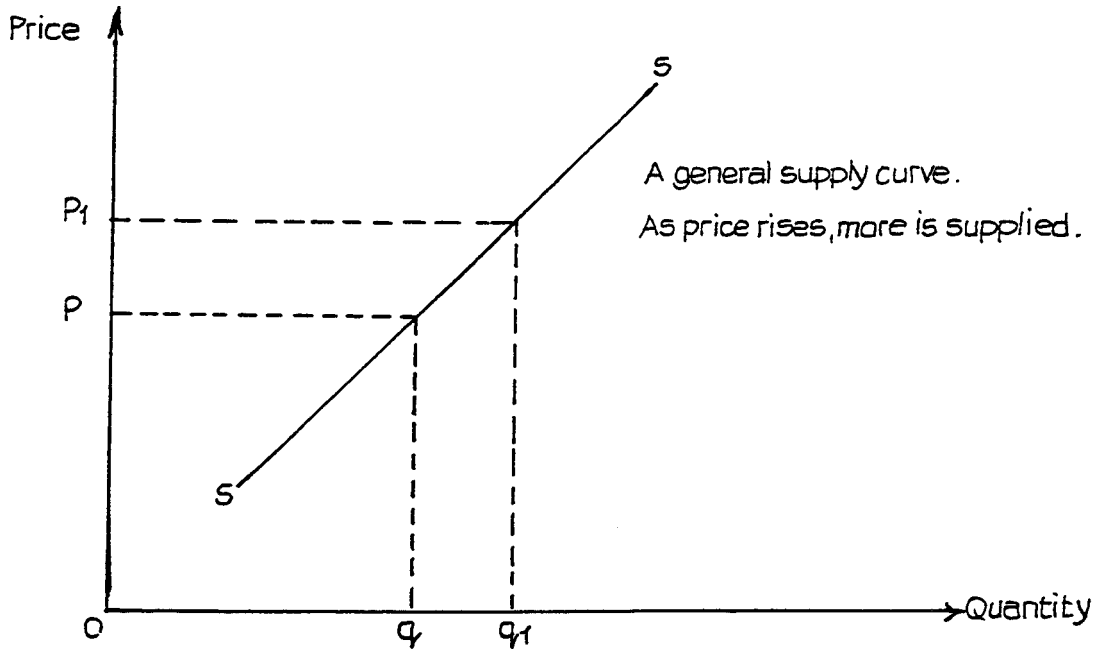

Figure 5.9

Other Influences on Supply

The concept of the supply curve reflects the view that price is one of the most important influences on the quantity supplied. There are other influences, however, and these are mostly concerned with the cost of production and with profits. Remember that, in a market economy, the great driving force for supply is profit, so anything that affects profit will affect supply. In very broad terms, since profit is the difference between revenue and costs, supply will be directly affected by anything affecting revenue, price and costs.

We can summarise some of the most important influences as follows:

(a) Costs of Factors and Other Inputs

Any change in costs, with price staying constant, will change the profit expectations and will thus influence decisions regarding supply. For the profit-maximising firm, a change in variable costs will change the marginal cost curve, and so change the supply schedule. Examples of factor costs include wages, land and property rents, interest rates on capital, basic material prices and the prices of fuel and power. Any of these may also affect the prices of intermediate products and services required by the firm, and so further influence supply.

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(b) Changes in Taxes

If a tax, payable to the government, is charged at any stage of production or on the profits of the business, then any change in the tax rate will affect the profits anticipated from supply, and thus affect supply intentions. An increase in a production tax, such as value added tax, will have the same effect as an increase in factor costs; it will tend to reduce the quantity that firms are willing to supply at all prices in a given range.

(c) Changes in Technology

By "technology" is meant the methods of combining factors and inputs in order to achieve production. An improvement in technology, which allows a given level of production to be achieved with fewer factor inputs or with a different combination of factors, so that the total cost is lower, will tend to increase the quantity likely to be supplied at all prices within the range. Some types of technology may be possible only if production is required on a large scale. This can have a marked effect on supply. Thus, small-scale supply may be possible only at much higher prices than large-scale supply, when the different technology becomes worthwhile. The result may be to shift the whole supply curve when production reaches the critical level required for the large-scale technology.

(d) Efficiency of the Firm

Multinational production of similar products has shown that firms in country A can sometimes produce more from a given combination of labour and capital than similar firms in country B, even though production methods and levels of technology are all much the same. Differences in the productivity of labour and capital (the amount produced per unit of labour and capital) must, in these cases, be caused by differences in managerial efficiency or in the conditions under which people work. In some cases, the movement of managers from one country to the other makes little difference to the gap in factor productivity. The causes of these differing levels of efficiency are not fully understood, but they do help to explain why large multinational firms tend to prefer some countries to others. A change in the level of business efficiency will, of course, influence supply.

(e) Changes in Relative Profitability of Products

If a firm can produce either product X or product Y from similar factors, machines and skills, and if it becomes more profitable to produce Y, then the firm is likely to switch its production activities from X to Y. This may happen if the firm normally makes X, but the price of Y rises while the price of X stays the same.

There can be other causes of production switches. If there are numbers of firms able to choose between producing X or Y, and the market for Y suddenly disappears, perhaps because of a political decision, then firms previously making Y will have to switch to X if they wish to remain in business. The result will be to increase the supply of X at all prices.

Effect of Other Influences on Supply Curve

All the above changes can be illustrated by a movement of the whole supply curve, indicating a change in supply intentions throughout the given price range. Such a shift in the supply curve is illustrated in the general graphical model of Figure 5.10.

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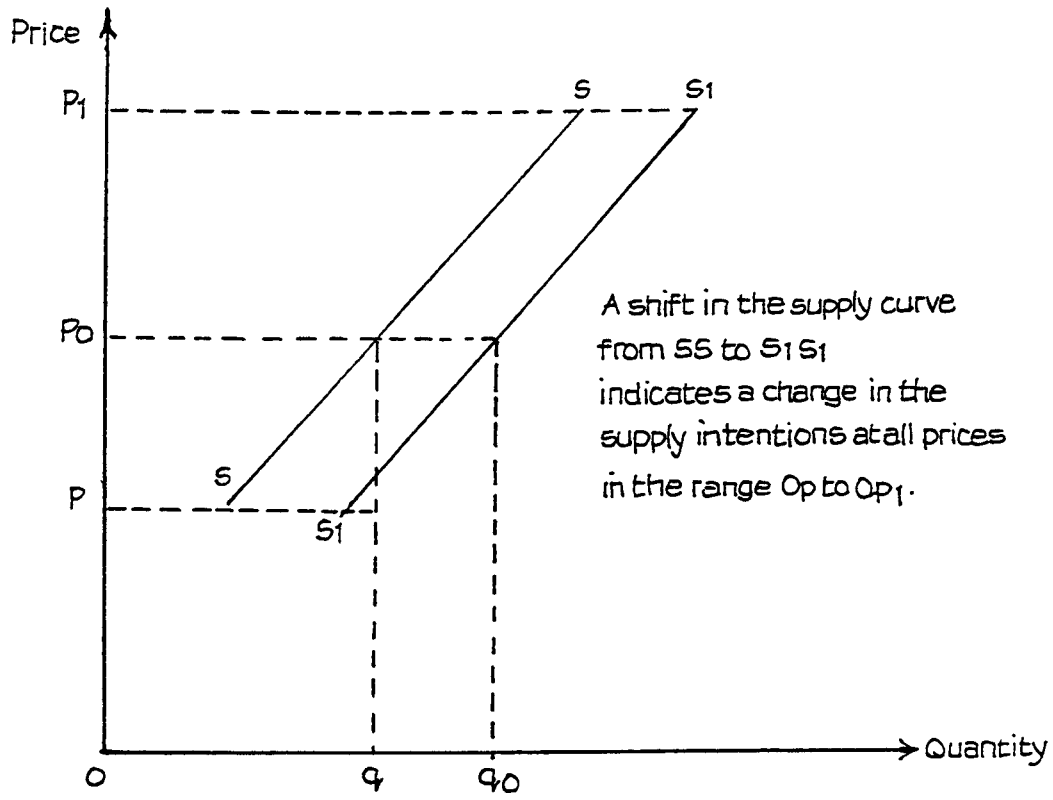

Figure 5.10

A shift of this type may follow a change in one or more of the influences as described above. Moreover, several influences may be operating, in different directions. For example, a tax increase may be depressing supply intentions while an improvement in technology is raising them. The final result depends on the relative strength of the influences. It is not easy to analyse these effects through simple graphical models. This is why more advanced studies make rather more use of algebraic models which can be easily handled by computers, and why you should begin to become familiar with functional expressions such as the following.

$$Qs = f(P, C, T, v, y, \pi_o)$$

where: Qs = quantity of a product supplied

P = product's price

C = factory and input costs

T = business taxes

v = level of technology

y = level of business efficiency

π_o = relative profitability of products

This simply states that quantity supplied is a function of, or is dependent on, the various influences symbolised.

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Relative Importance of Supply Influences

As with demand, different products will be affected to different degrees by the various influences on supply. In the case of supply, much will depend on the methods of production and the ease with which producers can respond to changes in factor costs and availability as well as in technology. Consequently, it is easier to assess the relative importance of the supply influences than those on demand. A careful study of production technology and relative factor costs will indicate which are likely to have the most impact on producer intentions. A production process heavily dependent on labour (labour-intensive) will be more responsive to changes in wage levels than one that is highly mechanised or automated and thus capital-intensive. On the other hand, production which is highly capital-intensive will be more vulnerable to changes in interest rates, since much capital is likely to be borrowed in one form or another. The potential costs of changing production levels tend to be greater with capital-intensive production methods.

D. PRICE ELASTICITY OF SUPPLY

Calculation of Elasticity

The concept of elasticity, which we applied to demand, can also be applied to supply. However, here it is usually only price elasticity with which we are concerned. The method of calculating supply elasticity is exactly the same as for price elasticity of demand, i.e.

$$\text{Supply elasticity of a product } (E_s) = \frac{\text{Proportional change in quantity supplied}}{\text{Proportional change in the product's price}}$$

or $$E_s = \frac{\Delta Q_s}{Q_s} \div \frac{\Delta P}{P} = \frac{P \Delta Q_s}{Q_s \Delta P}$$

Notice that the value of E_s is always positive (+). This is because the change of quantity is in the same direction as the change in price.

Figure 5.11 shows an example of a simple supply-elasticity calculation.

Notice here that figures for both P and Q are obtained from the mid-point of the change in price and quantity, so that the calculation is the same for both a rise and a fall in price. Notice also that the result of this particular calculation is that E_s = unity (1).

If you calculate values for E_s at any other price level on this curve, you should obtain the same results. The reason for this is explained in the next subsection.

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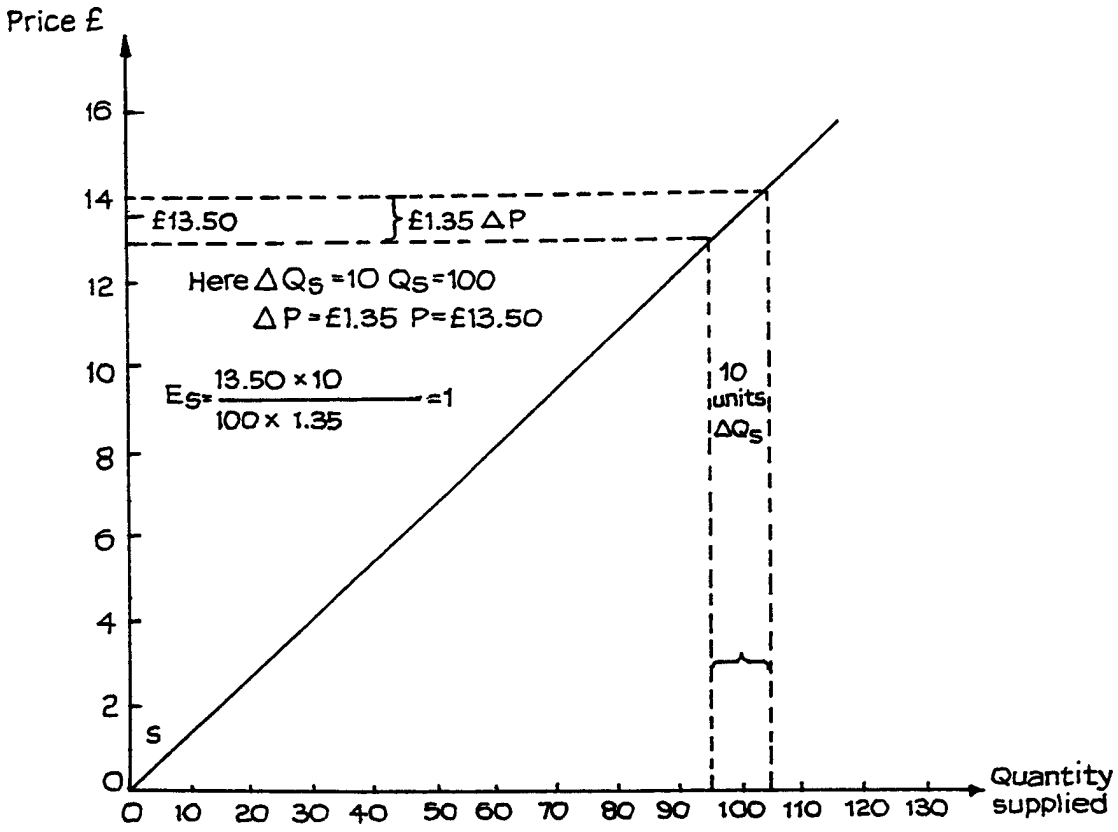

Figure 5.11

Elastic and Inelastic Supply Curves

Price elasticity of demand was shown to change as price changed. A rather different position obtains in the case of supply elasticity. We said that the value of E_s for the supply curve of Figure 5.11 would always be 1. This is because the curve starts at the point of origin.

A simple proof follows, relating to Figure 5.12, and assuming a knowledge of simple geometry.

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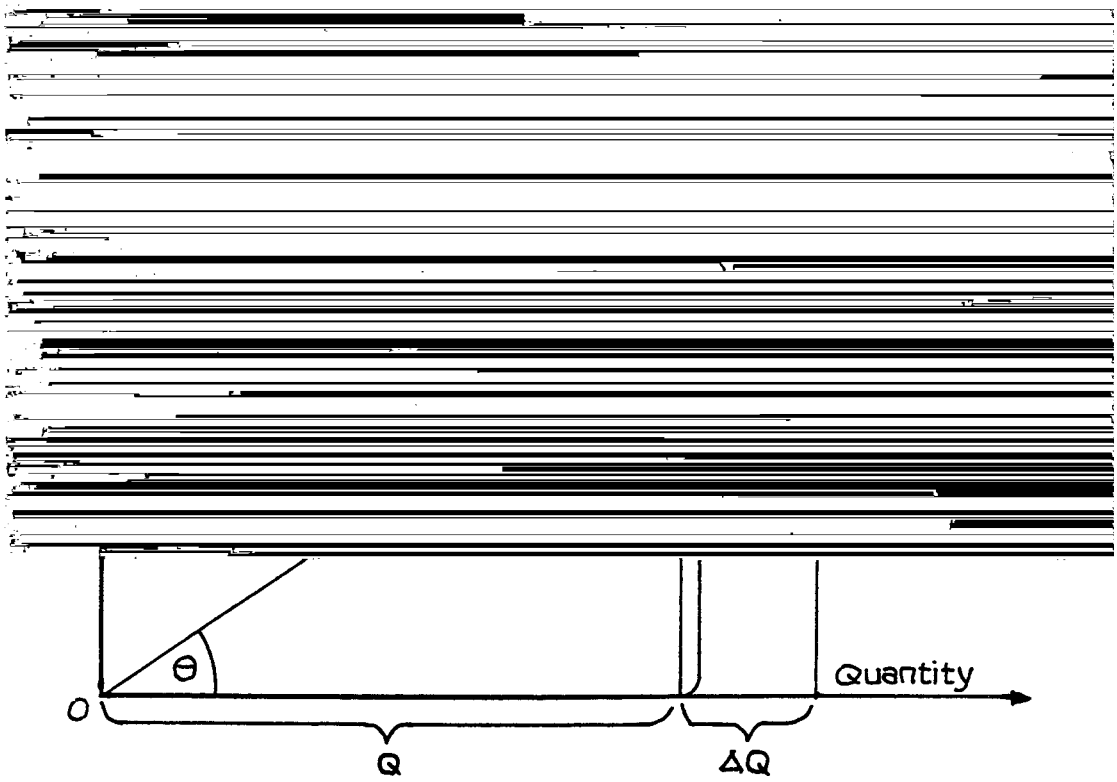

Figure 5.12

From the diagram:

$$\theta = \theta_1, \quad \frac{P}{Q} = \tan\theta \quad \text{and} \quad \frac{\Delta P}{\Delta Q} = \tan\theta_1$$

so, $$\frac{P}{Q} = \frac{\Delta P}{\Delta Q}.$$

But, $$E_s = \frac{\Delta Q}{Q} \div \frac{\Delta P}{P} = \frac{\Delta Q}{Q} \times \frac{P}{\Delta P}$$

$$= \frac{P}{Q} \times \frac{\Delta Q}{\Delta P}.$$

So, $$\frac{P}{Q} \times \frac{\Delta P}{\Delta Q} == 1$$

and $E_s = 1.$

A supply curve which passes through the vertical (price) axis is elastic, and one which passes (or, if extended, would pass) through the horizontal (quantity) axis is inelastic. This holds regardless of the slope of the curve, and it applies to the whole curve when this is linear (forming a straight line).

These statements can be proved by the same method as in Figure 5.12. Don't worry if you can't prove them yourself – just remember the position. Examples are given in Figures 5.13 and 5.14.

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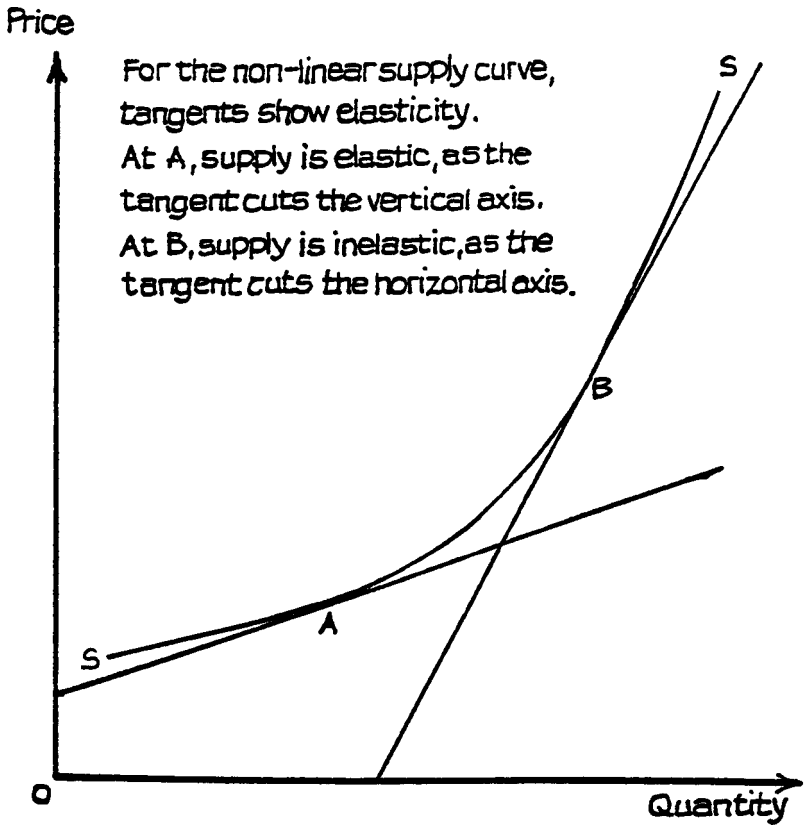

Figure 5.15

When the curve is non-linear, the important point is the direction of the tangent to the curve at the price level under consideration. This is shown in Figure 5.15.

Elasticity of Supply in the Long Run

The main influence on the elasticity of supply is the speed with which producers can respond to changes in cost, price and profitability. Few firms can alter their production plans immediately when basic materials, capital and labour have already been committed to them. As time goes on, however, plans can be changed, workers can be hired or fired, and new machines bought or old ones scrapped.

The speed and ease with which production plans can be changed depends on the nature of the production process. As a general rule processes, such as services, which are labour-intensive can be changed more quickly than those that are capital-intensive. Workers, especially if they are part-time can have their working hours increased or reduced and the number of workers employed can be changed, whereas capital-intensive processes, such as motor-vehicle assembly lines, still have to pay costs of capital even when equipment is no longer used. It may, therefore, be better to maintain production as long as variable costs are covered by sales revenue and there is some contribution to unavoidable fixed costs rather than suffer the heavy losses of a major production change. When, however, the decision has to be made to reduce production the consequences can be swift and far-reaching, with large numbers of workers suffering redundancy.

We can say, then, that supply will be inelastic in the short run and elastic in the long run. What constitutes “short run” and “long run” depends on production methods. Nevertheless, supply is unlikely to be completely inelastic even in the very short term, as some adjustment is usually

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possible. Even the motor-assembly track can be speeded up or slowed down, in response to a managerial decision, in a matter of hours.

The change in elasticity over time is illustrated in Figure 5.16.

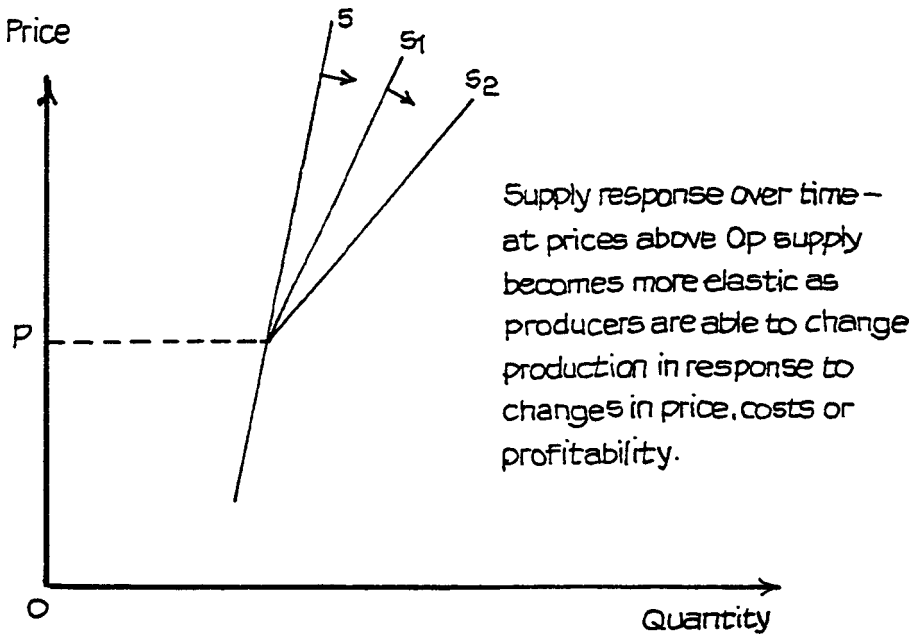

Figure 5.16

E. SUPPLY, INDIRECT TAXES AND SUBSIDIES

What are Indirect Taxes and Subsidies?

Governments often influence markets through taxes and subsidies.

- An **indirect tax** is one that is not levied directly on individuals or organisations but is applied at some stage in the production or distribution of goods or services. It therefore affects prices and so is paid indirectly, through price, by consumers and income-earners. For this reason indirect taxes are often referred to as expenditure taxes and are listed as such in the British national accounts which appear in the annual publication known as *The Blue Book of National Income and Expenditure*.
- **Direct taxes** are those levied directly on income or wealth as it is created and are paid by the income- or wealth-earner to the government. The economic implications of direct taxes are considered later in the course.

At this stage, however, it should be clear to you that anything that influences market price will have consequences for both supply and demand, with the result that the final consequences of a tax may not be what the government intended.

Sometimes, of course, the tax may be imposed with the deliberate intention of influencing supply or demand, but more often it is levied as just another way to raise the revenue that governments imagine they need, and they seek to have as little effect as possible on the production system. In practice, any tax must have an impact, as we shall see.

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A **subsidy** can be seen as a reverse or negative tax. It is a payment to a producer or distributor, so that its effect is to increase supply. To judge the effects of a subsidy, therefore, simply reverse the arguments presented in relation to the tax – but remember, of course, that, in order to pay a subsidy, the government has to have revenue, and its main source of revenue is tax. Generally, then, a subsidy paid to A means that B and C have to be taxed. The harmful effects of the tax may outweigh any beneficial effect of the subsidy.

Effect on Supply

The effect on supply of an indirect tax being imposed is illustrated in Figure 5.17. This shows a supply curve SS, indicating that production can range from 200 units per week at a price of £4 to 800 units at a price of £10.

Suppose a new tax is imposed at £1 per unit. To supply 500 units per week, producers wanted a price of £7 per unit. After the imposition of the tax, the producers still want to receive £7, but to get this, the price has to rise to £8 to include the £1 per unit that now has to be paid to the government. Similarly, to keep production at 700 units per week, the price has to rise from £9 to £10 per unit.

Imposition of the tax thus moves the supply curve to the left (SS to S_1S_1). The vertical distance between the curves represents the amount of the tax.

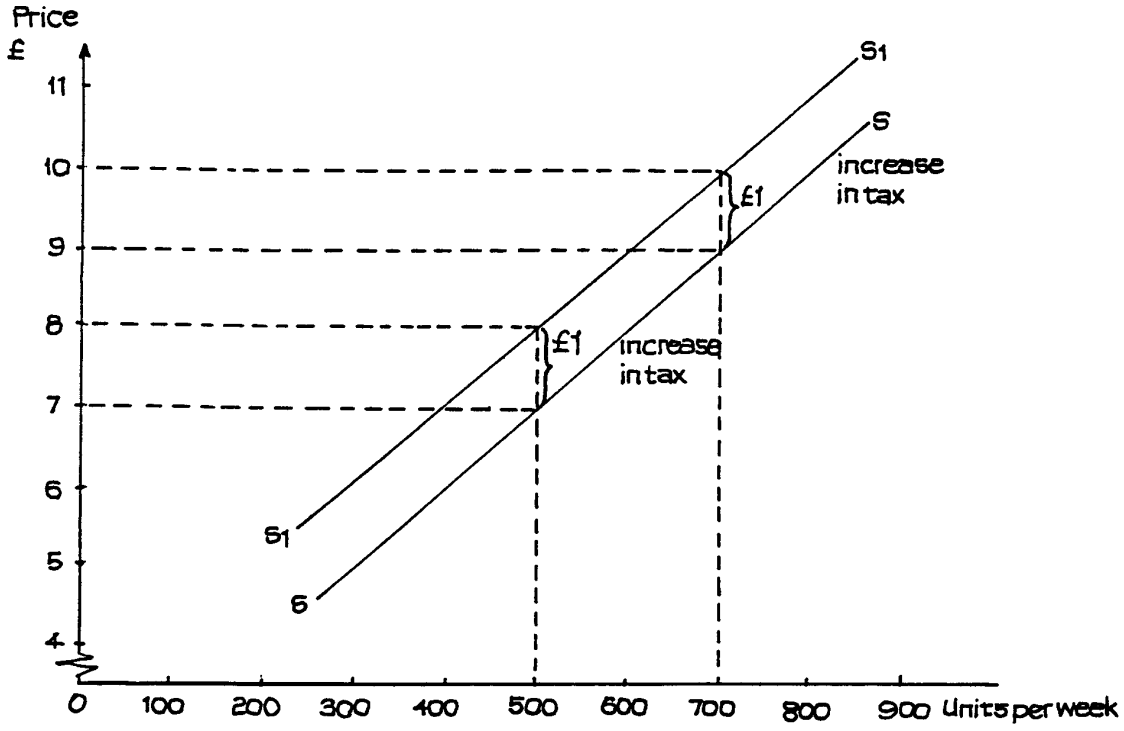

Figure 5.17

Of course, a subsidy paid to the producer moves the supply curve to the right because the argument is exactly reversed.

In Figure 5.17 the after-tax supply curve S_1S_1 is parallel to the before-tax curve of SS. This suggests that the tax or tax increase if "flat rate", i.e. the same at all price levels. In practice indirect taxes such as VAT depend on value and are sometimes known as *ad valorem* taxes. Usually we would expect the tax to be expressed as a percentage of value or price, and its amount will therefore increase

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as price rises. In such cases the gap between the two supply curves will increase at the higher prices as illustrated in Figure 5.18.

Although suppliers will be seeking to recover the full amount of any additional expenditure tax from buyers there is no guarantee they will succeed in raising the price sufficiently to achieve this. The extent to which they can recover the tax or have to absorb it in their total costs through the more efficient use of their production resources depends largely on the strength of any price resistance shown by buyers. If buyers cease to buy the product at the increased price suppliers must reconsider their position. The possible consequences of this interaction between suppliers and buyers are examined in Study Unit 6.

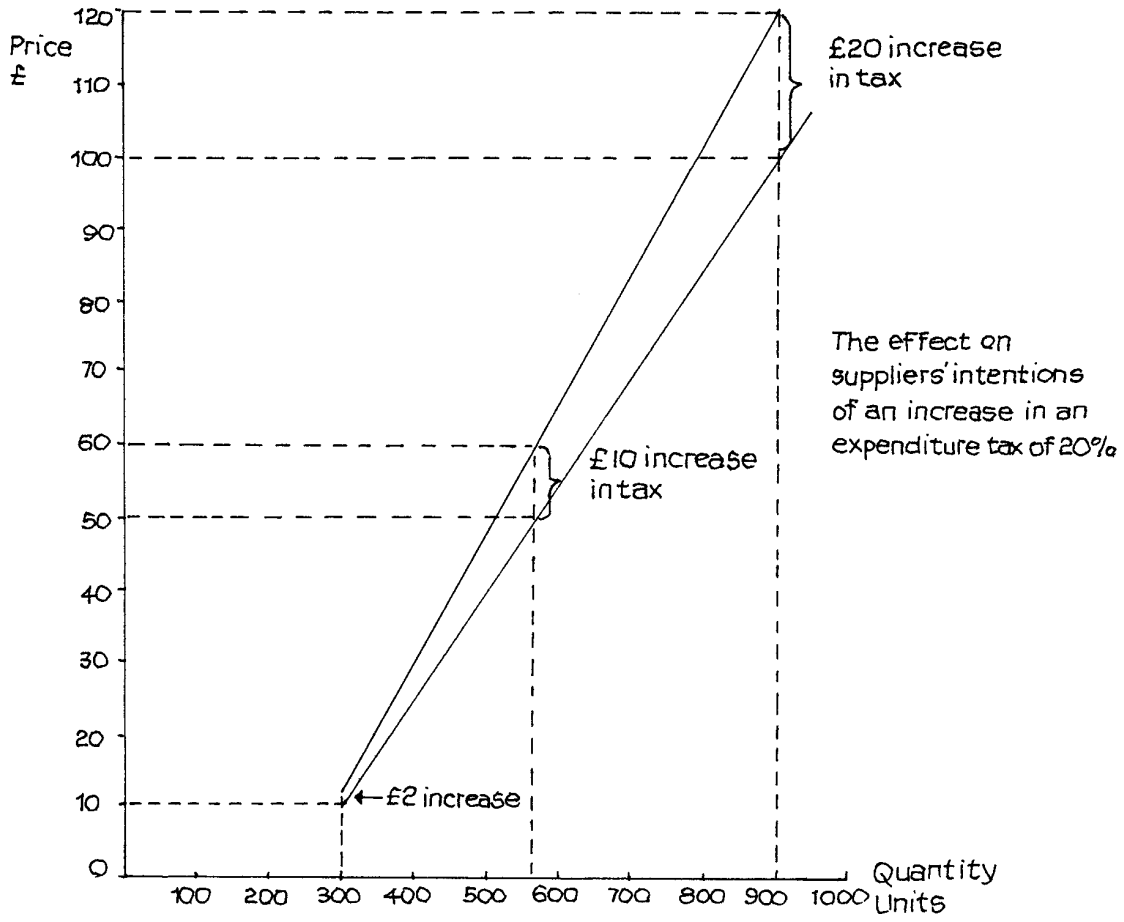

Figure 5.18

The effect on suppliers' intentions of an increase in an expenditure tax of 20%.

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Study Unit 6

Markets and Prices

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A. NATURE OF MARKETS

In economics, a market is an area within which the forces of demand and supply for a particular "economic good" can communicate and interact, so that the good can be transferred from suppliers to buyers.

This definition contains a number of important elements which have to be considered whenever we analyse a particular market or compare one market with another. Let us look at these elements.

The "Economic Good"

A "good" is any benefit which accords utility to people, and to obtain which they are prepared to sacrifice scarce resources. The term "utility" is chosen because it avoids the idea that there has to be any particular virtue in the "good". If people want something and are prepared to make some sacrifice of their resources (usually represented by money) to obtain it, then we assume they gain utility from it, even if it does them actual harm. Thus, economists may analyse the markets for tobacco or heroin.

The "good" can be a physical object, such as a motor car, or a service. It can be a consumer, or intermediate, or capital good, or a factor of production. In this course, we are concerned chiefly with consumer and production factor markets.

We must be careful to give a precise definition of any market we are considering. The total market for motor cars contains a number of subsidiary markets – e.g. for sports cars or saloon cars. We must always distinguish the market for the whole class of product from that for a particular brand or other sub-division. Thus, the market for the Mini Metro is distinct from the market for small cars – which, in turn, is distinct from that for private cars and from the market for personal transport as a whole.

Confusion sometimes arises when we are concerned with the price elasticity of demand for a product. The class or product may be price inelastic, whereas a particular brand may be price elastic. For example, petrol in general may be price inelastic, but the price of K's petrol can be price elastic. The motorist has to have petrol, but he may have the choice of a number of filling stations offering a variety of petrol brands at different prices, and he may also be prepared to go a few miles out of his way to obtain the cheapest brand of petrol.

Market Area

We need to examine the market area when considering the conditions of a particular market. The area is that within which communication takes place, and not simply where final negotiation is arranged. A sale of antiques or fine paintings may take place in a small room in London but, beforehand, catalogues may have been sent to dealers throughout the world, and many foreign buyers may be represented by their agents when the sale or auction actually takes place. In contrast, a small retail shop may be concerned with a market area restricted to a few streets or a single housing estate. The goods it sells may be available in other shops serving different market areas nearby.

Communications and Transport

The extent of the market is really determined by the efficiency of communications and the ability to transport the goods from seller to buyer. X does not really have a choice between goods A and B if he does not know that B exists, or if he has no means of comparing price or quality. Thus, if I am buying tomatoes on one side of the town, I cannot really compare them with those on sale on the other side of the town, even if someone tells me that they are several pence cheaper. I need to be sure that they are products of similar quality.

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Some markets have developed very precise descriptive terms. The use of these terms, for example, in some of the basic commodity exchanges, enables buyers and sellers to know exactly what quality goods are being traded.

There can be an effective market only if it is possible to transfer the product from seller to buyer. Any barrier to transfer will limit the market area.

Conditions of Supply and Demand

There can be a market only if there are suppliers able to deliver the goods at the time agreed, and buyers with the necessary resources to acquire them.

The good does not necessarily have to be in existence at the time it is traded, as long as there is a guarantee that it will be available when and where agreed. The ability of certain commodity markets to trade in crops not yet grown, or metals not yet mined, is well known; but a manufacturer can also agree to sell goods not yet made, and a few authors can even sell books not yet written! However, both buyer and seller must have a clear idea of the product that is to be delivered. The more precise the definition of a product, the easier it is to sell in this way.

The desire to buy must also be realistic. Many of us would like to possess an ocean-going cruiser or a private aeroplane; but few of us, unfortunately, have the resources to acquire and operate them.

B. FUNCTIONS OF MARKETS

A market has other purposes, apart from providing the means whereby a good is transferred from supplier to buyer.

Information

The market serves to convey information about the conditions of supply and demand. I may go to a furniture store, not just to buy a piece of furniture but to see what furniture is available and at what price. The better the communication system within the market, the more information I can gain about what can be bought – and the more chance I have of achieving full utility from my purchase.

This communication function works both ways. The market also informs actual and potential suppliers about the strength and pattern of demand – about what people want to acquire and what level of price they are prepared to pay. Suppliers need this information in order to plan production.

The problem from the supplier's point of view is often that the information comes too late. He has to make supply decisions before accurate information is available. The supplier wants to know today what market conditions are going to be like tomorrow. The impossibility of achieving accurate forecasts all the time is one of the main sources of business risk.

Establishing Price

Arising out of the two-way communication function is a further most important function – that of establishing the price at which the buyer is willing to buy and the supplier willing to supply. How this may be achieved is the subject of much of the rest of this study unit.

It is such an important function of the market that some large firms ensure that certain markets continue to operate only because they need a reliable mechanism for price-setting. The large manufacturing companies do not really need to buy metal on the London Metal Exchange – they can obtain all they need direct from suppliers. But they do need to know the conditions of demand and supply in the main areas where metal is bought and sold. By keeping the metal exchange in

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operation, they obtain this information, which provides a price-setting mechanism and so helps to reduce some of the uncertainties which they have to face in obtaining essential materials.

C. PRICES IN UNREGULATED MARKETS

Definition of Unregulated Market

The term "unregulated" here means not subject to any price-setting regulation. An unregulated market can be subject to detailed regulations regarding the conditions of payment and transfer and the procedures for settling disputes. These, however, assist rather than impede the free communication of buying and supplying intentions, and allow them to interact in order to establish a market price. An unregulated market is, thus, one in which the forces of supply and demand are free to interact, without any form of outside price control.

We tend to think of regulation in terms of control by the State or its agencies, but a market can, of course, be controlled in other ways. Certain local antiques auctions are reputed to have been controlled by rings of dealers who agree not to bid against each other and to share purchases among themselves after the auction. This is not an unregulated market! The prices paid for goods at such an auction are not "market" prices because they do not reflect the true conditions of demand.

Equilibrium Price

The equilibrium price is the one at which the intentions of suppliers are just matched by the intentions of buyers, i.e. where the amount of the good demanded is just equal to the amount provided. In this state there is no pressure from either supply or demand to move away from this price, so the market forces are in a state of rest – in equilibrium.

We have examined the concepts of supply and demand schedules and "curves". If we put supply and demand schedules and curves together, we can arrive at the equilibrium price, i.e. the "market" price.

Suppose we have the supply and demand schedules for the product "Whizzo" as set out in Table 6.1 and illustrated in Figure 6.1.

Price per kilo	**Quantity (kilos per week)**	
£	**Producers willing to supply**	**Consumers willing to buy**
1.50	200	700
2.00	300	675
2.50	400	650
3.00	500	625
3.50	600	600
4.00	700	575
4.50	800	550
5.00	900	525

Table 6.1: Supply and Demand Schedules for "Whizzo"

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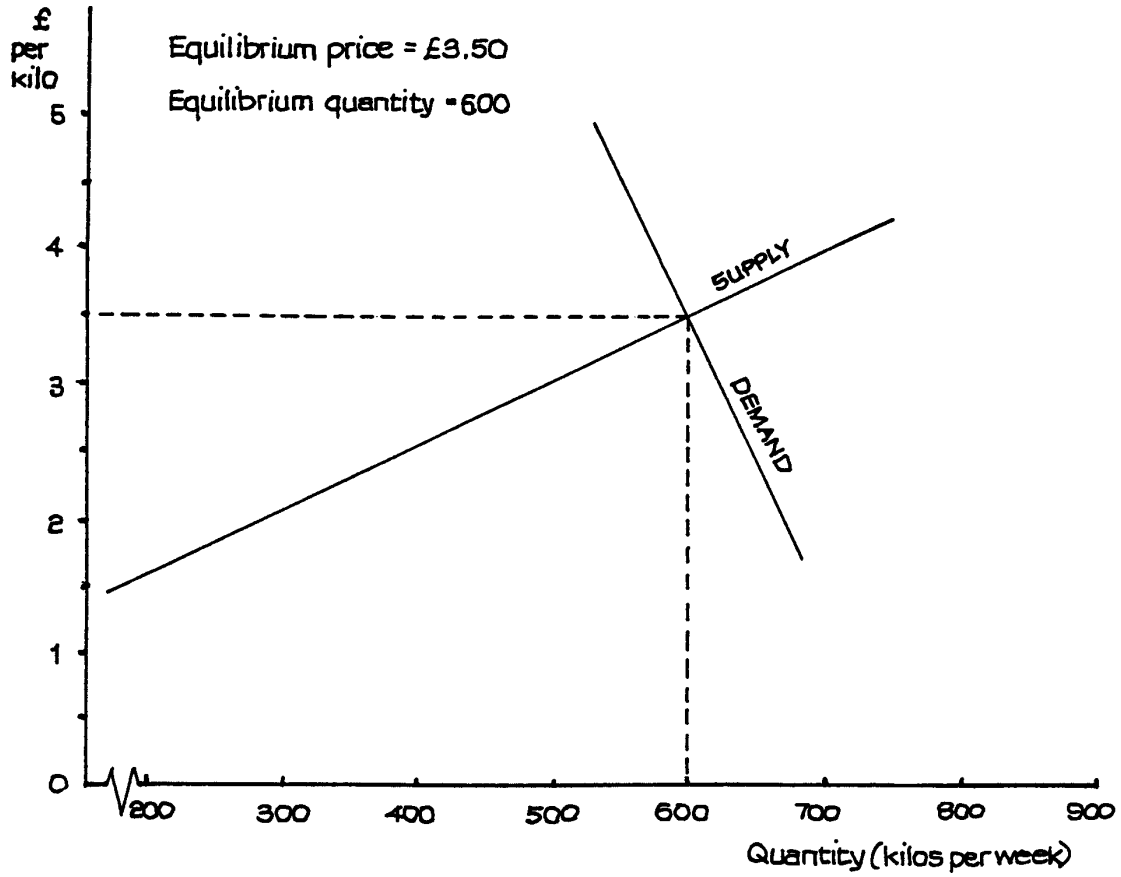

Figure 6.1

We can see from the schedules and the graph that it is only at price £3.50 (600 kilos per week) that the intentions of producers and buyers are the same. At any higher price, producers will be supplying more than buyers are willing to buy. At any lower price, producers will not be supplying enough "Whizzo" to meet demand. £3.50 is the equilibrium price, and 600 kilos per week the equilibrium quantity. As long as neither set of intentions changes, there is no incentive for any movement away from this price and quantity, once it is achieved.

Changes in Intentions – Shifts in the Curves

We can show the concept of equilibrium price and quantity in a general graphical model, as in Figure 6.2. Here, equilibrium price is Op and equilibrium quantity Oq – the price and quantity level where the supply and demand curves intersect. We can develop this approach to analyse the result of movements in the supply and demand curves.

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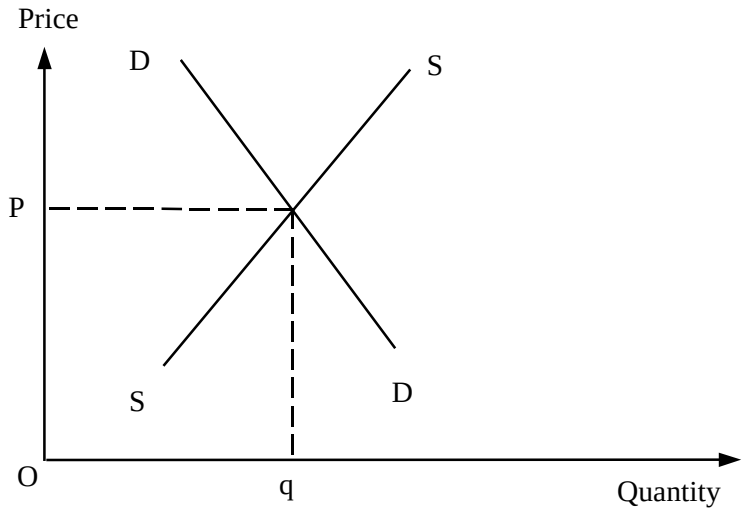

Figure 6.2

(a) Change in Either Demand or Supply

Look at Figure 6.3. Here there is a shift in buyers' intentions, caused perhaps by a change in taste, supported by an increase in advertising. The result is a movement of the demand curve from DD to D_1D_1.

In this model, supply intentions remain unchanged. The result is an increase in the equilibrium price and quantity from Op, Oq to Op_1, Oq_1.

We can use the same technique to illustrate the effect of a shift in suppliers' intentions. This is shown in Figure 6.4, where supply falls from SS to S_1S_1. Demand intentions remain unchanged (DD) and the equilibrium price and quantity move from Op, Oq to Op_1, Oq_1.

Price rises and quantity traded in this market falls.

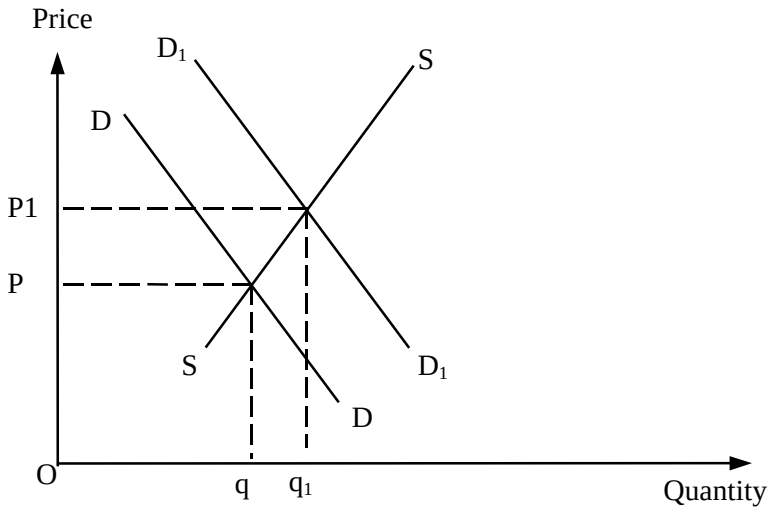

Figure 6.3

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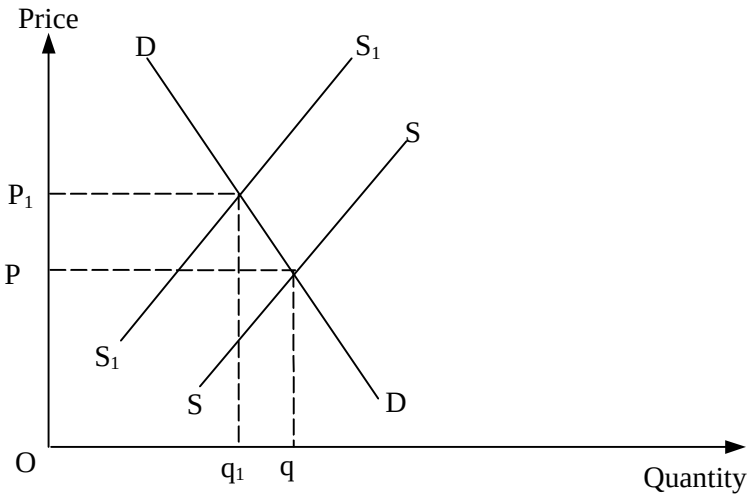

Figure 6.4

(b) Change in Both Demand and Supply

So far, we have considered only a possible shift in demand or supply. In practice, of course, a movement in one is likely to influence the other through the effect on price and quantity.

Suppose there is a major increase in demand, represented by a movement of the demand curve in Figure 6.5, from DD to D_1D_1. This shift, if supply remains unchanged at SS, results in an increase in equilibrium price from Op to Op_1, and in quantity from Oq to Oq_1.

Now suppose that this increase in quantity makes it worthwhile for one or more producers to develop new production methods, so that the good can be mass-produced at a lower unit cost. The result, after a time interval, is to shift the supply curve from SS to $S_t+ {}_1 S_t + {}_1$. Here the t + 1 indicates a change in time-period.

The new supply schedule, combined with the increased demand, produces a fresh equilibrium price and quantity at Op_{t+1}, Oq_{t+1}. We have the apparently unusual result of an increase in demand resulting in a reduction in market price. Note, however, that this can happen only when given some rather special assumptions about the stage of a product's development and the possibility for change in supply conditions.

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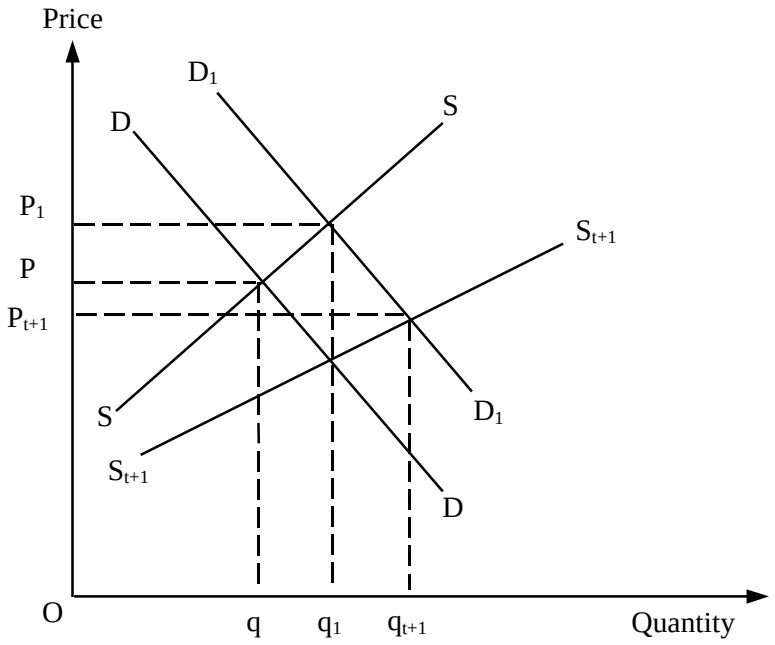

Figure 6.5

Normally, we expect an increase in demand to raise equilibrium price and quantity. This is the direct effect. The later reduction in price can result only from a shift in the supply curve, indicating a completely new set of supply conditions.

A somewhat similar process can be initiated by a change in technology allowing mass production at a reduced price. Here, there is first a shift outwards in the supply curve. Demand then rises, but not enough to stop the price from falling. Consider the market for pocket calculators in this light.

D. PRICE REGULATION

Reasons

If price and quantity will always move to an equilibrium provided economic markets are left alone, we must ask why governments and other agencies should ever wish to intervene. In practice, there are several reasons, of which the following are among the most common:

(a) Social Unacceptability

If the price resulting from an unregulated market were considered to be socially unacceptable, as causing hardship or conflict in the community, attempts might be made to control it. This could happen in a period of food shortage caused by war and/or climatic disaster, and also if there were a shortage of housing in urban areas sufficient to cause hardship and increase risks of disease, crime and other social evils.

(b) Incomes of Producers

Attempts might be made to maintain high prices if it were desired to raise the income of producers and their employees. This is one of the motives of the European Union's Common Agricultural Policy (CAP).

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(c) Stability of Supply

Some markets are notoriously unstable because of unplanned variations in supply, caused by weather and other circumstances beyond the control of producers. In these cases, attempts may be made to control prices to ensure greater stability in the market.

Effects of Price Controls

If prices are controlled without any attempt also to control demand and/or supply, the result can be the opposite of that intended. This is illustrated in Figure 6.6.

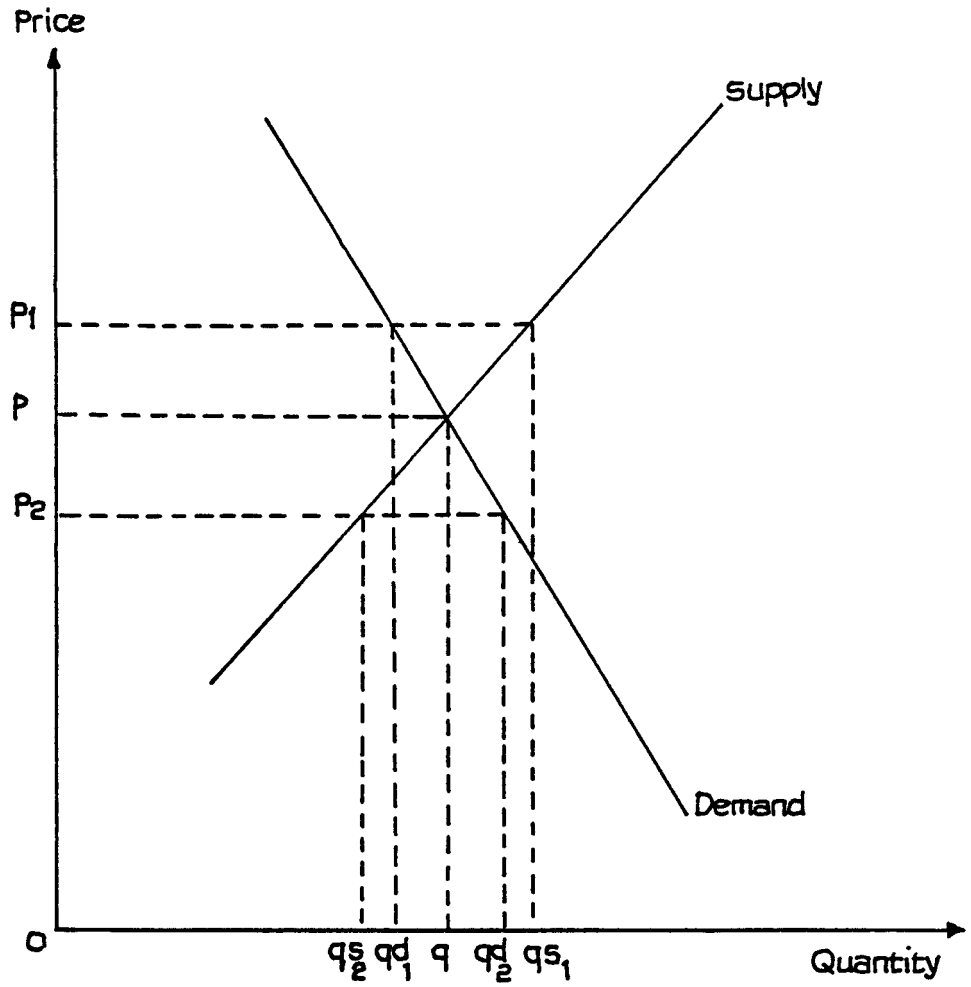

Figure 6.6

Looking at the diagram, if price is fixed at p_1, quantity supplied (qs_1) is more than that demanded (qd_1), and there is surplus production.

If price is fixed at p_2, quantity demanded (qd_2) is more than that supplied (qs_2), and there is a shortage.

Only at price p will quantity supplied = quantity demanded.

Here, we see that any attempt to fix prices at a level other than the market equilibrium price of p will produce either surplus production (fixed price $p_1 > p$) or a shortage (fixed price $p_2 < p$).

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We are forced to the conclusion that, on their own, price controls are ineffective. Governments and other bodies must identify the real problem and seek to solve that. For example, if the problem is lack of adequate supply (food or housing shortage), then the government must either increase supply, e.g. by making additional payments, called subsidies, to suppliers, or by entering the market as producers or importers, or, if these remedies are impossible, it must ration the available supply among consumers in a way that the community regards as acceptable.

Such measures may be effective, at least for a time, though they may be expensive to administer and police. The government, or other body, must decide whether the social benefits to be gained from market regulation justify the cost and opportunity costs of the resources used in maintaining the regulations. Care must also be taken to ensure that the regulations themselves do not discourage suppliers to the extent that the basic objects of the policies are defeated. The heavy bureaucracy created by many schemes in the so-called planned or socialist economies often significantly discourages total production. If the problem is excess supply, then the government may seek either to stimulate demand, e.g. by reducing prices through the payment of subsidies, or to reduce supply by encouraging or paying producers to leave the market, as in the case of European Union measures to reduce European milk and wine supplies.

The most difficult problems often involve unplanned fluctuations of supply, when the plans of regulatory bodies can be upset by unusually good – or bad – crops owing to the weather. If there are fairly regular cycles of over- and under-production, and demand is reasonably constant, and if it is possible to store the crops, then the government can apply a mixture of controls over prices and production combined with purchases of over-production to keep in store for release in periods of under-production. However, it is found that the guaranteed prices that usually form part of such policies lead inevitably to steady increases in production, so that the government finds itself storing quantities of goods that it has little hope of ever releasing for resale, except at very low prices to people in other parts of the world. It may even have to give away some of the surplus produce. Such policies then become a heavy burden on taxpayers and lead to hostility from the community.

It is clear that governments which embark on market-intervention policies may, and often do, find that they become involved in increasingly difficult and expensive measures that do very little to solve the problems they were meant to eliminate.

E. MARKET DEFECTS – THE CASE FOR A PUBLIC SECTOR

Defects in Market Allocation

In very many cases, unregulated markets and the price system are effective and efficient ways of allocating resources and, as we saw in the previous section, some forms of well-meaning government intervention can actually make worthy social objectives more difficult to achieve. Nevertheless, this does not mean that unregulated markets are always perfect. The existence of some defects is widely accepted and among the main problems are:

(a) Inequalities of Income

One of the virtues claimed for the unregulated market is that it makes the consumer sovereign and that resource allocation responds to demand pressures. However, if we imagine that consumers influence allocation by votes cast when they buy or refrain from buying goods and services, we have to admit that some consumers have more votes than others and large numbers have very few votes. Markets respond quickly to those groups which have the most purchasing

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power. This does not always ensure that resources are allocated in ways that meet the social expectations of the community.

It has always been difficult to ensure that the poorest sections of the community are adequately housed. Normal commercial suppliers of housing are unwilling to meet this demand because the people concerned cannot afford to pay the full "economic costs" of housing, i.e. it is not usually possible to make a profit from providing housing for the poor. It is much more profitable to provide second homes for the wealthy. Not only does this offend against many people's ideas of social justice, but the housing problem rebounds against the community, for which it causes extra costs because inadequate housing leads to poor health, disease, crime and a wide range of social problems that become a charge on the taxpayers. Only the State can intervene to improve housing for the poor. It cannot do so simply by holding down rents. It has to promote supply either by setting up State suppliers or by subsidising private suppliers so that supply becomes profitable.

(b) Market Power of Some Large Suppliers

Consumers may not always be as powerful as introductory economic theory suggests. Later we will learn about markets dominated by large firms. If such firms become very powerful, they can influence both supply and demand through controlling the goods allowed into the market and by heavy advertising. Governments of most large market-economy nations are often accused of failing to take action to check the sale of tobacco and alcohol – both of which are potentially dangerous to health and society – because of the power of the tobacco and alcohol producing companies. Even more notorious is the extremely powerful "gun lobby" in the USA.

(c) Deficiencies in the Supply of Public Goods

The market economy operates on the principle of self-interest. Consumers wish to maximise their own utility; producers their profit. In most cases this works to the public benefit but not always. If it is in no one's interest to provide a community or public good, it will not be provided without the intervention of the political machinery of the State. Public sewers, public roads and transport, police and social services, even fire services, fall into this class. The community clearly needs adequate services but left to the market only the wealthy would attempt to purchase their own, and the community as a whole would be subject to the risk of contagious diseases, unchecked crime and fires.

The Case for a Public Sector and its Boundaries

In noting the defects of the market economy as a means of allocating resources we have, in effect, made a case for a public sector within which the State, through its political structures, makes good the gaps and deficiencies of the unregulated market. The State can ensure that there is a minimum standard of housing for those with low incomes, can build roads and establish communication systems. It can build sewerage systems and a system of piped, clean water, provide police and fire services and a health and education service to ensure that all who are sick obtain medical care regardless of income and all children achieve a minimum level of education essential for survival in the modern world.

In communities with high living standards the question then arises as to how far State provision should go in the provision of public goods which at some stage tend to become private goods.

Let us take a closer look at two particular, high-profile issues.

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(a) Education

Most would accept the need for all to receive a basic education, but this does not necessarily mean that all who wish to do so should have the right to free education to doctorate level. Since there is evidence that, on average (but not, of course, for all individuals) there is a correlation between income level and length of time spent in full-time education, then education beyond the minimum represents a personal capital investment and many would argue that such education should be paid for by those who will benefit from it. Counter arguments are that the community benefits from the contribution of its most highly skilled and educated members (e.g. brain surgeons) and should, therefore, pay to obtain the maximum potential from its scarce human resources, and also that those who earn high incomes normally pay the most taxes and thus pay eventually for the education they received. There is no clear right or wrong answer to this debate but you can see that the precise boundaries between the public and private sector in the supply of goods such as education are not clear-cut and the matter is arguable.

(b) Health Care

Another area of public controversy is the provision of health care. The community clearly needs a health service if only to defend itself against dangerous diseases which could quickly become plagues if large numbers of people could not afford treatment. Most people's ideas of social justice would accept that a person stricken by accident or sickness should receive treatment regardless of income. However, should this mean that all forms of treatment should be available for all regardless of income? Should the diseases of greed and over-indulgence be given the same care as those of poverty and ignorance? If people can afford to pay for additional treatment or for more comfortable treatment, or non-urgent treatment at times that suit them rather than at times that suit a bureaucratic administration, is there any reason why they should not do so? No one passes moral judgment on those who choose to spend their income on exotic holidays rather than a fortnight at Benidorm, yet many pass such judgment on those who prefer to pay for a private room when they are in hospital instead of sharing a public ward.

Clearly many of the arguments surrounding health care involve emotionally charged value judgments resulting from past social injustices and history, but there are also serious economic considerations involved. The economist is concerned with the allocation of scarce resources and we have to recognise that resources devoted to health care are scarce. The march of technology and medical science has made possible cures and treatments unimaginable when the National Health Service commenced in the 1940s. Open heart and transplant surgery require a massive investment in resources but benefit only a relatively few people. The proportion of old people is far greater than in the 1940s and the demands they make for health care are proportionally much greater also. Not even the most wealthy and advanced nation can provide all the resources that would be required to give immediate treatment to all those wanting it. Difficult allocation decisions have to be made and are made daily.

On the other hand it can be argued that a private health system which permits scarce resources to be allocated on the basis of ability to pay, or by virtue of employment in a company that provides health insurance as part of its remuneration, is diverting resources from areas of greater personal or social need. One person suffers pain so that a consultant can earn a private income treating a less urgent patient in a private hospital. On the other hand it can be argued that the private health service brings in resources that would otherwise not be available. The consultant is willing to work for a relatively low level of pay from the National Health Service because he or she can have the additional income from private patients. Without this, the best

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surgeons would possibly go to countries where earnings were higher. Private hospitals relieve the public health service of many patients and reduce its need for expensive capital equipment. The debate can again continue with no clear right or wrong.

The basic problem is really one of allocation of scarce resources and the public versus private health service is only part of a much larger economic and social issue which concerns to whom, how and on what basis resources should be allocated for health care. How should the community decide what proportion of available scarce resources should be devoted to the technically brilliant feats of surgery which bring acclaim to surgeons and enable them to attend conferences in exotic countries and how much to the unglamorous, humdrum work of caring for the mentally ill for whom there is no hope of cure and little chance of international laurels for the carer? The unregulated market will not provide an answer, nor will a medical service subject to all the usual human vanities and frailties. The answer must eventually come through the political machinery of the community and the quality of the answer will reflect the health of that machinery.

Similar issues can be applied to virtually every other public sector and public utility service and you should give some thought to the allocation problems inherent in, say, police, fire, water, and housing services.

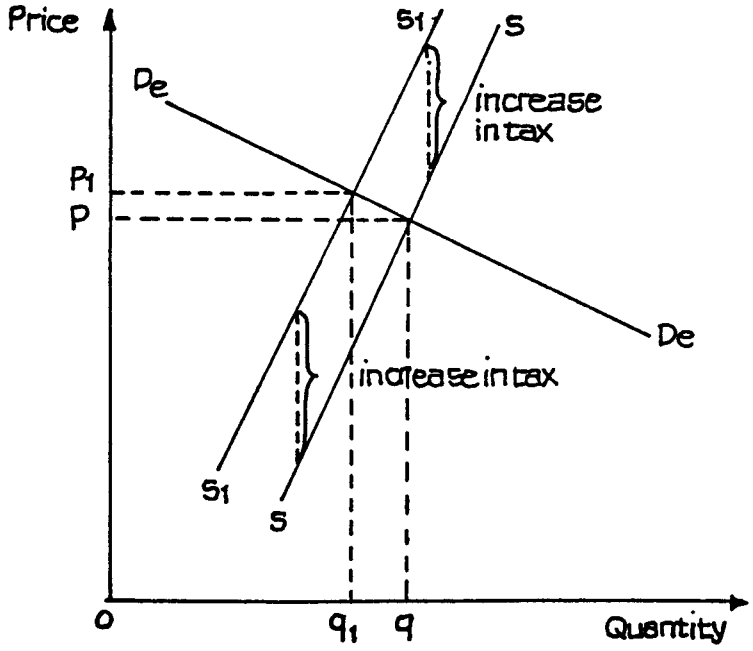

Figure 6.7

F. PRICE CHANGES AND INDIRECT TAXES AND SUBSIDIES

Effect of Tax on Price

In Study Unit 5 we saw how the supply curve was likely to shift as a result of a change in an indirect tax or subsidy. For the likely effect on market price, however, it is also necessary to take account of the conditions of demand since it is likely that the producer's efforts to recoup the tax by adding this to the price will leave the quantity demanded in the market unchanged.

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Look now at Figure 6.7. Here we show the movement of the supply curve from SS to S_1S_1 (resulting from the increase in tax) and the demand curve D_eD_e. The equilibrium price moves up (from Op to Op_1) but by an amount less than the increase in tax. The amount supplied to the market falls from Oq to Oq_1 and the output/quantity fall is greater than the price rise.

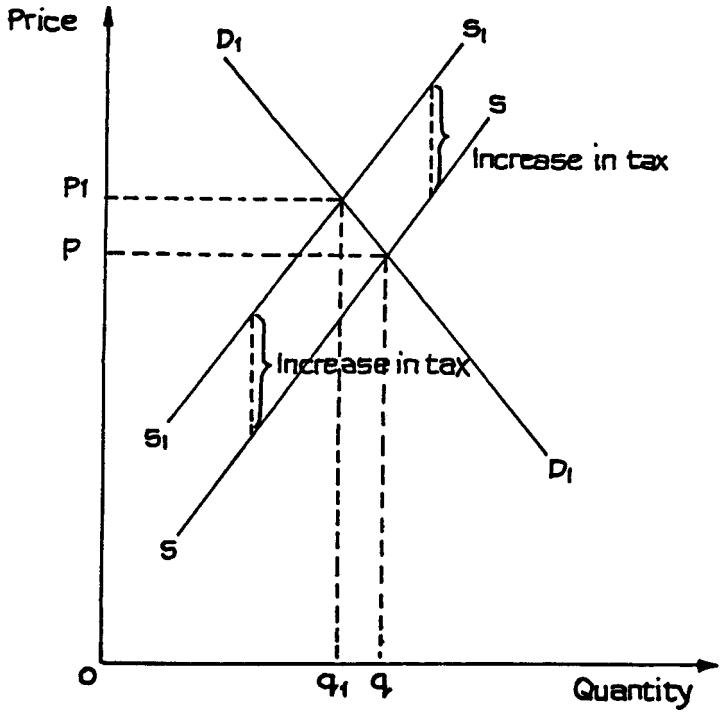

Figure 6.8

Now look at Figure 6.8. Here we have the shift in supply curve SS to S_1S_1 and a demand curve D_1D_1. Again we have an increase in equilibrium price (Op to Op_1) and a reduction in quantity supplied (Oq to Oq_1). This time, however, the reduction in quantity is less than the increase in price.

Why the difference in the two situations? You will have noticed that the curve D_1D_1 is much steeper than D_eD_e. This reflects the fact that demand in Figure 6.7 is more price elastic than demand in Figure 6.8. The two illustrations show that the more price elastic the demand for a product is, the smaller will be the market-price increase following an increase in indirect tax, and the greater will be the cutback in supply to the market.

This, after all, is really common sense. Price elasticity indicates the degree of responsiveness of quantity demanded to any change in price.

Subsidies

The effect of a subsidy will be the exact reverse of that of the tax. Instead of the movement of the supply curve from SS to S_1S_1 there is an increase in supply at all prices, i.e. as from S_1S_1 to SS, and there will be a reduction in market price, as from Op_1 to Op. Such a reduction is likely to have been the main government objective in arranging the subsidy, particularly if the good is a "socially worthy" one such as a basic food in a time of shortage, housing, or a service such as education or health care.

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Remember also that the new supply curve need not be exactly parallel to the original before the tax or subsidy change. If the tax, or subsidy increases with value, i.e. is an *ad valorem* tax or subsidy, the gap between the curves will increase as price rises, as illustrated in Figure 5.17.

Government Use of Indirect Taxes

If the government increases indirect tax on goods which are price elastic, it will not receive much extra tax but it will depress demand. If it imposes the tax on goods which are price inelastic, it will not have much effect on output but the government will collect more tax revenue.

If you think back to when we discussed the "income effect" you will realise that the effect of the tax may go further. Suppose there is a general increase in indirect tax on all goods. Some will be demand price inelastic, and their pricing will increase without much reduction in the amount supplied and bought. The buyers are paying more for nearly the same quantity of goods. This means they have less income to spend on other goods – they will have to cut purchases of goods which are price elastic.

The unfortunate producers of price-elastic goods will suffer a double blow. They will suffer a drop in demand from the tax increase and not be able to increase price by anything like the full amount of the tax, and they will suffer a further drop in demand because consumers' discretionary incomes have fallen. It is no surprise, then, that business bankruptcies began to increase rapidly in the UK after a general increase in VAT.

We have so far assumed that these taxes would be used either to increase government revenues or to reduce consumer demand if the government believed that excess demand was causing inflation. There is, however, another aspect of government policy that is not beginning to appear: this is the control of pollution, which is now recognised as a significant problem.

As indirect tax on expenditure could be used as in instrument to reduce demand, and hence the production or use of something that was believed to be a source of pollution. An example would be an additional tax on petrol to discourage the use of motor vehicles. However, as the demand for petrol is price inelastic then the tax will not have much effect on vehicle use but will reduce consumer incomes available for spending on other goods. One of the main reasons why demand for petrol for car use is price inelastic is because of the lack of satisfactory substitutes. As motor vehicle ownership has increased the demand for, and supply of, public transport has fallen; and as public transport provision falls and its price rises so even more people are induced to use their own private cars.

We conclude, therefore, that a "pollution tax" on petrol would fail in its objective unless the government also made provision for, and probably subsidised, alternative public transport, at least in urban areas where cars are used for travel to work and for relatively short journeys. If the government also wished to discourage car use for longer journeys it would need to provide alternatives, probably in the form of subsidised rail travel combined with coal transport to convey people from the main rail-heads. A tax is a very blunt instrument and a government wishing to influence consumer behaviour needs to take many aspects into account. It is not sufficient simply to increase the price of the good whose use it wishes to discourage.

Reverting to our general discussion of the effects of taxes on prices, notice that we have not taken into account differing elasticities of supply. This is because supply reactions will take place over a period of time. If suppliers can react by cutting back supply fairly quickly, then there will be further effects on market price. You can examine these for yourself by changing the supply curve to make it more elastic in Figures 6.7 and 6.8.

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Study Unit 7

Market Structures and Competition

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Movement towards Equilibrium in Perfectly Competitive Markets

We can now examine the behaviour of firms operating under conditions of perfect competition.

If we assume that the firm is experiencing diminishing marginal returns and can sell all it can produce at the market price, over which it has no control, then it will have average and marginal cost curves and an average revenue curve as shown in Figure 7.1. Since all units of the good are sold at the same price whatever the firm's sales level, price will equal average revenue and will also be the same as marginal revenue.

Suppose the price resulting from the interaction of supply and demand in the market as a whole is Op; then there is no level of output at which the firm can produce at a profit.

At all levels of output price, average revenue is below the average cost curve. However, the profit-maximising condition of marginal cost = marginal revenue is also the loss-minimising condition, so the best output for the firm to choose is at Oq where marginal cost equals marginal revenue. At this output level, average cost at Oc is higher than average revenue at Op, so the firm suffers a loss equal to the shaded area cdbp.

Given the conditions for perfect competition, if this is the situation faced by one firm, it is the situation of all firms subject to the same market information and technology. Firms cannot continue indefinitely suffering losses. Some will withdraw from the market (remember that unrestricted entry and exit is another condition of this market) because they are less able to withstand losses or they have other markets they can enter. As supply declines, the total market supply curve moves to the left, as shown in Figure 7.2.

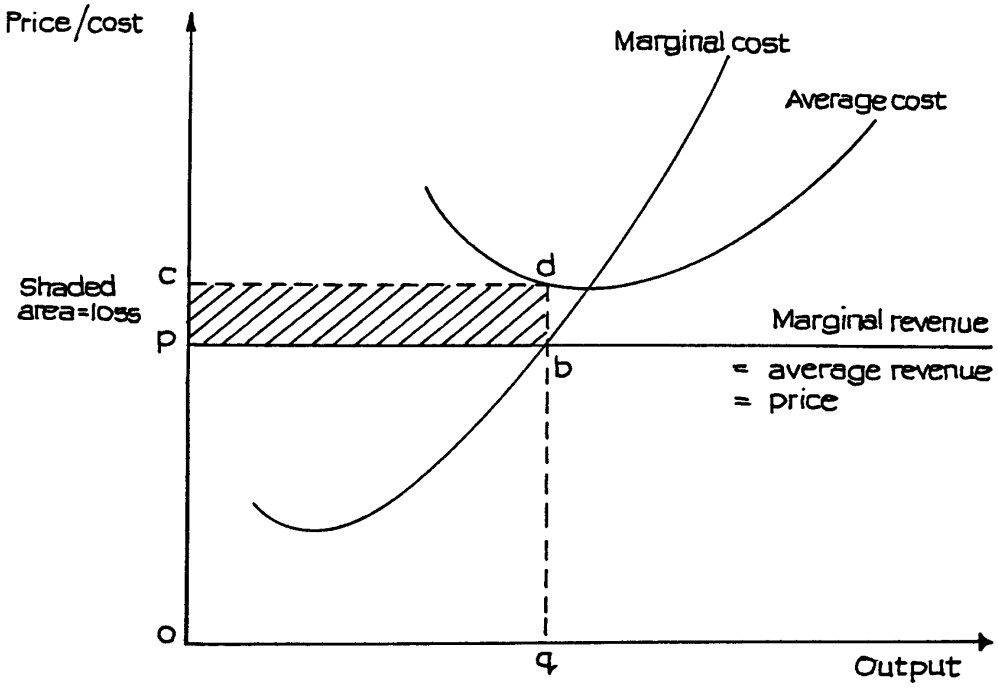

Figure 7.1

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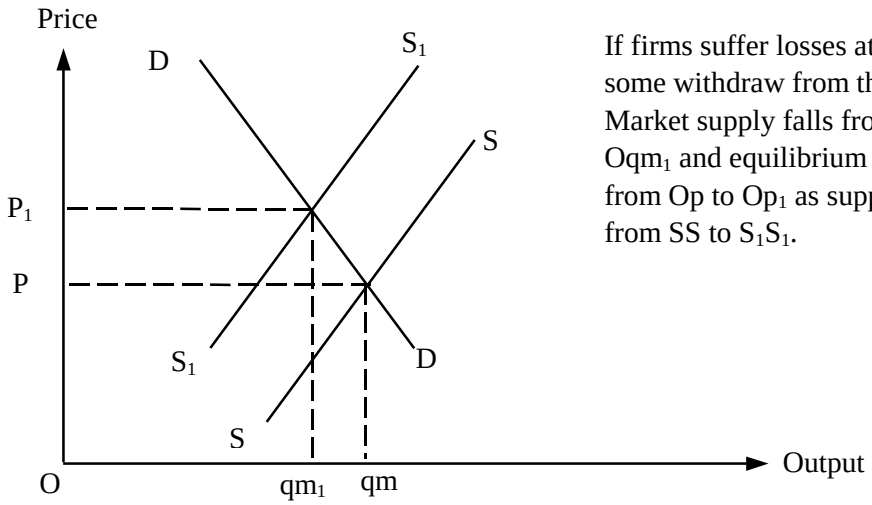

If firms suffer losses at price Op_1 some withdraw from the market. Market supply falls from Oqm to Oqm_1 and equilibrium price rises from Op to Op_1 as supply shifts from SS to S_1S_1.

Figure 7.2

The market equilibrium price then rises – assuming that demand remains unchanged. Supposing the equilibrium price moves up from Op to Op_1, this produces the situation for the individual firm illustrated by Figure 7.3.

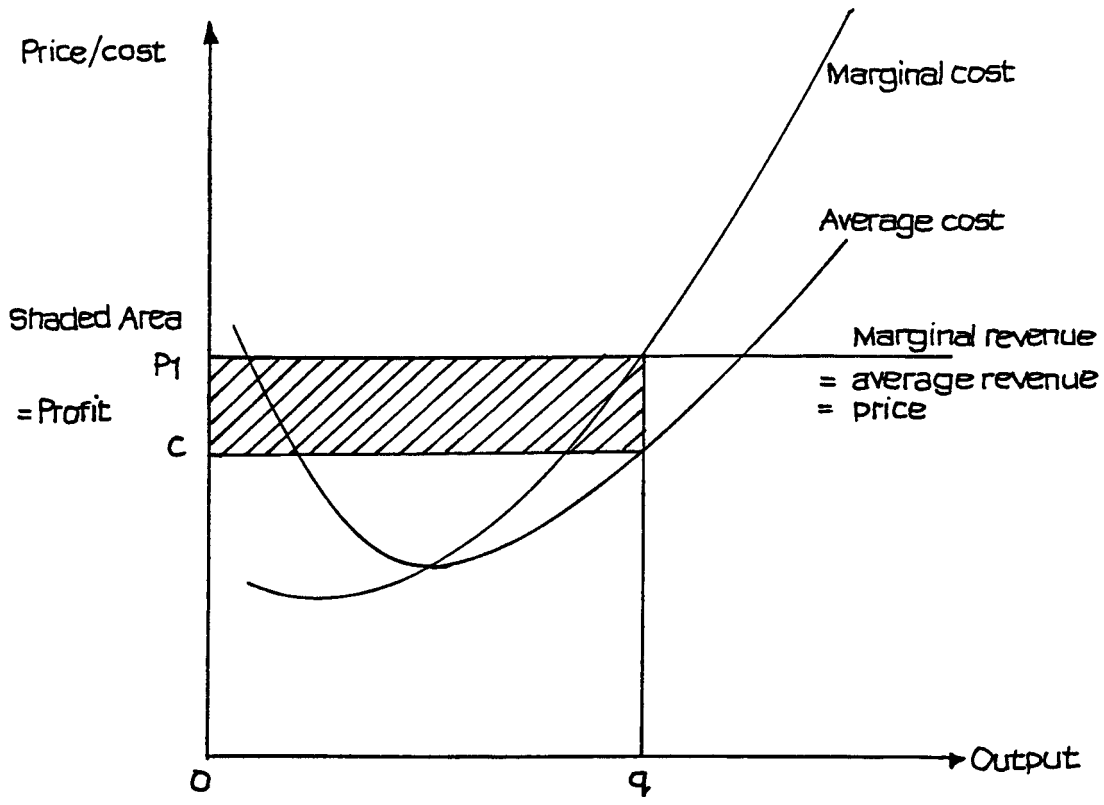

Figure 7.3

Now we see that the average revenue at Op_1 is higher than average cost at Oc, and the firm is enjoying profits, represented by the shaded area. Notice that, once again, the most profitable output to aim at is at Oq, where marginal cost is just equal to marginal revenue.

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Now, given our earlier assumptions, all firms are making profits. If we have defined cost to include a normal return to **all** production factors (including some return to enterprise in the form of a minimum profit to keep firms in the market and provide necessary capital investment) then this shaded area profit is an additional or abnormal profit, resulting only from the special market opportunities.

Owing to perfect communication and free entry, new firms will enter the market to take advantage of these profits. Supply will now increase – the supply curve will move to the right and equilibrium price will fall.

Suppose it falls to a position between Op and Op_1, say to Op_e where price/average revenue is just equal to average cost. Now the individual firm is in the position illustrated in Figure 7.4. Here, there is neither abnormal profit nor loss. We assume that the firm's costs include an element of normal profit, which can be defined as a fair return to the firm's enterprise, or sometimes as that amount of profit which is sufficient to keep firms operating in that market. This normal profit is included, therefore, in the average cost curve. There is no incentive for firms to move into or out of the market; there is no reason why supply should shift – and, as long as demand remains unchanged, there is no reason for any movement in this equilibrium balance.

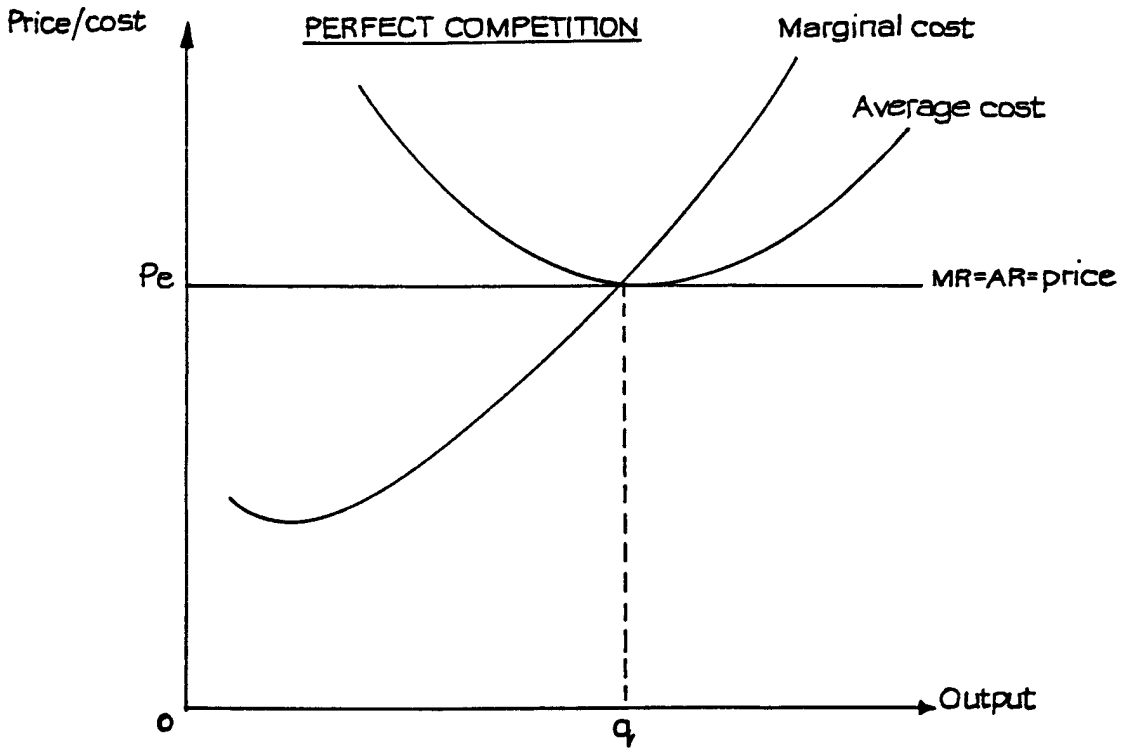

Figure 7.4

It is on the basis of this kind of argument that textbooks and examiners sometimes make much of the distinction between **short-run equilibrium** in perfect competition where abnormal profits or losses can be experienced, and **long-run equilibrium** where only "normal" profits (included in the average total cost curve) are possible. However, we should stress that these are really only partial equilibrium positions relating to supply alone. The model says nothing about influences on demand which is often far from stable. A shift in demand will be quickly reflected in a shift in supply to readjust output to the new market price. Consequently, in markets where demand is inherently unstable – as in the Stock and Commodity Exchanges – long-run equilibrium may never be reached as suppliers are constantly adapting to the shifting market environment.

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Views on Perfect Competition

Economists often favour perfect competition on the following grounds:

(a) The elimination of abnormal profit, as shown in Figure 7.4.

(b) Efficient use of resources. Notice that, in equilibrium, the bringing together of price and marginal cost and the elimination of abnormal profit means that producers will produce when the average cost curve is at its lowest point (where marginal cost equals average cost). There is then a tendency to encourage producers to reduce average costs as much as possible. This is equivalent to making the most efficient use of resources.

(c) Price is equal to marginal cost. Price is the money value of the utility gained by the last or marginal consumer, i.e. **marginal utility**. When marginal cost = marginal utility, as in perfect competition, the cost of producing the last unit is just equal to the value of the utility given by that unit to its consumer. If this were true in all cases, then the total cost of production would equal the total value of utility received. This would be the best possible use of all resources, it is suggested.

Not everyone accepts these arguments, and you should read this section in conjunction with the discussion of monopoly, later.

One of the arguments against perfect competition is that it prevents producers from making the profit necessary to provide funds for investment and research, to find better ways of producing goods. Another argument is that competition can be wasteful, as resources are doing the same things. If there were fewer competing firms, total costs could be reduced and some resources freed to produce something else.

Firms dislike perfect competition because, as indicated earlier, prices are unstable. If communications are good, then supply can adapt very quickly to price changes caused by changes in demand. The result is that prices are constantly adapting to new equilibrium positions – as with the Stock Exchange, which is still the common textbook example of a market which is close to perfect competition. In the Stock Exchange, prices change daily, and even hourly.

Manufacturers cannot tolerate swiftly-moving prices like this – they could survive in such a market only if they could keep changing the prices paid for production factors, including the wages paid to workers. Trade unions have sought to achieve stable jobs – and, preferably, rising wages. Producers then want stable – and, preferably, rising – prices. Those economists who argue for perfect competition in the consumer interest, and then for stable wages and secure employment, are being illogical. These two conditions cannot exist together.

Perfect competition may or may not, therefore, be ideal from a purely economic viewpoint. It is certainly far from ideal from a social standpoint.

Profit Maximisation as a Result of Perfect Competition

Notice that the only output enabling the firm to survive in the equilibrium condition illustrated in Figure 7.4 is where marginal cost equals marginal revenue. The removal of abnormal profit ensures that the average cost curve is at a tangent to the average revenue curve, and as this is horizontal, then the average cost curve must be at a tangent at its lowest point, i.e. where average cost equals marginal cost.

This is what is meant by saying profit maximisation is a survival condition resulting from perfect competition. Only by achieving this profit-maximising output can the individual firm avoid losses. Whether it achieves this intentionally or by trial and error does not matter; failure to achieve it means eventual failure to exist in the market.

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C. MONOPOLY

Definition

Monopoly is the opposite extreme to perfect competition. It exists when there is only one supplier for a particular product and there are no close substitutes for that product.

Again, we have to be careful how we define the product. For example, The Post Office has a monopoly in the delivery of low-price letter mail in Britain; but it does not have a monopoly in personal and business communication, and in recent years the volume of letter mail has declined in the face of competition from the telephone and the fax and from private firms of leaflet distributors. In the future it is likely to face more competition from E-mail and services using the so-called information "super highway". Historically almost all monopolies are subject to destruction by the onward march of technology.

Sources of Monopoly

Monopoly can arise in three ways: by operation of the law, by possession of a unique feature, or by the achievement of market control.

(a) Operation of Law

This is a very old source of monopoly power. Kings used to sell monopolies in Europe to raise money, i.e. they sold people the right to be sole suppliers of a necessary product, such as salt, in a given area. The monopolist could rely on the support of the King's officers to protect his monopoly and the profits he could make more than covered the fee he had to pay for his position.

Today, some countries may grant a company the right to be sole supplier of a product or service (e.g. telephones) in return for some measure of State inspection and control over profits and prices. In Britain, before 1979, it was usual for such monopolies to be public corporations under public ownership and control. This has been changed by the privatisation programme, which has resulted in a policy of separating regulation from operation. Some important public utilities, e.g. British Telecom and British Gas, are now legally companies in the private sector but are subject to government influence as a shareholder, and regulation by separate bodies such as OFTEL and OFGAS. Similar bodies have been set up for the privatised electricity and water industries (OFFER and OFWAT respectively).

A more limited monopoly power is granted under patent and copyright laws, which are similar in most countries. The idea of a patent is that the inventor of a new idea shares his knowledge with the State for the public benefit, in return for a monopoly control over the use of his idea for a limited number of years. If rival suppliers are unable to develop a competing product without breaking the patent, this form of monopoly can be very valuable – take, for example, the monopoly enjoyed for some years by the Polaroid instant film-developing process.

(b) Possession of a Unique Feature

Individuals have monopoly control over the supply of their own skills, and this may be a source of considerable profit. The top footballers, tennis players and entertainers are monopolists of this type. When the skill lies in producing something written or recorded, then the monopoly position is protected by copyright laws – which, however, modern technology has made more difficult to enforce.

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(c) Market Control

It is difficult to achieve total monopoly over supply without the protection of the law, although it is not unknown – especially in the production of some intermediate products. For a number of years, all the valves for pneumatic tyres on British motor vehicles were produced by one manufacturer. Such a monopoly rarely lasts very long. When a large rival decides to challenge the monopolist, there is little that can be done to prevent this.

The Monopoly Model

The model has been developed to explain the outcome of a monopoly not subject to any special legal protection or control. It assumes that the firm is pursuing a profit-maximising objective, and that it is able to make abnormal profits.

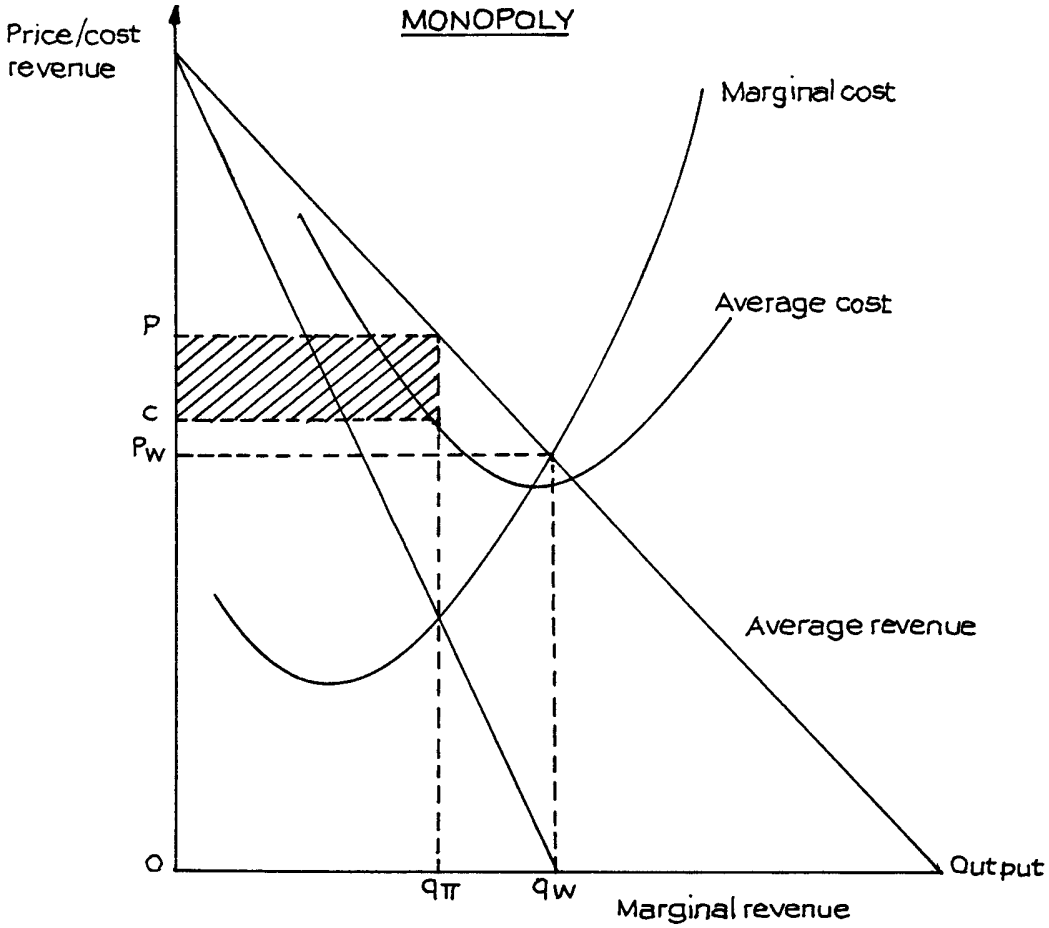

Figure 7.5

A monopolist's output is the total market supply, and the demand for its product is the total market demand. The firm will thus face a downward-sloping demand curve. If we assume that it is not practising price discrimination, then this curve will be the price/average revenue curve. The graphical model is shown in Figure 7.5.

The profit-maximising monopolist will produce at output Oq_{π}, where marginal cost equals marginal revenue, and will charge price Op. Abnormal profit is represented by the shaded area. Oc is the average cost, so Op – Oc is the average profit earned on each unit of product sold.

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If the firm were to set price to equal marginal cost, which is the position desirable from the consumer viewpoint, it would produce output Oq_w and charge the lower price Op_w. This is why the profit-maximising monopolist is said to restrict output and increase price in comparison with a firm operating in a competitive market.

Comment

There is much evidence that large firms with considerable market power may **not** maximise profits but may pursue quite different objectives, such as growth or sales revenue maximisation. The average cost curve was drawn on the basis that abnormal profit was being made. There is nothing in the model itself that says that the average cost curve must be this shape and in this position. We can move it up or down without affecting the other curves, and so alter the profit quite legitimately.

In short, the model **proves** nothing. It simply illustrates the assumptions made. Notice that, if we drop the profit-maximising requirement, we can allow the firm to increase output and reduce price, and so come closer to the consumer-benefiting output level of Oqw. This would also reduce average cost and allow the firm to make more efficient use of its resources.

In answer to the charge that monopoly is against the public interest because it restricts output and raises price, the following arguments can be put forward:

(a) The monopolist's size and ability to produce for the whole market enables it to achieve economies of scale, so that costs are actually lower than they would be under perfect competition.

(b) The monopolist employs professional managers who make more efficient use of available resources than small owner/managers, who often lack managerial skill.

(c) The monopolist does not maximise profits but is content with just a satisfactory level of profit.

(d) Some element of abnormal or monopoly profit (normal profit is considered to be included in the firm's costs as for perfect competition) is desirable, so that the firm can:

  (i) spend money on research and gather funds for further capital investment;

  (ii) have the incentive to take risks and innovate, and sometimes suffer losses that would cripple smaller firms.

The position where a monopolist is actually able to charge lower prices than would be possible under perfect competition is illustrated in Figure 7.6. Here, for simplicity, constant average total costs have been assumed and the monopolist's cost curve is below that of small firms by reason of economies of scale and improved technology. Assuming that the monopolist seeks to maximise profits, the appropriate price will be Pm, still higher than the perfectly competitive price of Pc. However, this could be reduced if the monopolist had some other objective such as maximising growth or revenue. The revenue-maximising price (Pr), i.e. the price applicable to producing at the quantity level where marginal revenue is 0, and therefore total revenue is at its maximum, is lower than the perfectly competitive price of Pc. Notice that, unlike the firm under perfect competition, the monopolist can charge a range of prices, depending upon the firm's objectives, and still make a profit.

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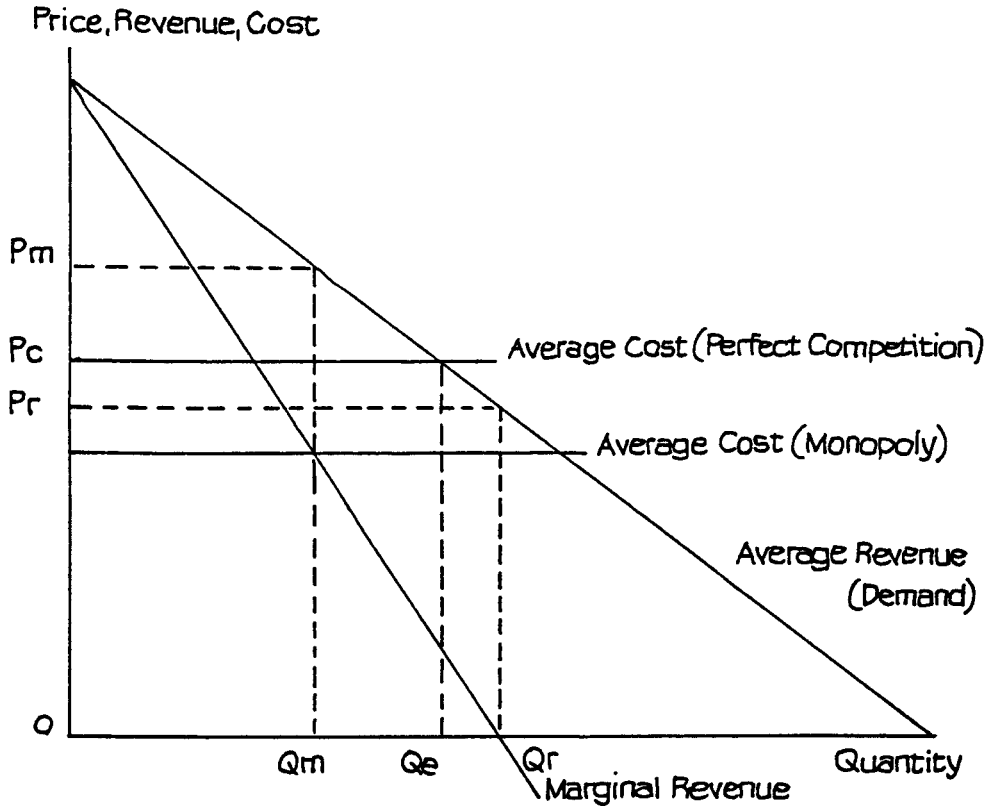

Figure 7.6: Price and Output Under Perfect Competition and Monopoly

The argument really boils down to a question of performance. Does the monopolist behave against the community interest or does it achieve levels of efficiency beyond the capacity of small firms operating in highly competitive markets? There is no clear answer. As the extreme cases of monopoly are fairly rare in practice, examination is usually made of markets which approach monopoly conditions.

If the demand curve faced by the monopolist shifts, this will alter the marginal revenue curve and consequently the profit-maximising output and price. However, we cannot assume that the demand curve will simply move outwards parallel to the old one. It is possible that its slope may change (become steeper or less steep). Consequently, while normally we would expect an increase in demand at all prices to lead to an increase in monopoly price (assuming costs remained unchanged), we cannot be absolutely sure of this. Try experimenting with differently sloped average revenue curves. Remember that the marginal revenue must bisect (cut into two equal halves) the horizontal distance between the average revenue curve and the revenue (vertical) axis. You will find that there are changes that could produce a reduction in the profit-maximising price!

D. MONOPOLISTIC COMPETITION

Main Features

Monopolistic competition still retains many of the features of perfect competition – unrestricted entry to and exit from the market, good (but not perfect) communication and transport conditions, motivation by economic considerations only, and the perception by buyers that the products of the various firms are good substitutes for each other.

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It is in this last point that monopolistic competition differs from perfect competition. Although the products are considered to be good substitutes, they are not homogeneous. Buyers **do** express preference for one seller's product as opposed to another's.

Sellers seek to increase this preference by differentiating their product through branding (giving it distinguishing features) and especially by advertising. The greater the degree of preference they can establish, the stronger the brand loyalty and the greater the freedom gained by the supplier from needing to follow the market price for that class of product. Success brings an increased degree of market power and a reduction in price elasticity of demand.

General Model

In the general model of monopolistic competition, however, we assume that the individual firm is not able to achieve a high degree of price inelasticity, so that the demand curve for the individual product has only a fairly gentle slope, i.e. there is still a high degree of substitutability between competing brands. This prevents the individual firm from making monopoly profits. It is still closely governed by the market price for the class of product. The result is shown in Figure 7.7.

Features of this model are outlined below.

- There is no abnormal or monopoly profit, i.e. average cost equals price/average revenue at Op and, as for perfect competition and monopoly, it includes an element of normal profit.
- At the profit-maximising output of Oq, average cost is still falling to its minimum at Oc, where average cost is equal to marginal cost – the output level where the rising marginal cost curve cuts the bottom of the average cost curve.
- Price (at Op) is above marginal cost (Om) at the profit-maximising output Oq.

Price is thus higher and output lower than would be the case if price were to be equal to marginal cost, as in perfect competition. The lack of monopoly profit is the result of competition and the ability of firms to enter and leave the market.

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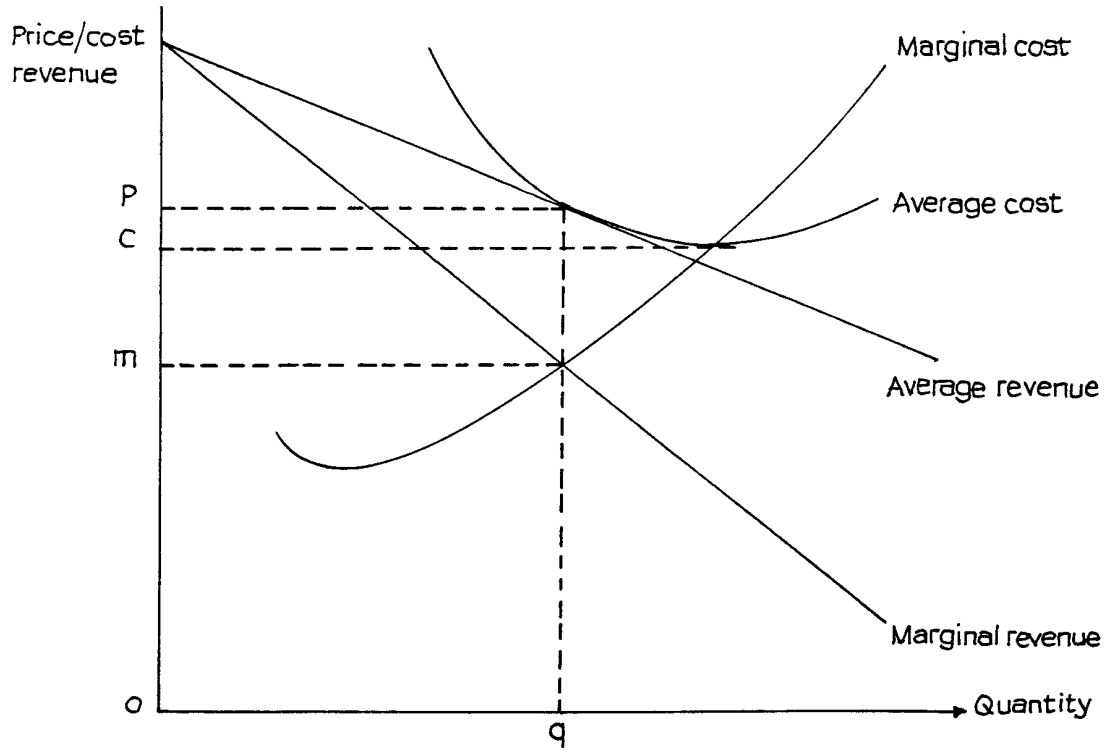

Figure 7.7: Monopolistic Competition

Comment

It can be argued that this market structure is not really in the best interests of either consumers or business firms, for the following reasons:

- Price is higher and output lower than would be the case with perfect competition.
- The firm is not making the best use of its resources, since average cost is still falling at output Oq, as we saw a moment ago.
- Profits are confined to the normal minimum required to keep firms in the market – the amount included in our definition of costs for the purposes of these market models. They cannot achieve the profits needed for investment and research or the high output levels necessary for economies of scale.

It is also argued, however, that consumers are prepared to accept these additional prices and costs in return for the benefits they receive through greater choice of product – the ability to choose between competing brands and competing suppliers. This competition may also lead to improvements in product quality and design as well as services to the consumer.

We can expect firms operating in such market conditions to seek to increase their monopoly power and make their product-demand curves less elastic. They will do this by brand advertising, by securing favourable treatment from distribution organisations or through technical improvements in their products. They may be able to keep an advantage by securing patent protection or keeping processes secret from their competitors.

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E. OLIGOPOLY

Oligopoly is the market structure where supply is controlled by a few firms which are large in relation to the market size. Very often the firms are also large by any standards, and are likely to be oligopolists in several markets. (For example, Unilever is a very large company which supplies major brands of many grocery products, including "Bird's Eye" frozen foods, and washing products including, among many others, "Surf" and "Stergene".)

Oligopoly is now commonly found in the advanced industrial countries and a great deal of attention is paid to it. There is, however, no single model which can be held to apply under all circumstances.

Price Competition

One influence that is thought to be important is the extent to which the products are in price competition with each other. If there is little price competition and if consumers are not thought to choose brands on the basis of comparative price (i.e. if cross elasticity of demand is low) then each oligopolist has a high degree of monopoly control over the demand for his own product.

This will, of course, depend chiefly upon whether the products are regarded by consumers as homogeneous or whether they consider each brand to be distinct and different. It is unlikely that consumers will find much to choose between, say, various brands of plain, salted crisps. Cross elasticity of demand between the brands is thus likely to be high when the crisps are on sale in similar distribution outlets. If there are price differences, customers will choose according to price.

In these circumstances, suppliers may seek to operate in different sections of the market, e.g. through different supermarket chains or in hotels and pubs rather than retailers. They may also seek to differentiate their products through such devices as flavour or by developing novelty shapes or other related products. You may be familiar with various products which have been developed by the four major firms in this market.

A full study of oligopoly is likely to embrace problems of prices and non-price competition, and even the question of how far firms may collude together to limit the extent of competition between established firms and to protect themselves against possible newcomers to the market.

Price Stickiness

Efforts have been made to produce models based on traditional assumptions of profit maximisation. One such model seeks to explain the observed tendency that the prices of some goods in oligopolistic markets remain steady in spite of fluctuations in the prices of basic commodities. This "stickiness" is apparent in more normal, less inflationary times. For some years the price of a standard 4-ounce bar of chocolate remained at 6d (old pence) in spite of frequent movements in the prices of the basic materials required for chocolate manufacture.

This particular feature of an oligopolistic market for a product still regarded as fairly homogeneous (in spite of brand advertising) has given rise to the model known as the **kinked demand curve**.

Kinked Demand Curve

Suppose the current and "sticky" price of a product is £1 per unit. This is the price that customers have come to expect. If one oligopolist supplier tries to increase the price, rival producers will be reluctant to follow. They keep their prices the same and gain market share at the expense of the price-raiser. If, however, the oligopolist reduces the price, the other suppliers are obliged to reduce their prices also to prevent his encroaching on their market share.

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Thus there is a kink around the price of £1 in the demand (unit price or average revenue) curve faced by the individual oligopolist. At higher prices the curve is more elastic, due to the loss of market share, than at lower prices where all market shares stay the same. You can see the general shape of such a kinked curve in Figure 7.8.

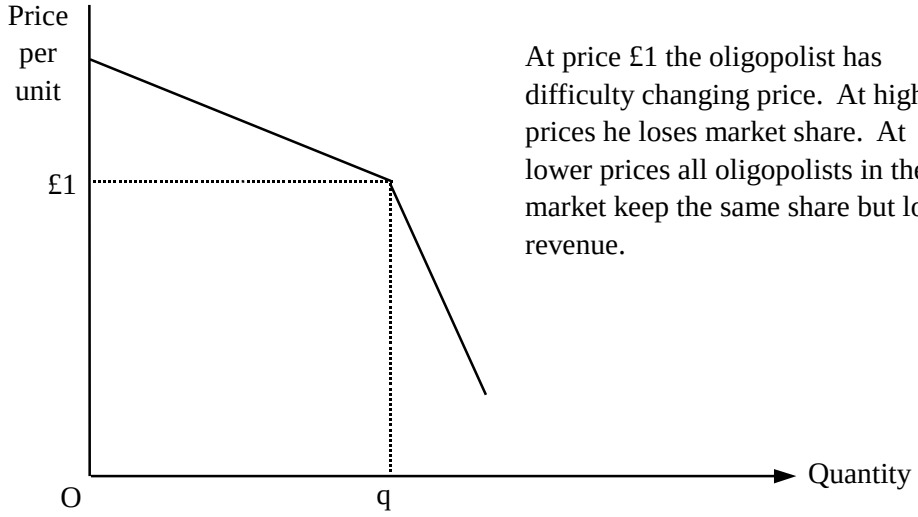

Figure 7.8

Now consider a possible table of revenues resulting from this condition.

Price per Unit £	**Quantity** *units per time period*	**Total Revenue** £	**Marginal Revenue** (Change in TR) *pence*
1.40	0	0	
			130
1.30	10	13.00	
			110
1.20	20	24.00	
			90
1.10	30	33.00	
			70
1.00	40	40.00	
			60 or 20
			0
0.80	50	40.00	
			−40
0.60	60	36.00	
			−80
0.40	70	28.00	
			−120
0.20	80	16.00	
			−160
0	90	0	

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The kink in the average revenue curve, shown in Figure 7.9, occurs at the price of £1 and the quantity level of 40 units. At prices above £1, demand falls off at the rate of ten units for each 10p rise in price. At prices below £1, however, demand falls by only five units for each 10p rise in price, i.e. the unit price has to fall 20p to enable the oligopolist to gain a quantity increase of ten units.

The change in the slope of the average revenue (price) curve results in a similar change in the slope of the marginal revenue curve and you can see that there are two possible marginal revenues at the quantity level of 40 units. The higher (60p) results from the continuation downwards of the upper part of the curve, whilst the lower (20p) results from the upward continuation of the lower part of the curve. This is clearer on the graph but you should be able to work out the same results from the table. Remember the marginal revenue levels in the table belong to the midpoints of the quantity changes. The lower curve is changing at the rate of 40p for each ten units; the upper curve is changing at the rate of 20p for each ten units.

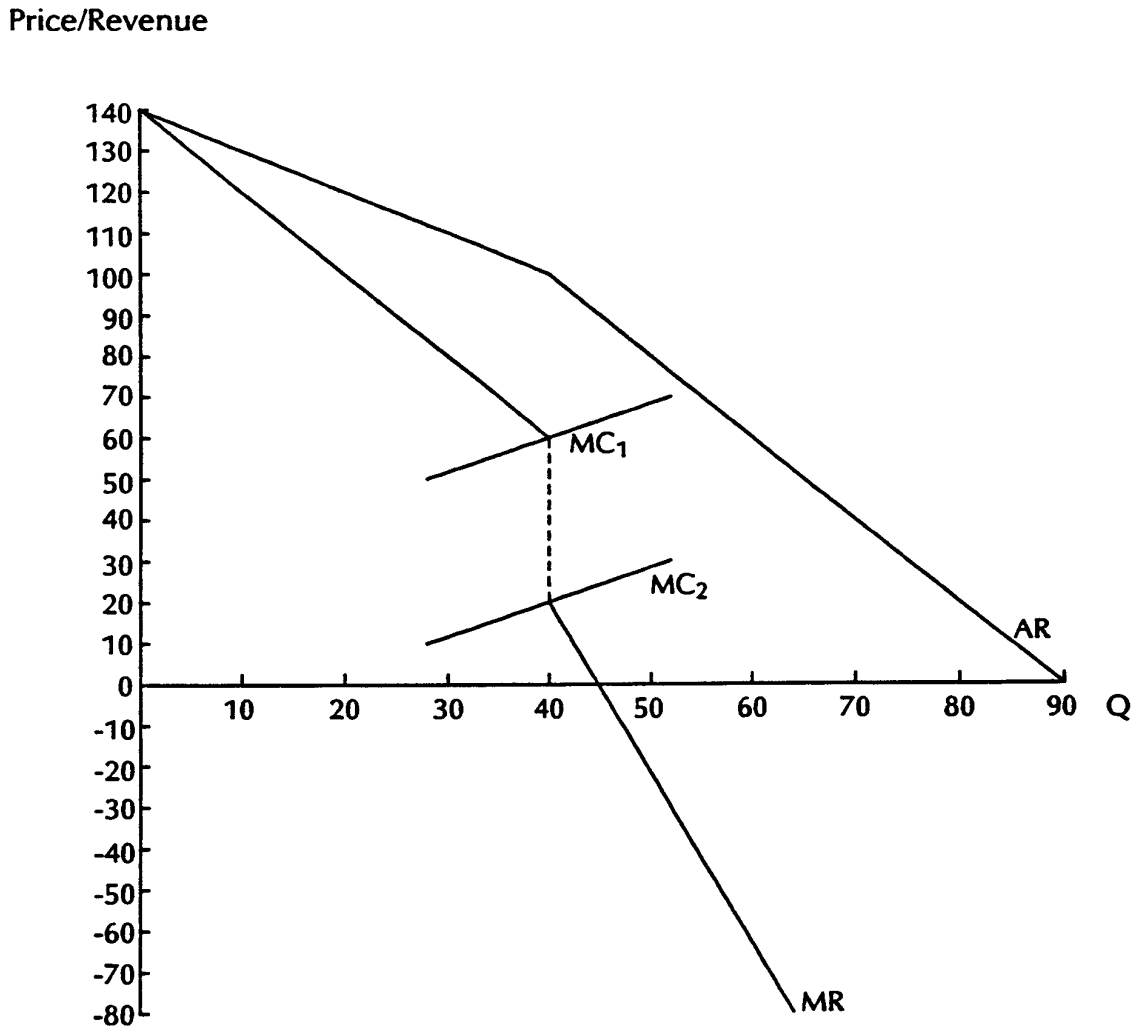

Figure 7.9

Limitations of the Kinked Demand Curve Model

The implication of this model is that short-term fluctuations of variable and hence marginal costs will not lead the profit-maximising oligopolist to change his price or output. You can see in Figure 7.9 that the quantity level at which profits are maximised, i.e. where MC_1 and MC_2 = MR is 45, at which

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level the market clearing price is 100p. Marginal cost can fluctuate anywhere between MC_1 and MC_2 without altering the profit maximising position.

Remember, however, that this model depends on an assumption of profit-maximising behaviour for the oligopolist and a high degree of substitution between products. This produces the reactions from competing oligopolists which we have described (i.e. refusal to follow a price increase but matching a price reduction). It is not a general model of oligopoly and does not tell us how the "sticky" price is arrived at in the first place. There are too many behavioural assumptions for the model to be entirely satisfactory.

The model does not hold up during periods of severe price inflation, when we would expect firms to follow their rivals' price rises but not any price reductions which they will not expect to be maintained because of rising costs.

Price Leadership

Another tendency, which does hold during inflation, is for all oligopolists in a market to follow the price movements of one firm, the price leader. Such leaders can be:

- The least-cost firm, which can oblige competitors with higher costs to follow its prices, even though they cannot maximise their own profits at the levels it sets.
- A firm which is typical of others in the market and which becomes a barometer of market conditions. If this firm feels that a price change is necessary, then it is probable that others will feel the same.
- The largest and the dominant firm in the market. The most common model of this situation assumes that this firm, because of its size and the economies of scale it can achieve, is able to achieve lower costs than the others. The lower its costs compared with the other firms' costs the greater will be its market share and, consequently, its dominance in the market. This model is illustrated in Figure 7.10.

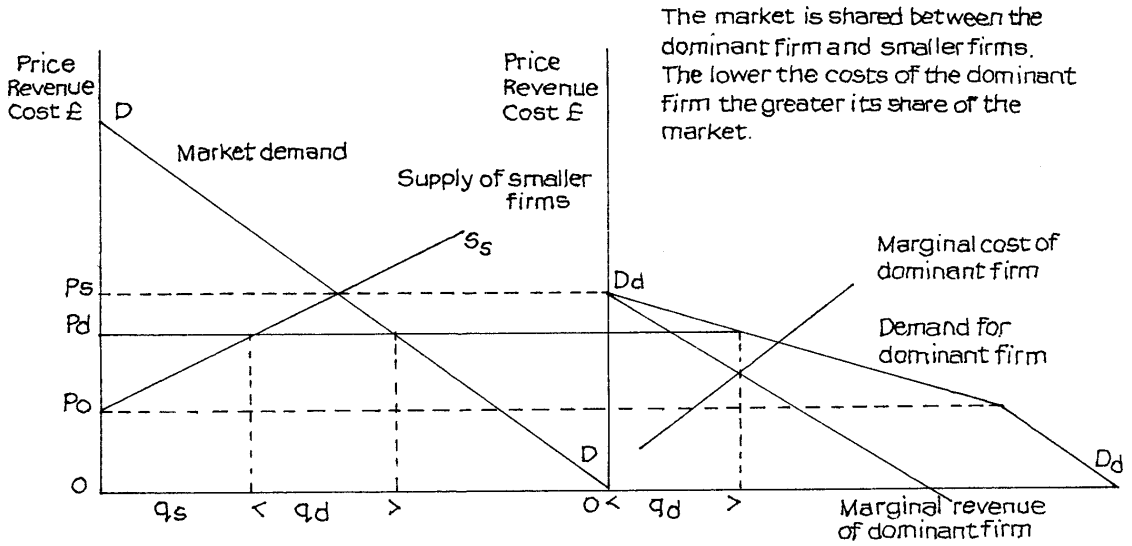

Figure 7.10

The market is shared between the dominant firm and smaller firms. The lower the costs of the dominant firm the greater its share of the market.

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The dominant firm model makes the following assumptions:

- The dominant firm is aware of the total market demand curve and the cost conditions and hence the supply curve for the smaller firms in the market.
- The objective of the dominant firm is to maximise profits.

In Figure 7.10 the demand curve DD is the demand curve for the market and S_sS_s is the supply curve for the smaller firms. At price P_o these firms are unwilling to supply to the market; it is their minimum price. At price P_s the smaller firms are able and willing to supply the full market demand at that price.

This knowledge allows the dominant firm to estimate its own demand curve, which is made up of market demand at each price less the amount which the smaller firms are able to supply. Thus the demand for the dominant firm's product is nil at price P_s but it is the same as market demand at prices P_o and below. Between these two prices the dominant firm is able to supply the balance between market demand and supply from the smaller firms.

On the assumption of profit maximisation the dominant firm will wish to supply quantity q_d which is the quantity at which its marginal cost is equal to its marginal revenue. At this quantity level the dominant firm's market clearing and profit maximising price is P_d. If it charges this price the other firms will have to follow, and market demand at this price is shared on the basis of q_d to the dominant firm and q_s to the smaller firms.

Notice that if you raise the dominant firm's marginal cost curve you will reduce q_d and increase q_s. However, if you lower this curve you will increase the market share going to the dominant firm, which is thus able to maintain its dominance as long as it is able to keep its costs lower than those of the smaller firm. We may assume it is able to achieve this through economies of scale, a higher level of technical knowledge and managerial skill, and by its superior power to secure low prices in the factor markets.

F. PROFIT MAXIMISATION AND ALTERNATIVE OBJECTIVES FOR THE FIRM

In the discussions of perfect competition and monopoly, we noted that whereas under perfect competition long-term survival depended on the firm maximising its profits, whether or not this was its conscious objective, under monopoly the firm could survive without actually maximising profits. As long as it made a satisfactory profit it was able to pursue other objectives. We now develop this point more fully.

Any firm which possesses a substantial degree of market power as a producer and which is large in relation to the total size of the market in which it operates, will have a product demand curve which is downward sloping and, if it is successful, is also likely to be able to make profits above the minimum needed to keep it in the market. Its position may, therefore, be represented by a model similar to that usually used for monopoly as in Figure 7.11.

This models assumes that the firm does not practise price discrimination, so that its product demand curve is also its average revenue curve. Assuming that its market power allows it to make profits above the minimum, there will be a substantial range of output levels and prices between which it can make profits. This, in Figure 7.11, is the range between output level A (price P_A) which is the lower break-even point where the falling average cost just equals average revenue, and output level C (price P_C) which is the higher break-even point where the rising average cost just equals average revenue.

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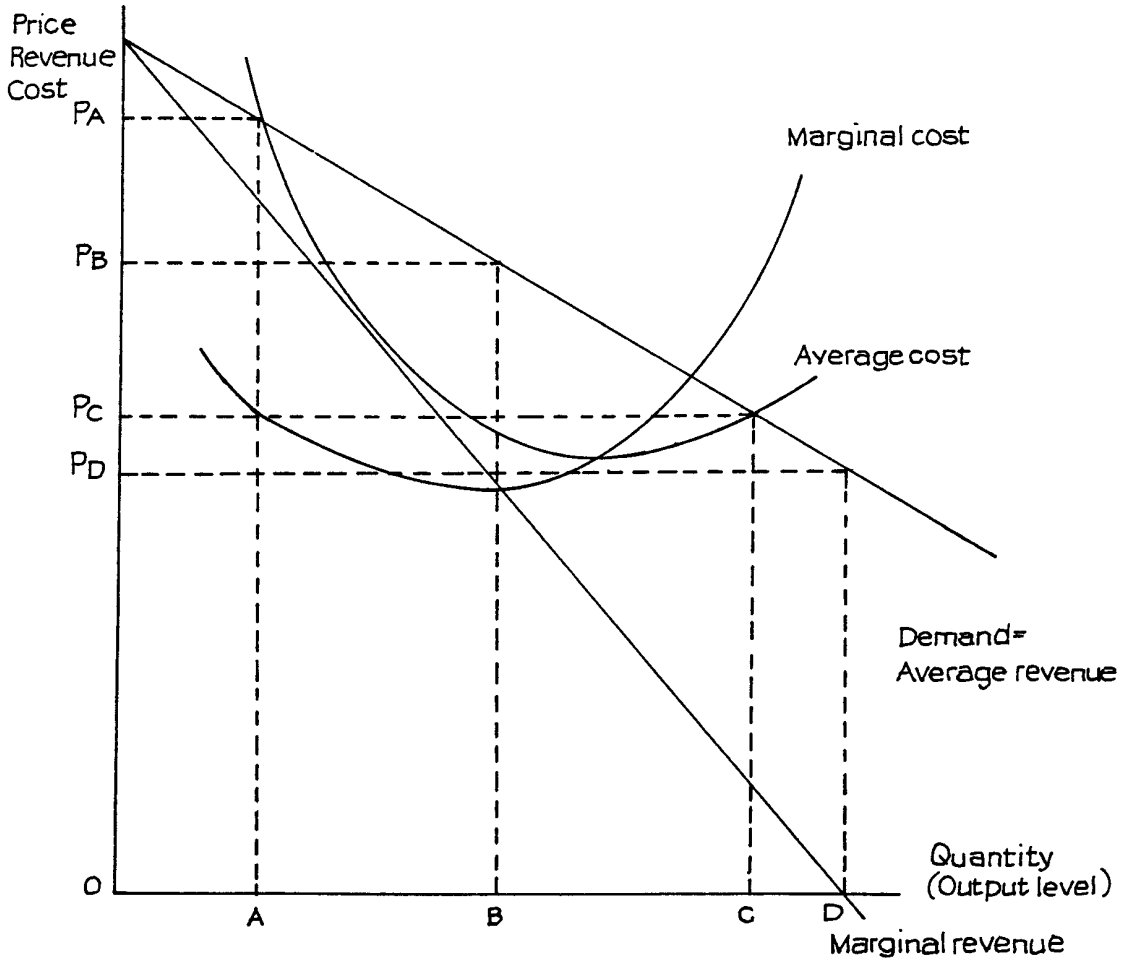

Figure 7.11

The firm in this situation can pursue objectives other than profit maximisation as long as it operates within this profit range, but, as the model suggests, the range can be very wide.

During the past half century there have been many economists who have argued that large firms, especially oligopolies, do not maximise profits. Unfortunately there has been no universal agreement over what objective or objectives they do pursue instead. A number of alternative theories of the firm have been developed and each of these is based on different assumptions about firms' behaviour. For convenience we can identify two broad groups of theories – those that replace profit maximisation by an assumption that firms seek to maximise something else, and those that abandon any idea of maximisation in the belief that firms seek to pursue several objectives at the same time and cannot, therefore, hope to optimise any one.

(a) Alternative Maximising Theories

An American economist, Baumol, suggested that firms seek to maximise **revenue**, subject to making a minimum profit which was defined as that level of profit needed to retain the support of the firm's shareholders and the financial markets. In Figure 7.11 the revenue-maximising output level is at D, where marginal revenue is O (at the top of the total revenue curve), but in this model quantity D lies beyond the second break-even point of C, so the firm could not reach D without suffering a loss. If it were to try to maximise revenue subject to achieving minimum

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profit, it would have to produce at an output level somewhere between B and C and charge a price between P_A and P_B.

A British economist, Marris, has argued that firms seek to maximise their **rate of growth** (expansion) subject to preserving their share values at a level where the firm can hope to be reasonably safe from the fear of being taken over. If the firm grows too fast, its profit rate tends to fall and this depresses the share value and brings the risk of take-over. Too slow a rate of growth is also likely to bring the firm to the notice of take-over raiders, so the firm has to balance the desire for growth with the need to maintain profits.

There are similarities in the Baumol and Marris theories. Both agree that the firm's objectives are really established by its professional managers, who are free to control the firm as long as they keep the shareholders satisfied with their dividends and the financial markets satisfied with their profits. Profit remains important – no one doubts that in a market economy – but it is not **maximised** to the exclusion of other aims that meet managerial ambitions. Managers like to operate in large firms because size brings prestige, high salaries and a range of other benefits, so these are pursued, to some extent at the expense of the profits belonging to shareholders. In the Baumol theory, revenue was seen largely as a way of measuring growth. The Marris argument is slightly more complex and stresses growth more directly.

Another American economist, Williamson, developed another kind of maximisation but quite cleverly combined this with the idea that the firm pursued several objectives at the same time. Again agreeing with the idea that managers were the real controllers of the firm, Williamson argued that they sought to maximise **managerial utility** and that this utility was a combination of the pursuit of profit, growth, measured by the number of people employed, and managerial "perks" (all the various expenses, benefits, etc. that movement up the business managerial ladder tends to bring).

(b) Satisficing Theories

The rather ugly word "satisficing" has been coined to express the idea that firms pursue several different objectives at once. Whereas no one objective can be achieved to complete satisfaction, the firm aims to pursue each to a degree of tolerable semi-satisfaction, i.e. it "satisfices" without fully satisfying. The idea was first given clear expression by the American economist, Simon, in an influential book, *Administrative Behaviour*. Simon argued that, in practice, firms could not even if they wished, hope to maximise anything but rather reacted to problems as they arose and aimed to keep all those involved in the firm reasonably satisfied so that the firm could continue to exist.

Following the reasoning of Simon, this idea was developed into a more formal *Behavioural Theory of the Firm* by two more American economists, Cyert and March, in a book with that title. In this theory the firm is seen as a coalition between shareholders, managers and customers, all of whose support is needed to hold the coalition together. To do so the firm has to pursue multiple objectives, such as profit, sales growth, market share and products to satisfy customers as well as the needs of production managers, but no one objective can be pursued to the exclusion of the others. The firm has to develop a set of behavioural principles to enable it to hold the coalition together and guide managerial decision-making.

Various other attempts have been made to explain business behaviour but there is no general agreement as to whether the traditional assumption of profit maximisation should be abandoned and, if so, what should replace it. The alternative theories sometimes seem to describe actual business behaviour more realistically, especially in relation to large oligopolists. Firms do pursue growth,

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often at the expense of profits, take-over battles are commonplace and the salaries and prestige of top business managers appear to bear little relationship to the profitability of the companies they manage.

On the other hand, an economic theory of the firm should be concerned not only with how firms actually do behave but also how they **should** behave, if the economic goals of technical and allocative efficiency are to be achieved. Unfortunately, the alternative theories appear to suggest that if firms operate as they predict, they are likely to be less efficient in the full economic sense than if they pursue profit maximisation – the desire to make the largest achievable profit consistent with market conditions. One thing that has to be remembered always is that profit maximisation does **not** mean making very large and anti-social profits, but simply the largest profit possible under prevailing market conditions. Profit maximisation under perfect competition suggests lower profits than satisficing behaviour in an oligopolist market. A market economy appears to operate more efficiently when firms seek to maximise profit. Consequently, most economists continue to work with profit-maximising models, whilst fully recognising that firms do frequently depart from profit-maximising behaviour in practice.

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Study Unit 8

Money and the Financial System

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A. MONEY IN THE MODERN ECONOMY

Features and Types of Money

Throughout history money has taken many forms. Almost anything can serve as money as long as people are prepared to accept it in exchange. Acceptability is the one quality that money must have. If this is lost, i.e. if people are no longer willing to trust it and thus refuse to take it in exchange for real goods and services, then it is useless.

Other qualities can add to its usefulness. Ideally money should be:

- **portable** – it will not be much use as an aid to transfer if it cannot easily be moved
- **divisible** – it must be capable of reflecting a range of values; animals were once a symbol of wealth but as money they had limitations – a valuation of one and a quarter cows could prove difficult to pay!
- **durable** – saving presents problems if the money saved is likely to die, rot or rust away
- **controllable** – preferably in short supply, not too easily obtained and capable of being controlled by an accepted authority
- **recognisable** – if people cannot recognise money as money they are unlikely to accept it very readily.

One of the oldest forms of money, and one that is still in limited use, is **gold**. When, from time to time, the world economy becomes unstable and other forms of money become less acceptable the price of gold always rises as people turn – or return – to it as a haven for their threatened savings.

Other precious metals have often been used, especially silver, but this lacks some of the qualities of gold. Many metals suffer deterioration over time.

To aid recognition, add acceptability and assist in measuring value, many communities over the ages have fashioned coins from previous, semi-precious and base metals. With the exception of a limited supply of gold, these are now used mainly for units of low value.

Metal is bulky and expensive to transport in large quantities so, from very early times, traders have used **paper** as a more convenient substitute. Paper has always been used in two ways as money:

(a) As a receipt or representation of precious metal or some more solid form of money and exchangeable for the preferred form of money under certain conditions. The Bank of England note still contains the ".... promise to pay the bearer on demand the sum of ... .". At one time the holder could exchange such notes for gold. Today handing over a note at the Bank of England will only be met with another note, but the promise serves as a reminder that the paper really just represents money and has no intrinsic value in itself.

(b) As an instruction to a clearly identified person or organisation, or a promise from a person or organisation, to make a payment under certain conditions. A letter of credit is an instruction to make money available to the holder while a bill of exchange, still widely used in international trade, is an unconditional promise to make a payment. Such instruments of payment are almost as old as trade itself.

In recent years **plastic** cards have replaced or supplemented paper as conveyors of instructions to make payments, and the development of modern telecommunications has made such cards with their magnetic strips among the most important means of carrying out everyday trading transactions. As

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information technology continues to advance we can expect these cards to gain further uses but also to be replaced by direct instructions through computers or over the telephone.

All these convenient forms of payment by simple instruction depend on people's willingness to hold their store of money in banks. Early banks actually did store the wealth of their customers in the form of precious metals but wealth is now stored purely in the form of credit balances recorded in computer memories. Money is now held in the form of a device that can store and transmit electrical impulses. Even at this stage it has not yet reached its ultimate form, though in simple terms we can ignore all present and future methods of transferring and storing money and simply refer to it as "bank credit". In this form we can choose to store it as a bank deposit or use it to make payments by any of the techniques made available to us by current technology.

Functions of Money

The functions of money are generally summarised as follows:

(a) Facilitating Exchange

The basic purpose of money, as we have already noted, is to make easier the exchange of goods or services. Without money, people have to resort to direct exchange or barter, and this is often wasteful, time-consuming and inefficient. Money allows trade to develop much more freely.

(b) Measure of Value

Even if people do exchange goods directly, they can be more certain of fair dealing if they can measure the value of their goods in terms of recognised money. If farmers wish to exchange pigs and cows, they are helped if they know the values of both in money terms.

(c) Measure of Deferred Payments

Exchange and trade can flow more freely if it is possible to carry forward debts of a known amount. Money can help by standing as a measure for any payments that are deferred for future settlement. For example, the farmers exchanging pigs and cattle may agree that A took cattle from B to a higher value than the pigs he passed to B. If the difference in value is expressed in money, then both know the size of the debt and the future payment required. Money measurement may help them later to settle the debt – say, with some other animal, perhaps sheep.

(d) Store of Value

Finally, money can be kept as a store of value that can be held in reserve for purchases not yet planned. This value can be held over time – as long as money value does not fall.

The importance of acceptability has already been stressed. Without it, money cannot be used in exchange. This is why a great deal of international trade is carried out in a relatively few generally-acceptable currencies – e.g. American dollars, Swiss francs, Japanese yen, German marks, and British pounds. These currencies are all readily acceptable and transferable in world trade and finance markets.

We can see that acceptability and transferability depend on the confidence of traders. If this confidence is lost, then money ceases to have any value, because it cannot fulfil its essential functions.

The functions that causes the most problems is that of **storing value**. No form of money in the modern world has escaped the problem of inflation – the tendency for money prices to rise as time goes by. If all prices rise, then the value of money itself is falling. The difficulty of storing value

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undermines confidence, acceptability and transferability, and so makes trade generally more difficult and uncertain.

Measuring Money – the Monetary Aggregates

The measurement of money supply depends on how we define it. The wider our definition, the more we have to measure. Difficulties in deciding precisely what should be counted as money help to account for the fact that there are several possible **definitions**. These are currently divided into two groups.

(a) **Narrow money** – comprising three measures:

- M0, the narrowest, made up of notes and coin in circulation with the public + banks' till money + the banks' operational balances with the Bank of England
- NIBM1, made up of notes and coin + the non-interest-bearing private sector sterling sight deposits of banks (bank customers' non-interest bearing current accounts)
- M2, made up of notes and coin + the sterling, retail deposits of banks + the retail building society shares and deposits + national savings bank ordinary accounts.

(b) **Broad money** – comprising two measures:

- M4, made up of notes and coin + all private sector sterling bank and building society deposits
- M5, made up of M4 + private holdings of money market and national savings instruments.

In 1995 the measures in most use were M0 for narrow money and M4 for broad money. All measures can be manipulated to some extent by banks, particularly if they are used as the basis for government money controls. There is also a tendency for governments to stress whichever measure appears to support whatever policies they are currently pursuing.

B. THE COMMERCIAL MONETARY AND FINANCIAL SYSTEM

Structure of the Monetary System

The British monetary system is made up of a range of banking and related financial institutions, and these have been undergoing far-reaching changes in recent years. You are likely to find a number of terms used to describe banks when you read text books and journal articles. Many relate to older conditions, and are no longer in active use. Others are still used, but in such a wide, general sense that they are difficult to define with any degree of precision. Most modern writers now classify banks and financial institutions according to the terminology employed in this section, i.e. Retail Banks; Accepting Houses and other British Banks; Foreign and Consortium Banks; Discount Houses; Building Societies; Life Assurance Companies and Superannuation Funds; and Other Financial Intermediaries.

You will probably come across the term "merchant bank" and this is used to refer chiefly to those banks which are here classified as Accepting Houses and other banks which carry out functions very similar to these. The following subsections provide brief outlines of the various categories. You should also be alert for references and descriptive accounts which appear from time to time in the leading financial journals.

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The Retail Banks

These are the banks which handle the individual accounts, both small and large, of private and business customers. They consist of the English and Scottish banks (including the familiar "Big Four" High Street banks) the Irish banks, the Co-operative Bank, Trustee Savings Bank and the Girobank. They are distinguished from the wholesale banks which handle only large sums of money (upwards from $1m) and which concentrate their activities in a limited number of major world financial centres. The large retail banks (also known sometimes as branch banks) do engage in wholesale banking in addition to their retailing functions, and the terms "retail" and "wholesale" really apply more to functions than to separate, specialised institutions.

The major functions of a retail bank are:

(a) Safe-keeping of Money

This is the basic function of banking. Many customers still keep jewels and important documents in bank safes. However, as modern money is now mostly in the form of transferable credit, this function is chiefly performed through the various types of bank account held by customers. The current account is used for day-to-day transactions. Other accounts are usually in the form of "time deposits", i.e. deposits where an agreed period of notice is required for withdrawals without penalty. The longer the period of notice and the higher the amount deposited the higher the rate of interest paid by the bank. If immediate withdrawal is required then a certain amount of interest is usually forfeited, though in some accounts immediate withdrawal is permitted without an interest penalty provided a stated minimum sum remains in the account. You should obtain details of the range of accounts offered by your own bank.

(b) Transfer of Money

Much of the daily work of the retail banks is concerned with making payments through cheques and other written instructions, including bank giro. Some of the work of money transfer has now been passed to the credit card companies (themselves mostly owned by the large banks) but credit card payments still require final settlement by a bank transfer. The large international banks are deeply involved in foreign payments for the import/export trade. Bills of exchange are still used extensively in handling trade payments, especially as these are very closely linked with the extension of credit.

(c) Lending Money

Banks make most of their profits from lending money. Traditionally they have been chiefly concerned with short-term loans – very "short-call" (overnight or 24-hour) loans to other banking institutions, overdrafts, trade loans made by discounting bills of exchange (usually for up to 60 to 90 days) and commercial loans for up to around two years for business or approved private projects.

In recent years, banks have been encouraged (by government pressure or by competition) to lengthen their lending terms. Clearing banks have entered the private house mortgage market where loans can be made for twenty or more years. Of greater importance to business has been the increased willingness of banks to lend for periods of between five and ten years for business capital development.

(d) Money Management, Advisory and Agency Services

The banks have become increasingly involved in selling their financial skills to help people manage their money. They also recognise that they have a responsibility to provide financial help to business ventures which operate with bank money. Apart from becoming financial

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consultants, banks are also becoming more actively involved in the "fringe" financial services such as insurance broking, investment advice and the handling of trusts and estates.

More recently, a number of banks have entered the field of stockbroking. This has been made possible by the Stock Exchange reforms of October 1986. The retail banks also control a number of specialised subsidiaries, offering hire purchase, leasing and factoring services to customers.

- **Leasing** is an alternative to hire purchase, and is used frequently by business firms to obtain vehicles and equipment under a form of instalment credit.
- **Factoring** is used chiefly in foreign trade. A factor takes over responsibility for a company's approved trade debts and arranges collection and administration, thus releasing cash to the company. It is an expensive way of speeding up a firm's **cash flow** (the speed at which money spent on production is recovered from sales) but worthwhile if the cash can be used at greater profit than the cost of the factoring service.

Accepting Houses and Other British Banks

The distinction here is more one of status than of function. The term "accepting house" is usually reserved for a member of the Accepting Houses Committee. This consists currently of 16 highly reputable institutions, most of which have been long established in the City of London. The term "accepting house" is derived from the traditional business of accepting commercial bills of exchange on behalf of customers. A bill of exchange is an unconditional promise to pay a certain sum of money at a definite time and place. It is still a common method of payment in foreign trade. The bill (and therefore the terms of payment) is drawn up by the exporter, and these terms are accepted by the importer or by an accepting house on the importer's behalf. When the accepting house accepts a bill, it effectively guarantees payment; and the bill becomes a most useful instrument of payment, recognised throughout the world.

Although the houses do carry out a small amount of retail business for selected customers, their main activities are in the wholesale finance markets where they handle very large sums of money in a number of world centres. They also act as issuing houses, arranging share and loan issues for commercial companies, and they thus form a bridge between the monetary and capital markets. They act as financial advisers to companies, and have specialised subsidiaries or departments dealing in finance for foreign trade, for business equipment leasing and other financial services to business. They sell high quality financial advice, mostly to large companies and to very wealthy individuals and to other financial institutions such as pension funds. You will find these banks closely involved in company mergers, take-over battles and management buy-outs, in fact in any business activity which involves some kind of financial arrangement.

Foreign and Consortium Banks

A feature of recent years has been the extension of foreign banking in London. The main challenge has come from the American banks – following their own multinational companies. A more recent development has been the entry of the major Japanese banks to form an effective link between the large financial centres of Europe and Asia.

On the whole, there has not been any major or sustained competition for the business of British industrial companies. Most foreign banks are concerned chiefly with their own national organisations and with operations in "wholesale" banking – i.e. lending large sums to other banks and financial institutions, usually on a short-term basis. The increase in oil wealth has, of course, encouraged the entry to London of a number of Middle Eastern banks.

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Consortium banks are those jointly owned by British and foreign banks. The existence of foreign banks in London has helped to make the large British banks more alive to the threat of potential competition and the need to keep developing their own services.

The foreign banks are also active in what is termed the "eurocurrency market" which handles transactions in the bank deposits of banks held outside the banks' countries of origin. Thus the dollar deposits of an American bank in London form part of the eurodollar market in Britain. Eurocurrency markets have become a major part of the wholesale banking structure.

The Discount Houses and the Money Market

Although they no longer enjoy a monopoly in handling the regular issues of Treasury Bills from the British Government, the discount houses still play a very important part in bringing these bills to the banking system, where they form a significant element in the banks' short term assets. At the same time they have widened their activities to include a greater range of commercial and banking securities and banking activities generally. Nevertheless they continue to specialise in the short and very short term markets in money and still enjoy a close association with the Bank of England.

In 1989 the Bank of England invited applications from other banks to join the discount houses in entering the Bill market – with similar conditions and responsibilities to those accepted by the discount houses. Most of the large high street and wholesale banks have entered the Bill market.

The **Money Market** is the term given to the market in short-term money in which all the main banks take part and where a major role is played by the discount houses. The market brings together business organisations, all banks as well as central and local government, all of which have funds that they have to keep almost liquid but which they cannot afford to have lying idle. The most important intermediaries in this market are the discount houses, which are able to play an essential role in effectively lengthening the terms over which such money can be used. By keeping very short-term finance constantly flowing and turning over, the intermediaries can enable borrowers to use a high proportion of that money for longer periods. For example, if bank A recalls money which a discount house has lent to X, the discount house can repay this money and replace it with funds borrowed from bank B. Consequently X is able to use the money it has borrowed without the fear of having to repay it at very short notice. This, effectively, is what all banks do. If I withdraw money from my account with a High Street bank this does not cause the bank to recall a loan to one of its borrowing customers. Normally my withdrawal will be balanced by additional deposits from other account holders. Of course, this only works as long as everyone has confidence in the system and believes that funds can be withdrawn quickly when required. If all lenders in the system decide to withdraw their money at the same time the whole structure starts to collapse. Banking can only function on a firm foundation of confidence.

Although much of the money flowing through the Money Market comes from bank deposits and bank money lent on call or short notice, as already described, a great deal is also available from trading in Treasury and Commercial Bills of Exchange – where a debt is put in writing and liability for making the payment is "accepted" by a bank (or the government) on behalf of the debtor).

In the Money Market funds are not allowed to lie idle. When London sleeps its money may be working hard in Sydney, Hong Kong, Singapore, Tokyo and many other places. If you have £10 spare you will not earn much interest by lending it overnight but if you have £10 million it could easily be earning over £1,000 while you sleep – and still be back in your account next morning ready to meet any payment due to be made.

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Building Societies

The main function of these institutions is the provision of funds for house purchase by individual owner-occupiers. They are also a major channel for the savings of individuals. The societies have expanded with the huge growth of private home ownership in the United Kingdom. At the same time, there have been many mergers so that the number of societies has been falling, but their average size has increased. The larger societies have been seeking to widen the range of their activities, and have been offering sight deposit, cheque books, cash card, personal lending and other banking-type services in competition with the banks.

The **Building Societies Act 1986** opened the way for the larger building societies to convert to public companies as full banks, but by 1995 only the Abbey National had taken this route. In that year, however, Lloyds Bank sought to take over the Cheltenham and Gloucester Building Society. The Halifax and the Leeds merged, other societies were planning to do so, and it seemed clear that in various ways the number of independent societies was likely to decline.

Life Assurance Companies and Pension Funds

These are now important financial institutions. The life and pension companies differ from general insurance companies in that they provide long-term investment services and are not normally selling protection on an annual basis. The payment made, say, for motor insurance, covers the cost of protection for the year of insurance. The premium thus buys a specific and limited service. The typical life assurance or pension contract provides for a return payment to be made at some time in the future, prior to which there is a continuing obligation to pay premiums and a continuing obligation on the part of the company to invest those premiums to the mutual benefit of the company and its policy holders. This gives the life and pension companies substantial funds which they invest in a range of ways including property, shares, government bonds – or in direct lending to business.

The growth of company pension schemes since the early 1980s has meant that individuals have had little control over the funds invested in their names. Currently the Government is seeking to introduce schemes for more personal control over pensions. If this movement develops, it could change the structure of the pension market and introduce more direct competition for this class of business.

Other Financial Institutions

(a) Unit Trusts and Investment Trusts

These represent slightly different forms of pooling revenues to spread the risks of investment.

Unit trusts are the more popular. A trust sets up a fund which is invested in a published range of securities and divided into units of fairly small denominations which are then sold to savers in a variety of ways. The unit trust holder thus has his or her savings effectively spread over all the funds' investments. Units are bought and sold by the Managers of the fund so that they do not pass through the Stock Exchange. The managers, of course, deal through the Stock Exchange in the course of managing the Fund's investments.

Investment Trusts are limited companies which use their share capital to invest in other companies. Their own shares are bought and sold through the Stock Exchange, and shareholders are effectively investors in a range of other shares.

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(b) Finance Houses

These are mostly dealers in consumer credit or providers of specialised financial services. They generally obtain their funds through the banking system. Many are now officially regarded as banks and are classified among "Other British banks".

C. THE CENTRAL BANK OF THE UNITED KINGDOM

Of rather greater economic importance is the central bank – the Bank of England. This does not compete for ordinary commercial banking business but is, essentially, the banker to the government, the regulating body for private-sector commercial banking and the office link with other central banks and with international banks, especially the International Monetary Fund (IMF).

Banker to the Government

The Bank carries out the three basic banking functions for the government. It keeps the spending and money-receiving accounts for government departments and some public-sector organisations, such as the Post Office. It carries out money transfer services for the government, including the payment of interest and dividends on government loans, and it arranges loans required by the government.

The main forms of government borrowing are Treasury bills, and dated and undated bonds – known usually as gilts or gilt-edged stock – carrying either a fixed or variable rate of interest and marketable through the ordinary stock exchanges. Some gilts (on the National Savings Register) can also be bought directly by the public through the National Savings (Government Stock) Office at Blackpool. Unmarketable stocks (loans not transferable through stock exchanges) can be bought through post offices or the National Savings (Government Stock) Office, and sold back to the government in the same way under agreed terms and conditions. These include National Savings Certificates and Bonds, and Premium Bonds.

The Bank of England also has a duty to give financial advice to the British Government concerning the value and stability of sterling. In effect this means regarding the exchange rate against other currencies and on monetary policies designed to limit inflation. The Bank considers that its main duty is to fight inflation and to encourage the Government to pursue what it considers to be the correct anti-inflationary monetary policies. The main policy instrument at its disposal, subject to the overall control of the Government is the rate of interest.

Some have argued that the Bank of England should be like the Federal Reserve Bank and the Bundesbank, the central banks of the USA and Germany respectively, that is, independent of direct government control and free to set interest rates and direct monetary policy according to its own view of what is in the best long-term interests of the British economy. This, it is argued, would stop governments manipulating the economy for political ends. The usual accusation is that British Governments engineer inflation in the period before a General Election and then have to impose recessionary measures to curb inflation in the period after the Election.

The counter argument to this is that the government is ultimately responsible for the economy of the country and control of inflation is not the only economic objective it is obliged to pursue. No British Government would escape blame if it allowed the Bank of England to pursue policies that eliminated inflation at the cost of massive unemployment and social unrest. It must, therefore, retain continuing responsibility for all aspects of economic policy, including monetary policy and interest rates. The Bank of England, therefore, gives advice but cannot decide these issues.

However, under the current (1995) Chancellor of the Exchequer, the Bank of England's authority has been strengthened by making public the minutes of the monthly meeting which the Chancellor has

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with the Governor of the Bank of England. The Chancellor it is suggested, would be taking a great political risk if he were seen to ignore clear advice given by the Governor, particularly if it was clear that the advice was ignored in an attempt to gain short-term political advantage.

Another issue over which the Bank of England is likely to exert considerable influence is the question of monetary union with other countries in the European Union and, associated with this, the matter of a single European currency. Over this issue the Bank has been seeking to contribute to a serious debate on the economic issues involved and to separate these from the heated emotional and political passions that have become aroused.

Banker to the Banks and Regulator of the Banking System

The Bank provides the paper currency and coin issued to the public through the banking system, within limits set by Parliament. It also mints gold sovereigns. As banker to the banks, it keeps the accounts of the clearing banks themselves, and the inter-bank debts revealed at the daily clearings are settled by book transfers between the various accounts held at the Bank of England.

The regulation duties of the Bank are of two kinds:

- It is responsible for the stability and integrity of the institutions which make up the banking system and, in this capacity, it has very clear duties under the **Banking Act 1987**. In 1991 the Bank closed down the Bank of Credit and Commerce International (BCCI) in the face of clear evidence of massive fraud.
- It also has a wider duty to control the actual supply of money within the banking system. The extent to which it seeks to impose monetary controls and the methods chosen for control are determined in consultation with the government. This is very much a political matter on which the Bank can only advise. The reasons for monetary controls and the ways in which they may be exercised are examined later in our studies.

International Links

As the national bank, the Bank of England keeps the nation's gold reserves and the international accounts for money entering and leaving the country, as well as the nation's reserves in other currencies. The Bank of England works closely with the central banks of other nations.

The Bank maintains continuous contacts with the major international banks, especially the International Monetary Fund (the IMF is probably closest to being a genuine world bank).

The Bank has a duty to maintain the stability of the national currency in its exchange value with other national currencies, and to co-operate with other countries and international institutions to uphold the stability of the world financial system. It has a special account which it can use to deal in sterling and other currencies in order to stabilise demand and supply and control exchange rates, or at least control the speed at which exchange rates change. This account is called the Exchange Equalisation Account.

D. INTEREST RATES

Importance of Interest Rates

We have seen how important borrowing and lending are to the workings of a modern economy, and this dealing in money always takes place at a price. The price of money is **interest**, and the level of interest has become an important issue in modern economics. The reasons why interest rates have gained this importance include the following:

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(a) They influence the level of business investment and business costs.

If interest rates are high, new investment is discouraged and, as most loans provide for interest rates to be linked with bank base rates, the costs of existing borrowing rise. The result of a prolonged period of high rates is that business efficiency declines. This reduces the supply of business goods and services, and makes it more difficult for business to compete with countries with lower interest rates.

(b) They influence the cost of public borrowing.

The government, in one form or another, is by far the largest borrower of money. Some government debt is subject to changing rates – a number of loans are linked to rates of price increase, and the government's short debts (Treasury bills) have to be constantly renewed at current market rates. Governments have to pay interest out of revenue, and taxation is the largest source of revenue. A large proportion of tax revenue thus has to pay for the costs of past spending, and this proportion is not available for new spending. Any rise in interest rates reduces the amount of public services that can be provided from taxation and makes the government dependent on further borrowing – thus increasing future costs still further.

There is also a social effect. Remember that taxes are paid, directly or indirectly, from income earned by labour. Interest goes to holders of capital, so that the higher the rate of interest, the greater the effective income transfer from labour to capital.

(c) They influence consumer spending.

Much consumer spending on major capital goods and the more expensive household durables is with the help of credit. If interest rates are high, consumers may go on spending for a time but

(i) they purchase less expensive goods, because a higher proportion of the amount spent goes on borrowing costs, and

(ii) the burden of repayments takes up an increased proportion of income – leaving less for other spending. As everyone with a mortgage loan knows only too well, any increase in the interest charged on the loan reduces the amount of household income left for spending on other goods and services. If, for any reason, the household cannot meet the mortgage payments the home may be re-possessed. Changes in the rate of interest have become of very great importance to large numbers of people.

High interest rates also appear to increase savings – partly, no doubt, because of the discouragement to spending. We shall see later in the course how an increase in saving and a reduction in consumer spending can have a depressing effect on total business activity. A prolonged period of very high rates can be an important influence leading to general depression and increased unemployment.

(d) They affect the rate of inflation.

Because interest rates affect the cost of consumer spending, and because building society and bank mortgage interest rates now affect around 60% of all households in Britain, any change in rates influences movements in the Retail Price Index which is the official measure of average price increases (inflation). If interest rates go up, then inflation rises and people tend to spend less on new purchases. If spending also falls, the unemployment may rise, even though prices are also rising.

Because of the direct impact of interest changes in all these ways, the ability to make changes has become a major instrument of economic policy in all the main market economies. Since most

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contemporary governments in the advanced market economies appear to be pursuing mainly monetarist, anti-inflationary polices, they all rely on interest rates to pursue their objectives.

The Determination of Interest Rates

Since interest rates have so many important influences on our lives we should have some knowledge of the processes which determine them. Interest is of course the price of money, so that ultimately we would expect the forces of supply and demand in the finance markets to determine the levels of interest ruling at any given time. This in fact is the basis for one of the most widely accepted theories of interest rate determination, which suggests that the market equilibrium rate of interest is that rate at which the stock of available capital is equal to the demand for capital arising from its marginal efficiency.

The marginal efficiency of capital within the community is the average return available to business organisations from capital investment. Our earlier discussion of business investment showed that business firms can be expected to invest capital and to acquire capital for investment as long as the return from investment is more than the cost of capital which, in this analysis, we can equate with the market rate of interest. Firms will not knowingly invest where the return is less than the cost of capital (market rate of interest). The interaction of supply of capital and its marginal efficiency is illustrated in Figure 8.1.

As there is only a limited number of high yielding investment projects we can expect the marginal efficiency of capital (MEC) to fall as more capital is invested. The MEC curve is thus downward sloping. The stock of capital is fixed at any given time and is shown by the vertical line which intersects with the MEC curve at interest rate i and quantity of capital q. At this rate and quantity the demand for capital resulting from its MEC is just equal to its supply – the capital stock so that demand and supply are in equilibrium at interest rate i. At any higher rate there is an excess of demand as at rate i_1 where demand rises to q_1 with supply remaining at q. At rates above i there would be an excess of supply over demand.

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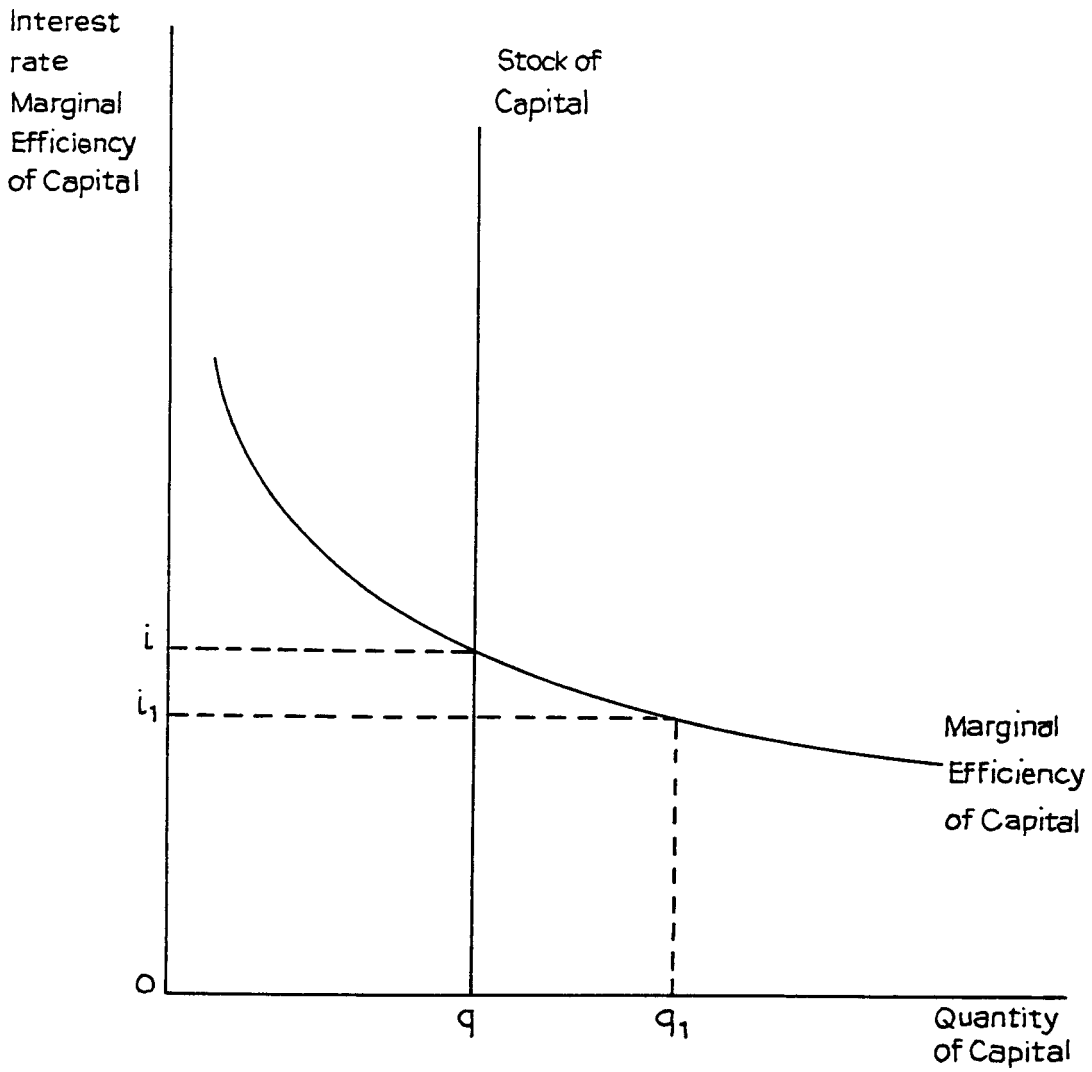

Figure 8.1

In the absence of any other influence, interest rates would be determined by considerations of this nature. However, other influences are almost always present in the shape of government or central bank intervention. Because some governments or central banks intervene to move interest rates to levels thought necessary to achieve their desired economic objectives, other governments also have to intervene to ensure that their economies are not put at a disadvantage.

Governments or other regulatory bodies are likely to want to push rates higher than the market equilibrium levels if they wish to restrict demand and production in order to control inflationary pressures. They may seek to bring rates below the equilibrium if they are faced with high and rising unemployment and fear a deep recession-depression. By reducing the cost of capital they hope to encourage business investment and consumer demand for goods and services. No major trading country can afford to be too far out of line with interest rates in other countries otherwise there would be a huge movement of capital towards high-rate countries and away from low-rate countries. This movement would put immense strains on the low-rate countries' balance of payments and on its currency exchange rate. Consequently the freedom of any individual government or central bank is restricted by the actions of governments and banks in other countries. Finance now circulates in a genuinely international market.

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Governments can influence rates either by controlling the stock of capital, usually by measures over bank lending, or by direct controls over the major banks. Notice that in Figure 10.1 the equilibrium rate will rise if the cost of capital line moves to the left and fall if it moves to the right. This results from the general shape of the MEC curve.

The Pattern of Interest Rates

It must not, of course, be assumed that the market rate of interest applies to all borrowers and lenders. In the first place financial institutions always charge their borrowers a higher rate than they pay to depositors. In 1995 there appeared to be a difference of anything from 4% to 6% between the rate the major banks were paying to customers who had, say £10,000 in a deposit account and the rate they were charging individuals and small firms who borrowed a similar sum.

In general those who lend money to others require a rate of interest which reflects:

- The time period over which the loan is made – the longer the period the higher the interest rate required, unless market rates are expected to fall over the period, when long-term rates can sometimes fall below those for short-term lending.
- The ease with which money loaned can be recovered; the greater the degree of liquidity, i.e. the more speedily and simply the money can be recovered, the lower the rate of interest. Banks pay a higher rate on deposits where several months' notice is required before repayment is made than on deposits which offer "instant access" (immediate cash withdrawal).
- The credit standing of the borrower – large companies with a long record of financial stability can obtain loans at lower rates than new, small companies.
- The degree of risk which, in fact, is the underlying factor in all the above considerations.

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(a) Transactions Motive

This is the desire to hold money because it is needed for the purchase of goods and services – i.e. to carry out trading transactions.

(b) The Precautionary Motive

This is the need to have some liquid money available as a precaution against unexpected developments, including favourable opportunities to purchase goods.

(c) The Speculative Motive

It is here that Keynes parted company from earlier teaching. Something of a financial speculator himself, Keynes regarded the speculative element, as in the choice between bonds and money, as particularly significant.

The opportunity for speculation (gambling) arises out of changes in interest rates, and the fact that the interest on bonds is normally paid at a fixed rate. Suppose a bond's fixed interest rate was 5% – because it had been first issued at a time of fairly low interest rates, when people were content to receive 5% on their money. Suppose some years later interest rates in general had risen to 10%, so that anyone lending money at that time would want at least 10% from the borrower. Clearly, anyone holding a 5% bond would not be able to sell it to another at its original price. A purchaser would expect to receive two £100 bonds for every £100 paid, because only then would he be able to secure a total interest payment of £10, which is the amount he could obtain by lending his £100 elsewhere in the financial marketplace.

Thus, with market rates of interest at around 10%, we could expect the market price of a £100 bond paying fixed interest of 5% to be £50.

Now, suppose the market rate of interest started to fall, so that the best rate a lender could obtain was 7.5%. Anyone willing to buy bonds would now be prepared to pay somewhere around £67. (If you cannot see why, then work out how many £100 bonds, paying interest at 5% per year, you would need to give yourself an annual payment of £15 in return for a total payment for the bonds of £200. When you have decided that, work out the price per bond.) This means that a fall in interest rates from 10% to 7.5% would enable anyone who had purchased a 5% bond for £50 to sell it for £67 – a handsome profit, especially if the change had taken place over a fairly short time-period.

We can deduce from this then that, if interest rates are high and expected to fall, the people would wish to buy bonds. As bonds and money are seen as alternative forms of holding financial wealth, the demand for money would, consequently, be low. By the same reasoning, if interest rates are perceived to be low and expected to rise, people would not want to be left holding bonds the value of which, as financial assets, is falling. Instead they would sell bonds and hold money – the demand for which would, thus, be high. Roughly equivalent to bonds are ordinary shares of first-class industrial and commercial companies, the profits of which might not be expected to fluctuate greatly and the dividends of which are fairly constant.

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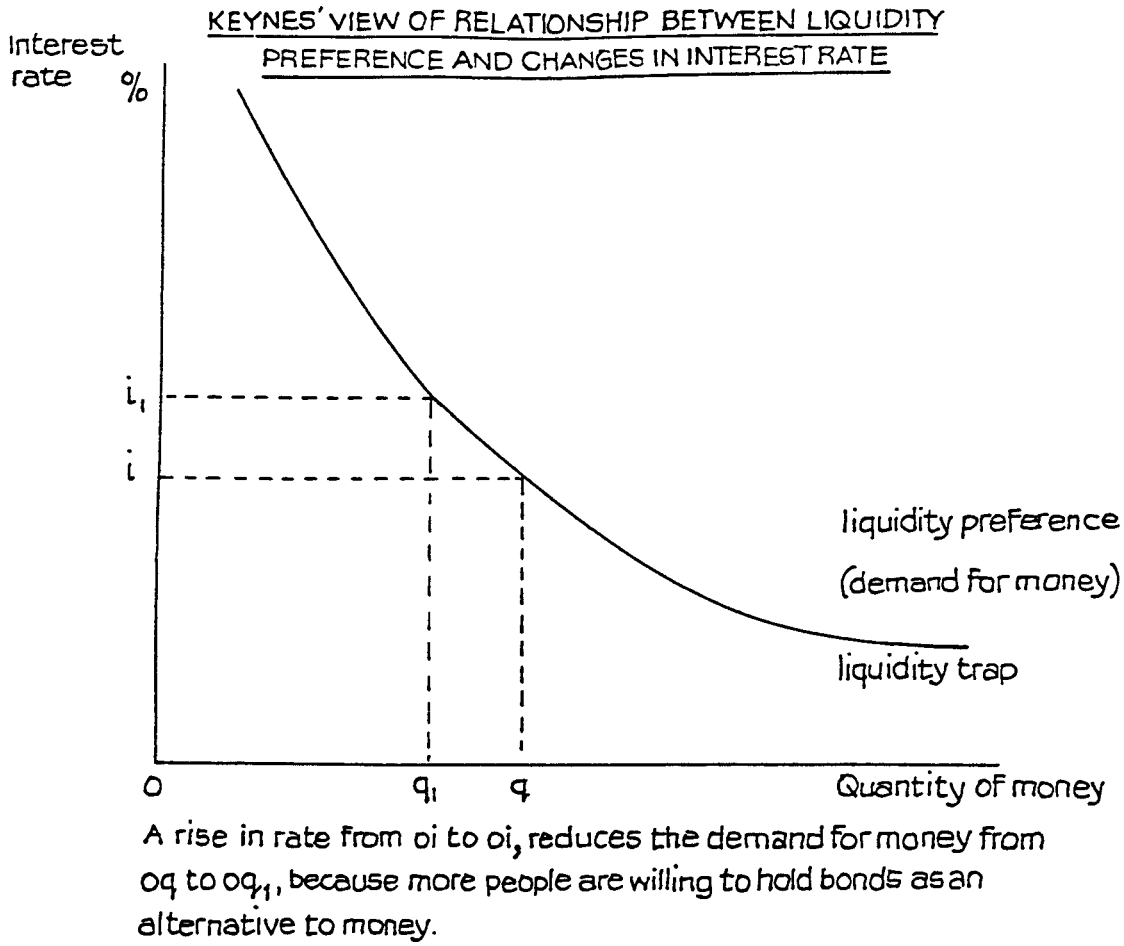

Figure 9.1

What is high and what is low in relation to interest rates depends on a great many other considerations, including people's experiences of rates in recent years. The ten per cent used in the above example would have been regarded as very high in the early 1960s but very low in the early 1980s. You should take an interest in the movement of interest rates and in changes in the prices of bonds (government stocks) while you are studying economics.

This stress on the speculative motive for holding money led Keynes to the belief that the demand for money does have a direct relationship to interest rates. It was thus possible to draw a "liquidity preference curve" of the type shown in Figure 9.1.

Notice that, at the lower rates of interest, the curve flattens out, because no one believes that the rate is likely to fall further, so there are no takers for bonds and people will wish to see a rise to a higher rate before there can be any expectation of a fall and a chance for a speculative gain. This is the liquidity trap which also features in the Keynesian v. monetarist debate, and which we shall come to shortly.

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C. THE SUPPLY OF MONEY

Money and Bank Credit

Disagreements between groups of economists about the motives for holding liquid money in preference to other forms of wealth may not seem too important but, in practice, they affect government economic policies and the way they seek to control the economy through interest rates. Anyone with a house mortgage or a bank loan knows only too well the effect of changes in interest rates.

In order to take our understanding of the issues a little further, we must examine the relationship between the demand for money and its supply.

This mention of a relationship between demand and supply may surprise you. In our examination of demand and supply for goods and services at an early stage in the course, these two market forces were kept separate. Money, however, is rather different. It is not "produced" like other commodities, except in the very limited sense that gold and silver are produced. Most of the supply of modern money is not found in physical form at all – it is **credit** held in bank accounts on behalf of the banks' customers. The total amount of credit held by the banks on behalf of customers is not a fixed amount but can, itself, be varied by the banks' own actions.

Credit Creation

Banks, in fact, can create credit through lending to their customers, and lending is a most important – and profitable – part of a bank's activities. When people or firms borrow from the banks, they use the amount borrowed to make payments to other people or firms, who deposit the payments with their banks. Suppose I borrow £2,000 from my bank to help buy a new car. When I buy the car, I pay the Swifta Motor Company. Suppose this company also has its accounts at the same bank. When I pay my cheque, drawn on the bank, to Swifta, it then pays in my cheque to its own account. In effect, the bank has created £2,000 in one account (my loan account) and thereby increased the volume of its customer deposits (through the extra £2,000 paid in by Swifta).

Thus, for the factor capital, we have the peculiar position that demand appears to create its own supply.

You may think we have cheated by using one bank only in our example but, as long as there is a fairly closed banking system in a country, the effect will be the same if different banks are involved. In the UK, the great mass (over 80%) of daily payments pass between the four large clearing banks (Barclays, Lloyds, National Westminster and Midland), so that this close relationship between demand, borrowing, depositing and supply does exist.

Illustration

In practice, the banks keep a proportion of all their funds in the form of coin, notes or deposits with their own bank (the Bank of England), or in loans to other banking institutions, which can very quickly be recalled. If we call these liquid assets of the banks "cash", and assume, for simplicity, that a country has a system of two banks only, each keeping 10% of its assets in cash, then we can give a very simple illustration of how the total supply of bank money can grow following the injection of "new money" from some outside source.

Suppose that our two banks are A and B, and the initial injection is 100 units, which goes to B. A's customers borrow money to pay to customers of B, and vice versa. The banks are of equal size.

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Bank A

Customer deposits	1,000	*Held as:*	Cash	100
			Loans	900
				1,000

Bank B is in the same position. Then there is an injection of 100 to the deposits of A. Bank A initially adds this to its cash – but idle cash earns no money. As soon as possible, therefore, it lends it to suitable customers, and its accounts then appear as follows.

Bank A

Customer deposits	1,000	*Held as:*	Cash	110
			Loans	990
				1,100

This additional lending soon gets paid into customer deposits of bank B, which also lends 90% of this increase, so that its accounts appear as:

Bank B

Customer deposits	1,090	*Held as:*	Cash	109
			Loans	981
				1,090

Additional loans of 81 units have now been made to customers of bank B, who have made payments to customers of bank A.

The process continues, and bank A's accounts become:

Bank A

Customer deposits	1,181	*Held as:*	Cash	118
			Loans	1,063
				1,181

Notice how the total of deposits (and, hence, the total money supply) is increasing, but (because 10% is being held back all the time) by a decreasing amount at each lending/deposit round.

The Multiplier

This progression is called the bank credit (or money) **multiplier**. The total increase in our example will be ten times the amount of the original injection. This is because:

$$K_b = \frac{1}{c}$$

where: K_b = value of the bank credit multiplier

c = proportion of customers' deposits held by the bank as "cash"

In our example, the proportion held as cash is 1/10 and 1/10 = 10.

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As the original injection was 100, the final increase would be 1,000. Thus, the greater the proportion of customer deposits that the banks are able to lend to other customers, the greater will be the size of the bank multiplier and the effect of lending on total money supply.

This power of the banks to "create money", and the close link between lending money and the increase in total money supply, are both extremely important issues. You must make sure you fully understand them.

Because of this close relationship between the demand for and the supply of money, we can suggest that the supply of money is likely to have very similar features to the demand. Thus, if we believe that there is a particular relationship between interest rates and the demand for money, then a very similar relationship can be expected for interest rates and the supply of money.

D. IMPLICATIONS OF LIQUIDITY PREFERENCE

Interest Rates and Demand for Goods and Services

We now return to an earlier statement concerning the preference for money. Remember that the classical and monetarist view regards money as one of a number of possible ways to hold wealth. Another way is to buy goods, so that we should now consider what is likely to influence the desire to spend money in buying goods in preference not only to holding money but also to holding bonds or company shares. If, then, we see interest- or dividend-bearing securities as being in competition with goods for a share of spending, we can also see that bonds, etc., are likely to be desirable, because they yield an income. Goods do not yield an income but they offer other satisfactions. We thus have to balance the desire to obtain an income with the desire to enjoy goods – and services. If interest rates are high, then bonds and other income-yielding securities can seem attractive because of the income that they produce. If interest rates are low, the income attraction is also low and goods and services offer greater satisfactions.

Taking this approach, we can see a relationship between movements in interest rates and movements in the demand for goods. When interest rates are high, the demand for goods is low, because people prefer bonds. At low interest rates, demand for goods is high because they seem more attractive than the low income obtainable from bonds.

This relationship is shown in Figure 9.2.

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Monetarist view of demand for goods and services and changes in interest rate

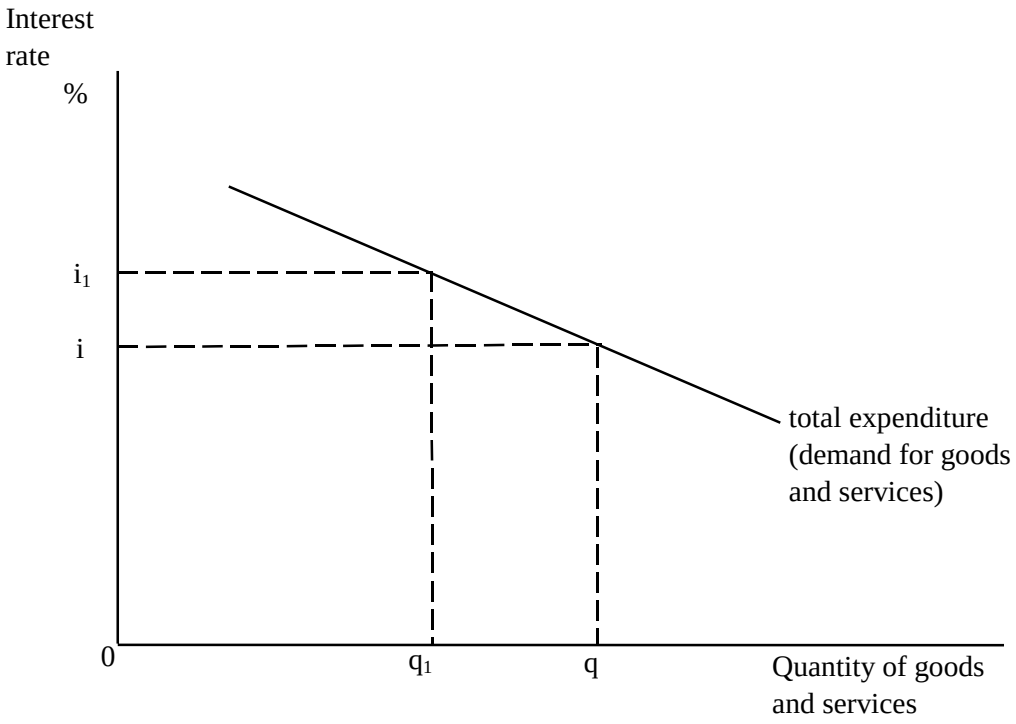

Figure 9.2

If interest rate rises from 0i to $0i_1$, the demand for goods and services falls from 0q, to $0q_1$, because people are attracted towards buying bonds and other income-yielding securities.

Classical and Monetarist View

We can now summarise the classical and monetarist position with regard to interest rates and money, and also with regard to interest rates and the demand for goods and services.

It is that the demand (and therefore the supply) of money is not very responsive to changes in interest rates. Putting this in more formal economic language: money demand and supply are interest-rate **inelastic**.

On the other hand, the willingness to spend money on goods and services is responsive to changes in interest rates – i.e. the expenditure demand for goods and services is interest-rate **elastic**.

The Keynesian View of Interest Rates and Expenditure

As we saw earlier in our studies, in the Keynesian view of the national economy, consumption – i.e. total expenditure on goods and services – is mainly dependent on income levels. In other words, the main influence on the level of consumer demand is seen as the level of income and not the supply or the price of money (interest rates).

The Keynesian, therefore, does not believe that changes in interest rates are likely to have much effect on the level of expenditure (consumer demand). Again, the more formal economic statement is that total expenditure or demand for goods and services is believed to be **interest-rate inelastic**. In contrast, we have seen in this study unit that the Keynesian, stressing the speculative motive in liquidity preference, believes the demand (and hence the supply) of money is **interest-rate elastic**.

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Implications of the Differences

These two differing views of the relationship between interest rates, demand for money and demand for goods and services have major implications for government policy, especially for policy on money supply and the control of money supply.

Suppose it is possible for the government to engineer a reduction in the money supply – e.g. by forcing the banks to reduce lending to customers – and so reduce their credit-creation. Then this change in supply, like any other market shift, will result in a price change. Interest is the "price of money", so a reduction in money supply can be expected to force up interest rates; but the amount of change will depend on the supply and demand elasticities – on the responsiveness of supply and demand to interest rate. Given that there will be some effect on interest rate, this, in turn, will affect total demand for goods and services – again, the extent of effect will depend on the relationship between expenditure demand and interest rates.

Now we can begin to see the importance of the differences in views between Keynesians and monetarists. These are illustrated in Figure 9.3.

Keynesians believe that there is a close relationship between money demand and interest rates but this interest-rate elasticity ensures that any shift in rates brought about by a forced shift in supply also reduces demand – so, in effect, the interest rate change is small. Expenditure is not much influenced by interest rate anyway (it being influenced more by income), and the small rise in interest produces little movement in expenditure.

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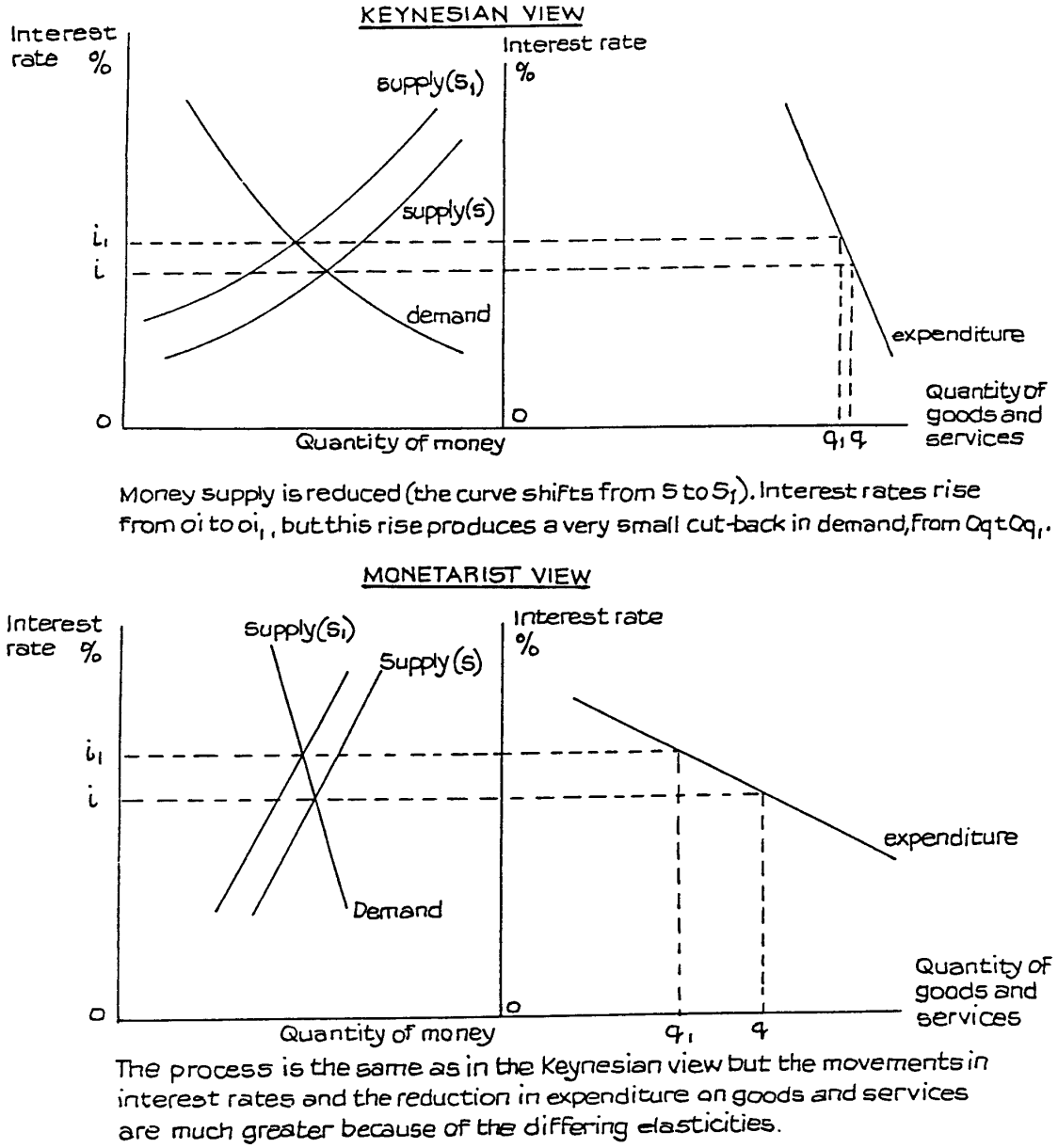

Figure 9.3

The position according to the monetarist view is very different, although the mechanism is the same. Demand remains largely unaffected by the shift in supply and the change in interest rate which is, thus, pushed up higher than in the Keynesian view. This steep rise in rate produces a major reduction in the interest-responsive demand for goods and services.

These are very marked contrasts, in effect, and you would expect the debate to be settled fairly easily by research into actual interest-rate and money-supply changes. In practice, economists' research faces a great many practical difficulties – not least, as we shall see, the problem of actually defining and measuring money supply!

There are also other influences operating both on interest rates and on the demand for money, and there are further problems in distinguishing between short and long-term effects. Even after many years of economic management by a "monetarist" government, following the changes of 1979, there is still much uncertainty, and the debate is far from resolved.

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You may now also see that our analysis has to take into account some important modifications resulting from the way money is handled in the actual finance markets, so that, before we go further into this general debate over monetarism and the effect of government attempts to control the economy according to monetarist principles, we should pause and examine the structure of the finance market within which money and the supply and demand for money actually interact.

E. CHANGES IN LIQUIDITY PREFERENCE

So far we have looked at the consequences of changes in the quantity of liquid money demanded in response to changes in interest rates. We also need to consider the effect of a shift in the whole liquidity preference curve, i.e. see the effects when people wish to hold more, or less, liquid money at all relevant rates of interest.

If people desire to hold a higher proportion of their wealth in the form of liquid money, then they will have less available for use as loanable funds or to purchase physical assets. The logical consequences of reductions in each of these would be to reduce levels of business investment.

- If the supply of loanable funds falls we would expect interest rates to rise and this would increase the investment costs faced by business firms and tend to reduce their investment intentions.
- If expenditure on goods and services falls, this would reduce the aggregate level of consumer expenditure and lead to a reduction in business investment. Firms invest in order to increase future production. There is no point increasing future production if current expenditure on goods and services is falling. The reduction in investment would have a depressing effect on the equilibrium level of national income through the investment accelerator and multiplier.

This process and the terms “investment multiplier” and “investment accelerator” are explained in Study Unit 11. At this stage it is simply necessary to recognise that any reduction in investment is likely to depress the general level of economic activity in a country.

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Study Unit 10

The National Economy

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A. NATIONAL PRODUCT AND ITS MEASUREMENT

Flows of Production and Money

In this study unit we start to examine the national economy as a whole. We see this in terms of one large market in which total or aggregate demand from the whole of the community is satisfied by total production. We are, thus, concerned with totals or aggregates in this part of the course. When we have gained an understanding of the national system, we can begin to see its inter-relationship with the wider international economy.

We are concerned chiefly with modern industrial economies – or with agricultural economies organised on an industrial basis (e.g. states such as Denmark or the Republic of Ireland). Some of the important assumptions which we shall be making will be valid for these economies but would have less relevance for subsistence agrarian economies, organised around self-sufficient local communities, or for completely state-regulated socialist economies.

Flow of Production and Consumption

The **national economic concepts** we use assume the following:

- That production and consumption are separate – production being organised by business or government organisations, and consumption being decided by individuals, families and households. The family is, thus, seen as purely a consumption and social unit, and not as a production/consumption/social unit, as it would be in an agrarian (farming) economy.
- That most of the goods and services produced are exchanged through a market system, with households paying money to buy products, and firms paying money for the use of production factors.
- That a proportion of production is organised by the state and its agencies, and paid for by revenue raised by the state from the community.

This system can be illustrated in the form of two circular flow diagrams. One shows the flow of goods and services – the productive activities of production factors (Figure 10.1(a)), while the other (Figure 10.1(b)) shows the counterflow of money which oils the really important flow of production and consumption. Notice that, for simplicity, we use the terms “firms” for production organisations, and “households” for the individuals and families who consume what is produced. These diagrams assume that the total volume of production is immediately and totally consumed, i.e. there is nothing to enlarge or diminish this continuous circular flow.

Notice that firms are seen as hiring the production factors, which are owned by households, which then supply the labour, capital and land employed in production, and purchase the goods and services produced.

The Consumption Function

If, for simplicity, we imagine an economy where there is no foreign trade, no taxation and no government spending, then we can say that total income is either spent (consumed) or not spent (not consumed). If we then define savings as income that is not spent or consumed, then we can make the proposition that income (Y) is either consumed (C) or saved (S), i.e. that $Y = C + S$.

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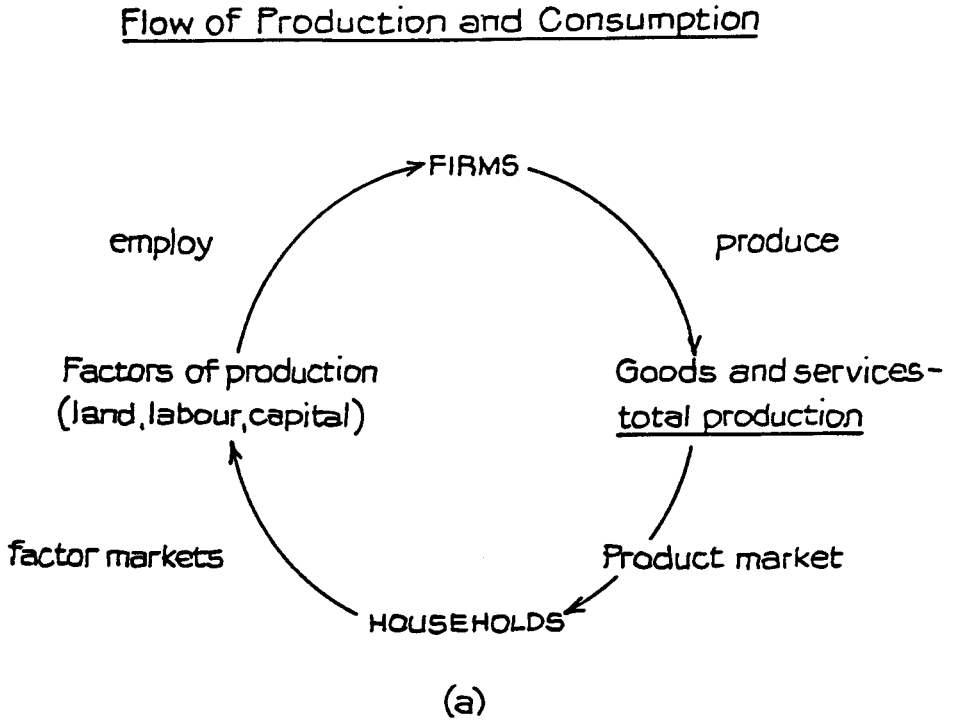

Figure 10.1

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Given this proposition and retaining our simplified model of the economy, we can then see that any increase in income is apportioned between consumption and saving. The amount of any increase in income which is consumed is often referred to as the **marginal propensity to consume**. It may also form the basis for an equation which helps us to determine the level of consumption for any given level of national income. For example, we may say that:

$$C = 300 + 0.75Y$$

This is then termed the **consumption function**. If you have studied mathematics, the term "function" will be familiar to you.

Given this function, i.e. the direct relationship between total consumption and total income we can calculate values for C for any level of Y. If Y = 1,000, then C = 300 + ¾ (1,000) = 1,050. At this level, people are trying to consume more than their total income and will have to use up past savings or borrow from another country. At the income level of 4,000, C = 300 + ¾ (4,000) = 3,300. This means that savings will equal 700, i.e. 4,000 – 3,300.

In this example, the 300 is a constant; it is the minimum amount of consumption required by the community, whatever the level of income. Total consumption is made up of this minimum plus a proportion of total income. The greater the marginal propensity to consume, the higher will be the proportion of total income that is consumed at any given income level. If the marginal propensity to consume remains the same at all income levels, then this will also be the proportion of Y that is consumed in the equation.

Modifications to the Basic Flow

We must now modify some of the assumptions made in the basic circular flow concept. The main modifications we need to make are to take into account the following factors:

(a) Not all the income received by households is immediately spent on goods and services; some income is **saved**.

(b) Another part of total income of households is not actually spent on goods and services but handed over to government authorities as taxation, either taken directly from income or indirectly when certain goods and services are purchased. At this stage, all forms of taxation are considered together. We shall examine forms of taxation later.

(c) Yet another portion of income is spent on goods and services produced by other national economies, i.e. it is spent on **imports** from other countries.

(d) Firms enter the general flow as buyers of goods and services, such as factories, machines and research, in their efforts to increase their capacity to produce. We call this **investment** or **capital accumulation**.

(e) The government must be seen as a separate force which produces goods and services on behalf of the community as a whole – e.g. it builds roads, schools and hospitals, and it provides forces to maintain law and order and defence against external aggression. We can combine all these activities under the heading **government expenditure**.

(f) Firms supply other countries with **exports** of their products. Trade is a two-way process.

We can regard modifications (a) to (c) as leakages from the main flow of economic activity, because they reduce the purchasing power of total incomes, and (d) to (f) as injections into the flow, because they increase total purchasing power and demand. This concept of leaks from and injections into the main flow is illustrated in Figure 10.2.

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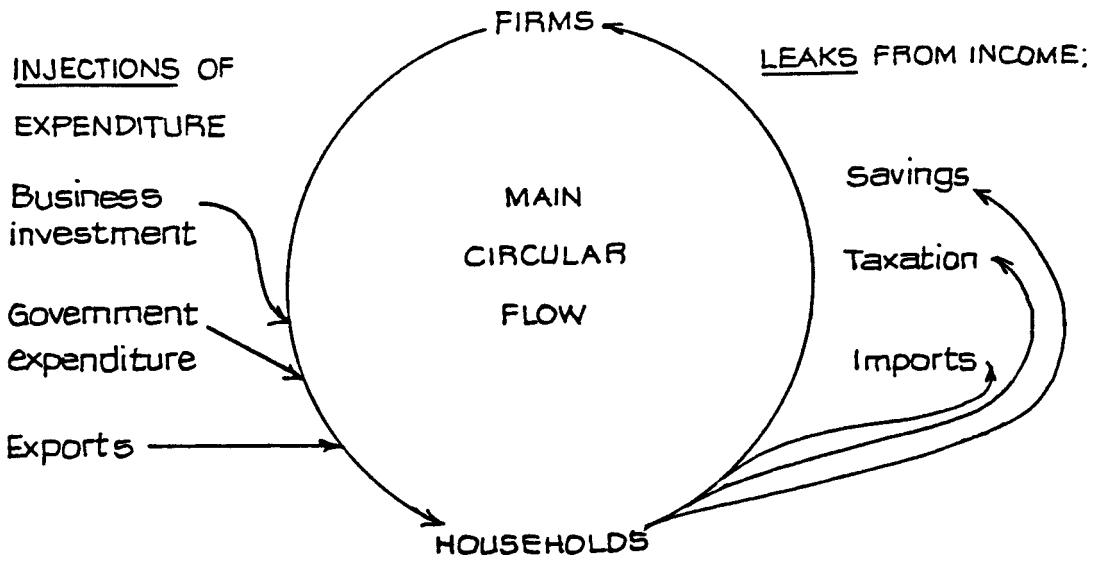

Figure 10.2

National Product, Income and Expenditure

This total flow of economic activity, modified by injections and leaks, can be given the general term **national product**. This is the term used chiefly today, and it serves to emphasise that it is the total **production** of goods and services that is the really important matter. This is the total flow as seen in our first illustration (Figure 10.1(a)). The counter flow of money in the second diagram (Figure 10.1(b)) can be seen as both the total **income** of households and as the total **expenditure** of households.

Notice that these three – total product, total income and total expenditure – are all really describing the same essential flow. They can be regarded as equal – provided that the total amount of leakages from income (savings, taxes and imports) is equal to the total amount of injections of expenditure (from investment, government spending and exports).

At the moment, we shall assume that this equality does exist and that total production = total income = total expenditure. Thus, if we use P to denote total product, Y to denote total income, and E to denote total expenditure, we can say that:

$$P = Y = E.$$

We therefore need to examine each of these aspects of the flow more carefully.

National Income – Treatment of Taxes and Subsidies

It is useful here to examine more closely the treatment of taxes and subsidies in the national income summary accounts calculated from incomes and from expenditure.

The national account summaries actually show two versions of Gross Domestic Product based on expenditure. One, at market prices, takes no account of expenditure taxes or subsidies paid to producers. They show the totals of spending at the prices actually paid "in the market". GDP at factor cost, however, is calculated by deducting the total value of expenditure and other indirect taxes and adding back the total of subsidies paid to producers.

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The total based on factor cost is the one normally used. It is considered to be the fairer reflection of true expenditure on goods and services. After all, total expenditure includes government spending on final consumption, and much of this is paid for from expenditure taxes. If we value GDP at market prices, then we are, in effect, counting in expenditure taxes twice – once when they are paid by the consumer, and once when they are used to pay for goods and services by the various government bodies. Similar adjustments need to be made to take account of subsidies. These are payments made by Government to producers and have the effect of reducing market prices. To obtain the true cost of goods and services any subsidies need to be added back. Thus, to convert GDP from market prices to factor costs indirect taxes are deducted and subsidies are added. In the summary accounts this process is usually referred to as the "factor cost adjustment".

The treatment of direct (mostly income and profits) taxes appears, on the surface, to be rather different, but the effect is the same – i.e. to ensure that total incomes are a fair reflection of the incomes actually earned in the course of producing the national product.

Income and profits taxes are **not** deducted from employment incomes, nor from the trading profits of companies and the trading surpluses of government-owned bodies.

The gross incomes, profits and surpluses are the true incomes actually paid by the production organisations.

On the other hand, no account is taken in the summary totals of incomes from pensions, unemployment benefits or other state welfare payments. These incomes are **not** received in return for a contribution to production. They are **transfer payments –** being transfers from the income of a contributor to the production process to someone who is a "non-producer". (No moral judgment is intended here. The non-producer may have been a valuable past producer, or he may become a valuable future producer. Our concern is to arrive at a true valuation of production **in the year of account**.)

The accounts do, of course, include the incomes of those in the employment of state organisations, even though their incomes may have been paid for out of income taxes. This does not matter – the incomes of state employees are earned in return for their work which is included as part of total production, and the process is no different, in principle, from any other use of income to provide an income to another **in return for goods or services**. If I use part of my income to pay for my daughter's dancing lessons, then those payments are included again in the accounts as part of the dancing teacher's income. If part of my income is taken from me to pay the salary of a teacher in my daughter's comprehensive school, then, again, these payments are included in the national accounts. The only difference is that the state directs what I shall pay towards teaching in the school, whereas I choose whether or not to pay for dancing lessons. In each case, the payments are made in return for services which contribute towards the production of the national product. What is not included as a further income is the payment made out of my taxes towards the unemployment benefit paid to my unemployed nephew. His income is not earned in the course of producing anything, and it is ignored, as though it were a voluntary contribution from me to him.

B. NATIONAL PRODUCT

Avoiding Double Counting – Value Added

The National Product is the sum of the values of all the goods and services produced by a community within a recognised time period – normally a calendar year. However, we cannot simply add up the values of all goods and services produced by all business organisations in the country. If we did this, we would be counting some things more than once. For example, a set of screws may be made by

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firm A, sold to firm B which makes timing equipment, which, in turn, is sold to firm C – a motor-vehicle assembler. The completed vehicle is then sold to firm D, a motor distributor.

The final price of the vehicle includes the cost of the screws but, if we added up the total value of the products sold by firms A, B, C and D, we would find that we had counted the screws four times.

One possibility might be to add up only the value of the product sold by the final distribution firm, but this might not give us a very accurate result, because our motor distributor does not always know whether he is selling to a householder or to a small business firm which will use the vehicle for business purposes and includes its cost in the value of the goods or services it produces. There would also be considerable problems of allowing for goods imported and exported.

The solution actually adopted is to count the "value added" to inputs by all firms producing outputs. This is now much easier than in the past, because of the introduction of Value Added Tax. All firms paying the tax, in effect, are also reporting their value added to the taxation authorities. In very simple terms, the value added by each firm is the difference between the revenue it obtains from selling its product and the cost of all goods and services purchased from other firms. In this way, the screws of our original example are counted only in the value added of firm A. They are excluded from the totals obtained from firms B, C and D. Notice that value added includes the cost of labour employed by each firm in adding value to the inputs it purchases.

We shall go on to show how public sector spending contributes to the Gross National Product. However, there is a reservation that should be made when we consider the public sector. This concerns what are often called **transfer payments**. Consider, for example, what happens when a person receives unemployment or some similar social security benefit. This is not a payment made in return for work performed or services provided. It is a transfer to the unemployed person through taxation from the income earned by people in employment. If we counted the unemployment benefit into the National Product in addition to the full income of those who, in effect, are making the transfer, then we would be double-counting the amount. Incomes are counted as part of National Product only if they are earned by some contribution to economic activity, e.g. by employment or by making capital available to government or business. Payments received by way of transfer through taxation are not included in the total – though, of course, they have to be taken into account when we examine how the total National Product or Income is distributed.

A similar transfer payment within the private sector takes place when parents give pocket-money to their children. The income has been earned by the parent and is simply transferred to the child. Total national accounts, therefore, do not include children's pocket money! Of course, the transfer payments taking place through the public sector are much larger, and it is important that we understand why they should be excluded from the final totals.

Gross Domestic Product

The figures published in the annual accounts of the United Kingdom in a publication known usually as the "Blue Book" ("National Income and Expenditure") show total product figures classified by categories of industry and service. The following table is adapted from the Blue Book of 1994 and shows the figures for 1983 and 1993.

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Gross domestic product by industry

Industry sector	**1983** ***%***	**1993** ***%***	**1993** ***£ million***
Agricultural, hunting, forestry and fishing	1.99	1.82	10,373
Mining and quarrying including oil and gas extraction	7.41	2.13	12,147
Manufacturing	23.68	20.77	118,294
Electricity, gas and water supply	3.18	2.46	13,994
Construction	5.83	5.13	29,221
Wholesale and retail trade; repairs; hotels and restaurants	12.26	13.76	78,348
Transport, storage and communication	7.22	8.12	46,263
Financial intermediation, real estate, renting and business activities	18.17	23.52	133,956
Public administration, national defence and compulsory social security	6.81	6.71	38,199
Education, health & social work	8.42	10.09	57,457
Other services including sewage and refuse disposal	5.03	5.49	31,292
Total	100.00	100.00	56,544
less Adjustment for financial services			-23,741
Adjustment for statistical discrepancy			317
Gross domestic product at current factor cost			546,120

The item “adjustment for financial services” requires explanation. The gross figure of (£23,741m) for banking and finance services includes interest payments received from financial companies and other institutions. These payments should really be deducted from the totals of other industries to which they relate but, as this is impossible, the only way to adjust the total is by including this special item.

One further adjustment is made to these figures. As we see in this study unit, the total of Gross Domestic Product is calculated in three ways, corresponding to three different points in the same circular flow of activity. Because they are measuring the same thing, each total should be the same. In practice, errors and omissions are inevitable so they are never quite the same. No one measure is considered to be more accurate than the other so each is adjusted by a “statistical discrepancy” to bring them all to the same figure. In this case the corrected figure for total Gross Domestic Product is £546,120m.

This total represents the value of the economic activity of the community, measured from the output of business and government organisations. This figure is termed **Gross Domestic Product** (GDP). The basis on which this figure is valued does not include indirect taxes and government subsidies, so

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that it is assumed to be valued at "factor cost", i.e. at the cost of the factor inputs, not at the prices paid by final consumers.

Notice also that, in this calculation, there is no separate identification of imports and exports. This would be too difficult when counting business output of firms operating within the country. In practice, we would expect the figures to include the value of goods and services which have been produced for export, but not to include those produced in other countries. Domestic product represents the value added from the home or domestic activities of production organisations in both the private and public sectors.

Trends in Domestic Product

The largest item in the domestic product in 1993 was that relating to financial and business services, a sector which accounted for over 23.5% of product, outstripping manufacturing, under 21%, which for years had been the largest sector. The decline in manufacturing's share of total product has been continuing for many years as services of all kinds have assumed an increasing importance. This is a trend that is common to all the "old" industrial countries of North America and Western Europe and reflects both rising living standards in these countries, where people spend an increasing proportion of incomes on services instead of goods, and changes in the pattern of world production. If you look at the goods for sale in the shops or in your own home you will see how many of these have been manufactured in the Pacific Rim countries of Japan and South East Asia. Notice also the rise in the proportion of product accounted for by education, health and social work. This reflects changes in technology affecting the work performed and equipment used by these services, the age structure of the population as the rising numbers of older people put more pressure on the health services, and changes in economic and social conditions with the expansion of education to cope with the demands of the modern technology-based society and of social work to cope with the casualties of that society.

The relative growth of services at the apparent expense of manufacturing does not mean that manufacturing is no longer important to economies such as that of Britain. It is still extremely important, not only because the financial and business services need a strong manufacturing base for their own development but also because it still provides a very large share of the wealth of the community. Manufacturing has, of course, changed. It is no longer made up of simple "metal bashing" but based on complex, computer aided processes often involving very high levels of technology. The borderline between the new manufacturing processes and services is often rather vague. Assembling a computer is clearly "manufacturing" but designing the software and systems that control the computer and all the other equipment in the factory depends on the services of teams of designers and programmers who would not think of themselves as working in manufacturing.

Further developments may also be slightly exaggerating the trend away from manufacturing towards services. The old style manufacturing firm employed "in house" many groups such as caterers, designers and other commercial service activities which today are more likely to be carried out under contract by specialised services firms but which are still actually performed for the manufacturing firm and its workers. These statistics, like all others, need to be interpreted with some caution and against a background awareness of what is actually happening on the ground.

C. NATIONAL EXPENDITURE

Calculation of GDP

The main items of total expenditure were identified earlier as the main flow of household consumption plus the injections of business investment, government spending and export demand.

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The concept is reflected in the Blue Book totals, which, in 1994, identified the National Product by category of expenditure, as follows:

National Product by category of expenditure for 1993:

	£ million
Consumers' expenditure	346,162
General government final consumption	128,786
Gross domestic capital formation	87,025
Total domestic expenditure	561,973

Consumers' expenditure is the same as the household expenditure already explained. Total government spending is shown exclusive of capital investment. For example, it includes the running costs of the Health Service but not the cost of building hospitals. This capital investment or formation is combined with private sector investment to produce the third item in the table, "gross domestic capital formation".

This figure is not the same as domestic product calculated from industrial and government output, because of the effect of imports and exports. Consumer and other spending will include spending on goods and services produced in other countries (imports) but will not include the value of goods and services sold to other countries. However, when we add on a figure of £150,504 million for exports, deduct £166,266 million for imports and then also deduct a "statistical discrepancy adjustment" of £91 million, we obtain the total for gross domestic product calculated from expenditure of £546,120 million, the same figure calculated from product by industry.

The basis of valuation is factor cost, because the effect of taxes and subsidies on expenditure has been removed. In fact, the National Income Blue Book also gives tables for Gross Domestic Product calculated by category of expenditure "at market prices". Further figures are then given for "factor cost adjustment". These are the total of "taxes on expenditure" to be **deducted** from Gross Domestic Product, and of subsidies to be **added**. The result is Gross Domestic Product at factor cost.

For example, in 1993 the factor cost adjustment required:

Deducting

Taxes on expenditure £91,361 million

Adding back Subsidies £7,458 million

i.e. a total factor cost adjustment of £83,903 million. This is the amount by which gross domestic product, measured at current market prices would be overvalued by the effects of taxation and subsidy. Factor cost gives the true value of the production factors used to produce the total product.

Gross and Net National Product

The Blue Book makes two further adjustments to the GDP total. These are given below.

(a) An allowance for "net property income from abroad", i.e. earnings of British organisations operating in other countries less the amount earned in the UK by foreign-owned organisations. In 1993, there was a net inflow of this income of £3,062m and when this is added to gross domestic product it produces a total of £549,182m. This is known as the **Gross National Product**.

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(b) An allowance for "capital consumption", i.e. the using-up of capital investments made in past years (e.g. the deterioration of roads, factories, etc.). In 1993, this was estimated to total about £65,023m. Thus, when this figure is deducted from the Gross National Product of 549,182m, there remains a total for **net National Product** at factor cost (**National Income**) of £484,159m.

In practice, the figure most commonly used for international comparisons, etc. is that for Gross National Product – largely because the capital consumption figure has to be estimated, and different countries use different methods of estimation.

D. NATIONAL INCOME

We noted earlier that total factor incomes suffered leaks from savings, taxes and import spending before they were transformed into expenditure. The main Blue Book totals do not, in fact, show these items directly, although they can be calculated from figures published in the book. Instead, they show the Gross National Product by category of income. The totals are of gross incomes, so they include taxation, savings and money which will be spent on imports. The categories of income are as below – again using figures for 1993 from the 1994 edition of the Blue Book:

	£ million
Income from employment	352,896
Income from self-employment	61,346
Gross trading profits of companies	73,397
Gross trading surpluses of public corporations	3,415
Gross trading surpluses of general government enterprises	294
Rent	52,872
Imputed charge for consumption of non-trading capital	3,942
less Stock appreciation	–2,359
Statistical discrepancy (income adjustment)	319
Gross domestic product by category of income	546,120

Notice that these correspond broadly to the rewards to factors of production. Income from employment is the return to labour, as is most of the income from self-employment – though this may include some return to business owners' capital. Company profits and government organisation (including public corporation) surpluses may be seen as the reward to capital, while rent is the return to land, including certain property on the land.

As we are concerned with incomes earned within the country, we do not have to make any adjustments for imports and exports.

E. EQUALITY OF MEASURES

Notice that the Blue Book – and countries other than the UK use similar calculations – takes care to emphasise the equality (or, more strictly, the identity) of the three measures by:

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(a) ensuring that each is brought to the same total, where necessary by the device of a "statistical adjustment"; and

(b) labelling each set of summary accounts as "National or Domestic Product" – thus stressing that it is the **same flow of activity that is being measured**, whether by category of expenditure, category of income or class of industry.

This also emphasises that it is the **real product**, i.e. the flow of **actual goods and services**, that is important, rather than the flow of money through income and expenditure patterns.

Thus, the national account supports the concept of National Product and its circular flow. Remember that total gross incomes were distributed by households as: consumer expenditure, savings, taxation and spending on imports.

At the same time, total expenditure received additions (injections) from: investment, government spending, and spending on exports by foreign countries. Bearing in mind that total income and total expenditure are different ways of looking at what is, essentially, the same flow, we can use symbols to state an equation. We have already used E for total expenditure and Y for total income. In addition to these, it is usual to make use of the following:

S = savings; I = investment; T = taxation;

G = government spending; C = consumer expenditure;

X = exports; M = imports.

Using these symbols, we can now say that:

$$Y = C + S + T + M \quad \textit{and} \quad E = C + I + G + X$$

Remember that Y = E, so that:

$$C + S + T + M = C + I + G + X$$

C (consumer spending) is common to both sides of this equation, so that we can expect the remaining elements of total income and total expenditure to preserve the equality, i.e.:

$$S + T + M = I + G + X$$

This is a proposition which is of very great importance in our analysis of national product, and we shall be analysing its implications in some detail later.

F. USE OF NATIONAL PRODUCT CALCULATIONS

Reasons for Introduction of National Accounts

The detailed calculation and publication of National Product figures is a practice with only a short history. United Kingdom figures have been compiled regularly only since the early 1950s. If the nation managed to survive fairly successfully through the centuries before 1950 without national accounts, why do we attach so much importance to them today?

The answer is two-fold. In the first place, the National Product concept based on the circular flow of economic activity is relevant only to an industrial economy, and the UK could be called such only from around 1850 onwards. The realisation that the periodic economic problems arising out of industrial activity could not be measured and properly understood unless accurate figures were available led eventually to acceptance by the government of its duty to prepare these figures.

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The second part of the answer lies in the changed economic role of the government. After the Great Depression of the 1930s, there was a widespread belief that the government could, and should, seek to become involved in some degree of economic planning. If a government is to try to manage the national economy, it needs national accounts, just as much as business managers need business accounts for the firms the activities of which they are seeking to control.

Helping to Solve Economic Problems

The existence of national accounting figures also helps us to understand how an economy actually works. Without precise figures, we can only guess at such issues as the influence of interest rates on savings or of income levels on consumption. When we have continuous records of interest rates, savings, incomes and consumption over a reasonable number of years, then we can produce evidence of cause and effect.

The more we know about the workings of a modern economy, the more hope there is that action can be taken to produce results that are beneficial to the community and that solutions can be found for the great problems which upset industrial societies, such as mass unemployment and price inflation.

Making Comparisons

Accounting records make comparisons possible. We can find out whether the economy is operating more or less effectively than in the past, or more or less efficiently than the economies of other countries. As we shall see in the next section, care has to be taken in making comparisons but, without national accounting figures, no comparison is possible at all. For example, when we look at the UK experience over the last decade in the light of, say, the West German experience over the same period, we can see that there have been very different results arising from different policies and objectives.

One very practical use for national income figures is as a basis for a number of United Nations calculations. Member contributions to some UN institutions depend on national product. National income and product figures are the starting point for many UN investigations designed to improve the economic and social performance of poorer countries.

G. LIMITATIONS OF NATIONAL ACCOUNTS

We have to accept that too much reliance should not be placed on even the best national accounts, and they should not be used, except with very great care, for purposes for which they were never intended.

Limited Accuracy

It is, clearly, impossible to compile details of all the many economic activities in a modern community. The desire to evade taxes is one of many reasons why some activities remain firmly hidden from official eyes. The extent of the hidden, or “black” economy is sometimes put as high as 7% of the official economy. Business organisations come and go, and it is not easy to estimate the size of activity in new industries or the extent to which older activities may be declining. We have seen that the three measures of the British national product can be made to balance only with the help of a statistical adjustment. Considering the huge amounts involved the proportional differences that have to be reconciled are remarkably small. In countries able to devote fewer resources to statistical services the margin of error is likely to be rather greater.

Remember that we are dealing with large aggregates or total figures, and these can conceal very wide variations. For example, if, on the basis of our accounts, we say that the average income per head of

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the population is £x, we should not imagine that the majority of people will be earning that figure. Some will be earning much more and some much less. Some of the richest people in the world come from the poorest countries. For a developing country, any average is likely to be very misleading in view of the very great social, regional and other differences that exist.

Some countries may have an interest in ensuring that figures are not too accurate. A country hoping to obtain maximum help from, and make the smallest possible contribution to, United Nations institutions will wish to keep its national income figures as low as possible.

There is also the problem of comparing accounts when these are prepared in different national currencies. International figures are usually converted to United States dollars at official rates of exchange. Such official rates are often very different from the rates ruling in unofficial currency markets.

Value to the Community

So far, we have identified problems of calculation. Even if all the calculations and estimates were completely accurate, some important economic activities would not be included at all in the accounts. The most commonly-quoted example of a major omission is that of the contribution made to economic and social welfare by "unpaid" mothers, and others who perform services within the family. In the same way, official figures ignore unpaid voluntary activities within local communities and amateur sporting activities.

The way in which production, especially service production, is valued may cause further problems. Where goods and services are distributed through unregulated markets, we accept that market price is a fair method of arriving at their value. Where, however, the state is the sole provider of a service and the sole employer of the factors used to produce that service, then we cannot be sure that the recorded value bears any relation to the value to the community – or to their value in another country where similar services are distributed through the market system.

Hospital charges in the USA, where there is a free market in health care, are higher than in the UK, where the National Health Service is the main "supplier", and nurses earn more in the USA than in the UK. In Britain, charges in private commercial and language schools are higher than in the state-controlled Colleges of Further Education. These differences make fair comparisons extremely difficult.

Changing Money Values

Any comparison or calculation is likely to rely on money as a measuring device. However, measuring any product with money is a bit like measuring a yard of cloth with an elastic rule. Money itself does not keep a constant value. In recent years, there has been worldwide price inflation. However, the rate at which prices have been increasing differs greatly from country to country, and for different activities within each country. Attempts are made to allow for price changes, and indices are compiled for this purpose. These cannot be entirely accurate, and the longer the period over which comparisons are made, the less reliable the figures become.

H. NATIONAL PRODUCT AND LIVING STANDARDS

All the points outlined in the previous section suggest that we should be very careful indeed if we use National Product or National Product per head (total National Product divided by the number of people in the country) figures for the purposes of measuring living standards. We should take

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particular care when we make comparisons between countries with different economic and social systems, or attempt to measure changes over long periods of time.

Imagine an extreme case – an attempt to compare average living standards between 1880 and 1990. There were no aircraft, television sets, radios or private motor cars in 1880! These are so fundamental to the pattern of life today that we cannot really even begin to make any sensible comparison. At best, we can only compare different aspects of life, e.g. working conditions, for particular groups of workers.

Moreover, when we talk about the standard of living, there are important aspects that cannot be measured in terms of economic activity. A man may have a higher real income in 1993 than his father had in 1963, but if he is unemployed and has little prospect of employment, is his standard of living any higher? Opportunities for travel, for changing employment, freedom of speech and religion, freedom to walk the streets without fear of violent crime, arbitrary arrest or political coercion, all these are elements in the standard of living which are not included in any Gross National product calculations. The matters of working hours and leisure time are also ignored.

Economists are sometimes accused of placing too much weight on measures of quantity and on money values, and not taking sufficient notice of quality and the values that money cannot measure. Increasingly, however, economists are recognising the limitations of the concepts and measures they use. As long as we bear these in mind, then we can make effective use of national accounts and recognise that these are an essential starting point for any study of national economy. We would not expect a set of company accounts to tell the full story of a large business enterprise but, equally, if we wanted to examine the enterprise, we would be foolish not to include in that examination a very close scrutiny of the company accounts. In the same way, we find a great deal of invaluable information in the national accounts of a country.

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Study Unit 11

Determination of National Product and Implications of Investment

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A. CHANGES IN CONSUMPTION, SAVING AND INVESTMENT

Equilibrium Conditions

We should now remind ourselves of the conditions necessary for National Product, income and expenditure to be in equilibrium. The term "equilibrium", remember, refers to a state of rest where there are no pressures acting to disturb and change the balance of forces. Earlier, we suggested that there would be equilibrium when total income was equal to total expenditure in the economy, and that this implied:

$$C + S + T + M = C + I + G + X$$

where: C = personal or household consumption, S = savings,

T = taxation, M = imports, I = business investment,

G = government spending *and* X = exports.

If we remove C from each side of the equation, we are left with:

$$S + T + M = I + G + X$$

Putting this another way, we could say that total leaks or withdrawals from income = total injections or additions to aggregate expenditure.

Equilibrium suggests that the state of rest remains for a period of time, so that we should take successive time-periods into account. If, for simplicity, we use the symbols W = total withdrawals (S,T,M), and J = total injections (I,G,X), then, using the usual symbols t, t + 1, t + 2, etc. for successive time-periods, we can say that a total National Product in equilibrium implies that:

$$W_t = J_{t+1} = W_{t+1} = J_{t+2}, \text{ and so on.}$$

Pressures Leading to Equilibrium

It seems reasonable to question why a national economy should achieve and maintain this form of equilibrium. If we examine the processes operating within the economy, we can see that there are strong pressures likely to produce such a state. For simplicity, we shall, at this stage, omit imports and exports from our analysis.

To begin with, we shall also omit taxation and government spending. We are now considering, then, only **savings** and **investment**. We shall, however, reintroduce consumption.

Consider the graph shown in Figure 11.1. Expenditure intentions at the various national income levels are recorded in the curve C + I. Remember that we have reduced total spending to consumption and investment, for our present purposes.

Assuming that the scales of both axes are the same, then the 45° dotted line represents all points where total income just equals total expenditure. Remember, too, that when expenditure = income, both are also equal to total output.

The graph illustrates that there is only one level of income where total income, output and expenditure are, in fact, equal – i.e. where National Product is in equilibrium.

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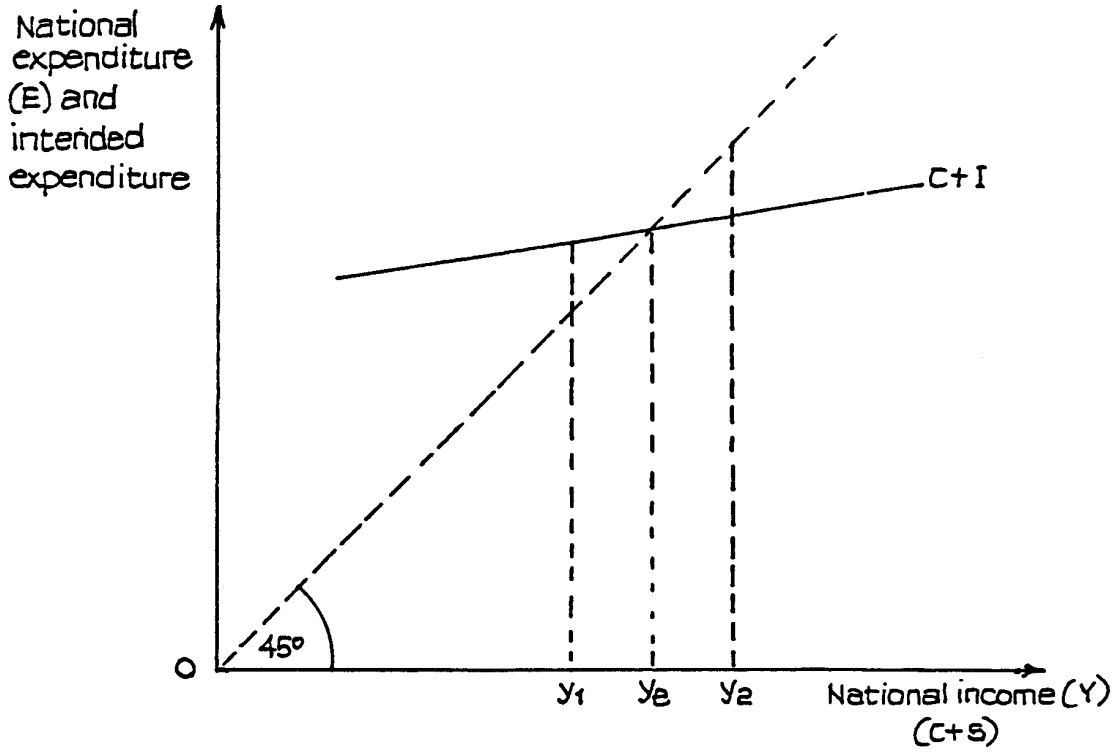

Figure 11.1

This is at the income level Oy_e, where the intentions curve intersects the dotted 45° line. What happens, however, if this equilibrium is disturbed?

(a) Lower National Income

Suppose national income is at the lower level Oy_1, where intentions are trying to achieve a higher level of spending than that possible from current total output.

At level Oy_1, the combined demand from households (C) and business firms (I) is higher than total output.

It cannot be satisfied at the current level of output. Some firms will have stocks of goods produced earlier, and they will be able to sell from these stocks. Others, finding that they have more customers than goods to sell, will ration sales by putting up the price or promising delivery at a future date. Actual consumption and investment will thus be lower than intended, as some would-be buyers are disappointed, but also money-spending will be raised by the increased prices of goods.

Increased money-spending will feed into increased money incomes, and so the money value of national income will move up towards Oy_e. We can also expect that firms, facing high demand and good profits from rising sales, will seek to increase production. They will hire more labour and pay more wages in order to do this. This will tend to push up production towards Oy_e. There will be an upward pressure to achieve at least the money level of Oy_e, even if this still leaves many spending intentions unsatisfied.

(b) Higher National Income

We can apply this reasoning in reverse if national income happened to move out of equilibrium to the higher level Oy_2. Here, more is being produced than people want to buy. Warehouse

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stocks rise, and customers are not around to buy the goods and services on offer. Traders needing money to meet current expenses will cut prices to achieve sales. Firms, seeing stocks of unsold goods rise, will reduce production, lay off workers and cut overtime working. Incomes will fall through declining wages and falling business profits. There will be a movement downwards towards the equilibrium level Oy_e. Only at this level will there be no pressures for moving either up or down, because only here does total income = total output = total expenditure.

Pressures to Change Equilibrium

If we look again at Figure 11.1, we can see that this is only a stable equilibrium, lasting over successive time-periods, if the curve of C + I remains unchanged. The higher we raise the C + I curve, the greater will be the level of Oy_e.

Although, then, there are strong pressures to bring national income to equilibrium, there may also be forces operating to change the position of the C + I curve, and so change the equilibrium. In order to understand these forces, we need to examine more closely the decisions that lead to any given level of **desired** or intended household consumption and **desired** or intended business investment.

(a) Influences on Aggregate Consumption and Saving

Remember that we have dropped imports and exports from our simplified model, and at the moment we are ignoring taxes and government spending. All income, therefore, can be considered to be made up of consumption and saving. To emphasise this, we adopt a wide definition of saving, seeing it as **any income** (net of tax) not consumed. Thus for each unit of income:

$$C + S = I, \quad \text{or,} \quad S = I - C.$$

Why, then, do people spend on consumption and why do they save? We can identify the following motives:

(i) They spend because they have income available for spending and because, perhaps, they expect future incomes to rise.

(ii) They spend because there is credit available.

(iii) They may also spend because they expect prices to rise and the cost of credit may be less than the amount of the expected price rise.

(iv) Pressure to spend may also come from advertising and the marketing efforts of firms wishing to maintain high levels of production and sales. Social attitudes may also encourage a high level of spending, especially in a period when the level of social security payments is high and money is losing its value and discouraging saving.

(v) On the other hand, saving may be encouraged and spending discouraged by falling incomes and rising unemployment, by controls on credit and the expansion of money, and by expectations that prices may fall.

(vi) People may also be forced to spend less and save more in order to pay off or reduce the burden of past debts after a period of high spending. This tendency was clearly evident during the early years of the 1990s after the spending and house purchase boom of the 1980s.

(vii) The depressed, low consumption years of the early 1990s also showed the importance of house purchase as a foundation for general household consumption. When house purchase and building activity is high and people are moving homes they also spend on

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house furnishings, household equipment and so on. When there is little activity in the housing market all these associated household consumer durable markets are depressed. Employment and incomes fall in the affected industries and the economic depression deepens.

(viii) Savings may also be contractual, i.e. people undertake to save regular amounts out of income through schemes arranged with insurance offices, building societies, etc. The motives for contractual saving are to provide for retirement, for substantial future purchases, for precautionary motives, or simply because of social habit – the belief that saving is a moral duty.

Some of these motives correspond with the influences on the demand for products, which we identified in earlier study units. The general influences on total or aggregate spending and saving can change over time, so that the amount saved from any given volume of income can also change. Relationships between the amount consumed and saved and total incomes are examined later in this study unit.

(b) Business Production and Investment

Just as, leaving aside government spending, taxes, and foreign trade, we find that total income is either spent on consumption or saved, so we see total production as being sold either for consumption or for investment or capital accumulation. Here we have a slight problem, in the sense that we cannot, in practice, distinguish between the purchase of equipment to replace old and worn-out equipment and that purchased to increase productive capacity. Moreover, some equipment may also be acquired simply to replace labour, with no significant increase in production planned or desired. Also, when we define investment in terms of production not sold for consumption, then this includes stocks of goods.

Not all total investment, then, could really be called "productive investment", able to increase the ability of business organisations to produce more. Yet, it is productive investment that really interests us. For simplicity, at this stage we shall assume that all or most investment does have a productive element (after all, most firms replace machines with better machines). This enables us to link the desire of firms to invest with their desire to produce more output. Thus, we can suggest that the main motive for investment is the belief of business firms that it will be in their interests to increase productive capacity. They are more likely to believe this if:

(i) current consumer demand is rising and expected to continue to rise;

(ii) current profits are rising and expected to continue to rise;

(iii) the cost of investment is falling and expected to continue to fall – the main element in this being the level of interest rates charged on borrowed finance.

Notice here that the influences on the level of investment are mostly not directly related to the level of current income. For our purposes at this stage, therefore, we do not regard the level of investment as being dependent on income levels. This is in contrast to the level of saving which, provided other influences are constant, is directly related to the level of income.

Note that business firms, in making investment decisions, stress the importance of estimates of future revenues related to present costs and how these are affected by expectations of future demand levels and the costs of capital (linked to market rates of interest). You should remember that investment decisions involve making judgments about the future, about future markets and about future economic conditions and government policies. The future can never be forecast with accuracy but the greater the degree of uncertainty about the future the higher are the risks of business investment and the less the amount of investment undertaken. Political uncertainties and lack of confidence in

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the government can be as damaging to investment as market uncertainties, the two, in practice, being closely related.

B. GOVERNMENT SPENDING AND TAXATION

We now return to government spending and taxation, and seek to examine which relationship exists between these. Taxation, of course, is the main source of government revenue, and if a government pursues a policy of a "balanced budget", i.e. if it seeks to spend only what it earns through revenue, then the amount of spending must be governed by the amount of taxation received.

However, if a government does not believe that it must maintain this balanced budget, then the level of spending is released from the constraint of taxation and depends solely on policy decisions made by government ministers. We cannot, therefore, know what the influences on this spending are, unless we know the policy objectives of the government. Possible objectives and the economic ideas underlying different policies will be examined later.

You may wonder how a government can escape from the constraint of its taxation revenues in deciding how much to spend. The answer lies in its power to borrow, and this power is itself a major influence on the economy. If the government borrows from the public directly, e.g. through national savings certificates and bonds, it will simply transfer income from the private to the public sector. If, however, it borrows from the banks, then it will be creating money. This is a difference that will have some significance for economic policies.

Taxation must come, either directly or indirectly, from income. It may come directly from taxes on private incomes and company profits, or indirectly through taxes on expenditure, such as value added tax. Since consumption expenditure levels depend on income levels, we can say that the total level of taxation is dependent on income.

C. CHANGES IN EQUILIBRIUM, THE MULTIPLIER AND INVESTMENT ACCELERATOR

Equilibrium, Savings and Investment

If we assume once more that we have an economy where the government has a balanced budget, so that taxation = government spending, and imports just balance exports, then we can concentrate again on savings and investment. Under these conditions, national income will be in equilibrium when savings equal investment. This is illustrated in Figure 11.2. Another way to illustrate this same concept is shown in Figure 11.3. This enables us to concentrate solely on savings and investment and to see the effect of changes more clearly.

Remember that investment is not regarded as directly dependent on the level of income, and so is represented by a line parallel to the national income axis. Savings, however, are dependent directly on income levels and can be expected to rise as incomes rise – the savings curve is thus shown as positive-sloping. This slope must, of course, be less than 45°, because such an angle would indicate that each additional £1 of income was entirely saved – an unlikely situation.

Once again, we see that there is one income level where savings will just equal investment, and this is the level that national income will tend to move towards. This is shown as Oe in Figure 11.2. Actual savings will tend to equal actual investment, even though the savings **intentions** of households and the investment **intentions** of business firms are not the same. Remember that it is consumption that tends to bring them together. Firms will seek to "produce for consumption" that level of output

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which they believe households will "buy for consumption". Remember, too, that prices, and stock levels, may change as national income moves into equilibrium.

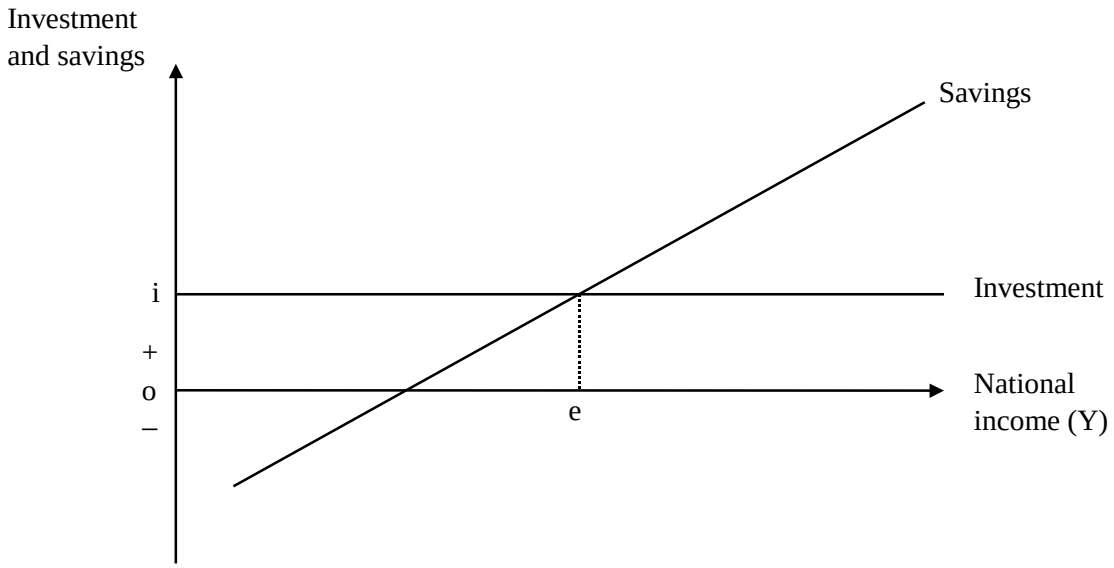

Figure 11.2

Now let us see what happens when there is a change in the level of investment. Look at Figure 11.3. Here, investment rises, at all income levels, from Oi to Oi_1. As a result, we see that the equilibrium level of income, where actual investment equals actual savings, moves up from Oe to Oe_1.

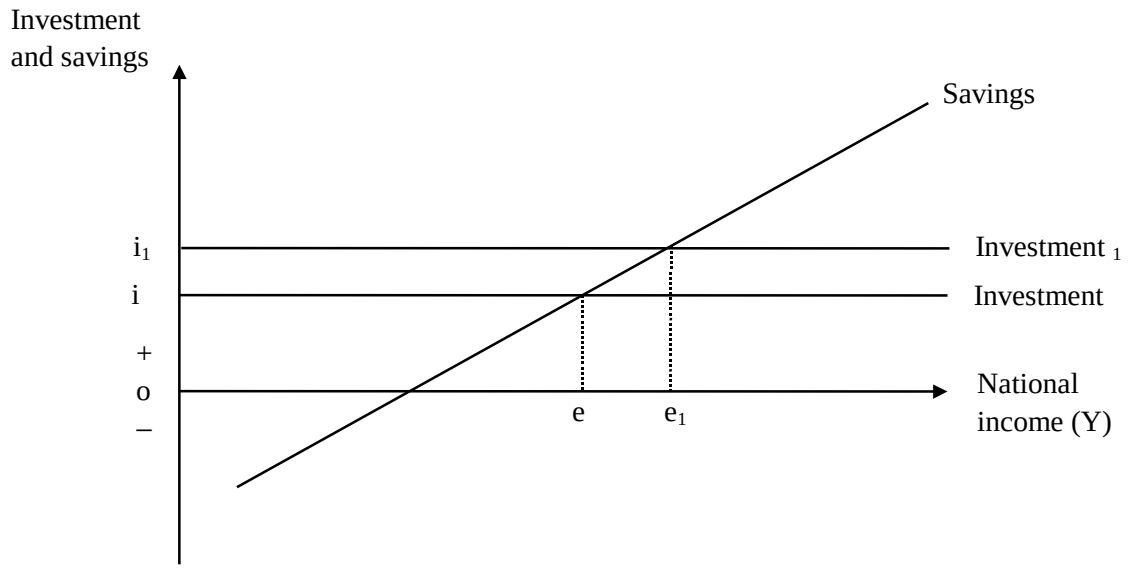

Figure 11.3

Change in Investment and Change in National Income

We shall now examine the relationship between a change in investment, as above, and the change in total national income which results from the new equilibrium level. Look now at Figure 11.4.

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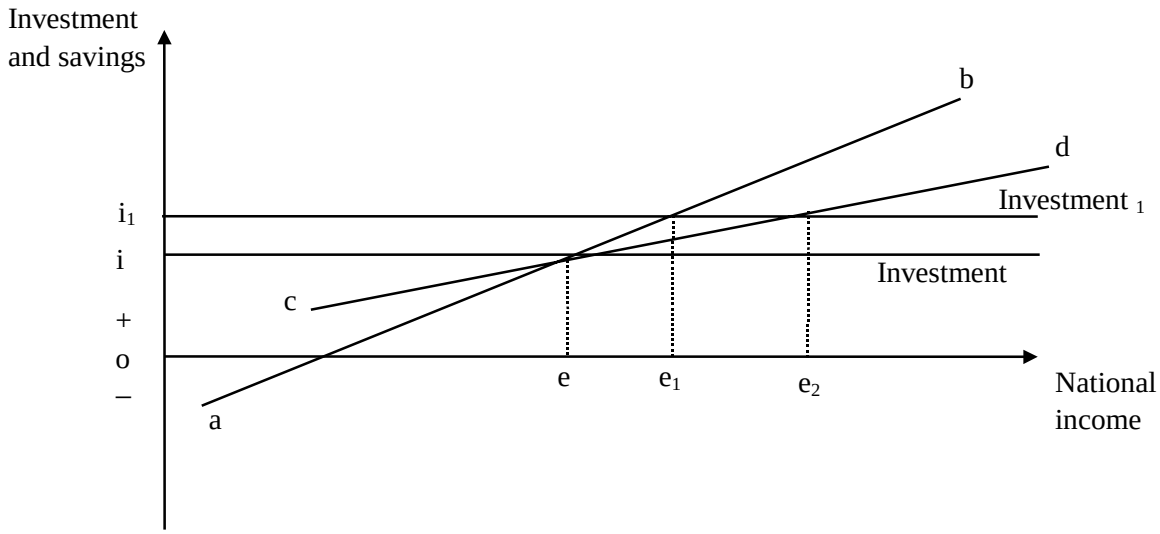

Figure 11.4

This shows an increase in the level of investment at all income levels, from Oi to Oi_1, but now we have two savings curves – ab and cd. Given the savings curve ab, the increase in investment lifts the equilibrium level of national income from Oe to Oe_1, but, if the savings curve is cd, then the same increase in investment produces the larger income increase from Oe to Oe_2.

We can now state the following.

- An increase/decrease in investment will increase/decrease the equilibrium level of national income.
- The amount of increase/decrease in national income brought about by the change in investment will depend on the slope of the savings curve – i.e. on the amount of any increase in income which is saved.

The more acute the angle of the savings curve, the less is the increase in savings from each additional £1 of income. What is really being represented in this diagram is the multiplying effect of an initial increase in business investment. Suppose that firm A decides to buy an additional machine. This stimulates activity from the machine manufacturer, who increases production and pays additional incomes to his workers who, in turn, decide to increase their spending, which stimulates more activity from other firms, and so on. We can visualise successive "rounds" of increased activity, but as some part of each "round" of extra income is saved, the next round is slightly smaller than the last, until the increases become too small to be significant, and the progression comes to an end.

The less the amount saved, the greater will be the total increase. For example, suppose there is an initial increase of 100. The following table shows how this may be multiplied.

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In column A, 3/4 of each extra round of income is consumed and 1/4 saved, and in column B, 4/5 is spent on consumption and only 1/5 saved.

	A *(savings 1/4)*	**B** *(savings 1/5)*
Initial	100	100
2nd round	75	80
3rd round	56	64
4th round	42	51
5th round	32	41
Total so far	305	336

These figures are rounded. If we were to produce completely accurate figures and carry on the tables, we would find that A would arrive at a total of 400 and B at a total of 500. If you have an electronic calculator, you can test this for yourself. These figures should suggest something to you.

- An initial increase of 100, increased by successive additions of 3/4, arrives at a final total of 400.
- An initial increase of 100, increased by successive additions of 4/5, arrives at a final total of 500.

Putting this another way, if the amount saved or held back from each successive increase is 1/4, then the initial increase is multiplied by 4; if the successive increases are reduced by 1/5, the initial increase is multiplied by 5. It looks as though the multiplying effect is the reciprocal of the amount held back from each successive increase. This, indeed, is the case.

The Investment Multiplier

This is the term given to the ratio of the change in income to any given change in the level of investment when national income equilibrium has been restored. In symbols, this can be expressed very simply as:

$$K_i = \frac{\Delta Y}{\Delta I}$$

where: K_i is the investment multiplier

ΔY is the change in national income

ΔI is the change in investment.

The value of the investment multiplier is the inverse of the amount of each successive increase in income which is saved:

$$K_i = \frac{1}{s} = \frac{1}{1 - c}$$

where: s = proportion of extra income that is saved

c = proportion of extra income that is spent on consumption.

A more correct definition of s and c would really be the “marginal propensity to save” and the “marginal propensity to consume”.

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More Realistic Multiplier

So far, we have considered the multiplying effect only in terms of investment and savings, having assumed that the government spends only its taxation revenue and that total exports = total imports. These assumptions are rather unlikely in modern industrial economies, so a more realistic (and much smaller) multiplier has to take these injections and withdrawals into account.

We can show this in Figure 11.5. This shows an increase in total injections (investment, government spending and exports) and a withdrawals curve where total withdrawals from income are made up of savings, taxation and imports, so that the propensity to withdraw (w) is now the total of the propensities to save, to tax and to import, i.e. w = s + t + m.

This more realistic multiplier is the ratio of the change in national income to the change in injections which brought it about, and it is the inverse of the propensity to withdraw:

$$K = \frac{\Delta Y}{\Delta J} = \frac{1}{w} = \frac{1}{s + t + m}$$

Suppose that, out of each additional £1 of national income, 1/10 is saved, 3/10 is taxed and 2/10 spent on imports. Then:

s = 1/10; t = 3/10; m = 2/10

w(s + t + m) = 6/10

K, then, is 1/w which here is 10/6 = $1\frac{2}{3}$

a very much smaller value than the investment multiplier, which would have been 10, in this example.

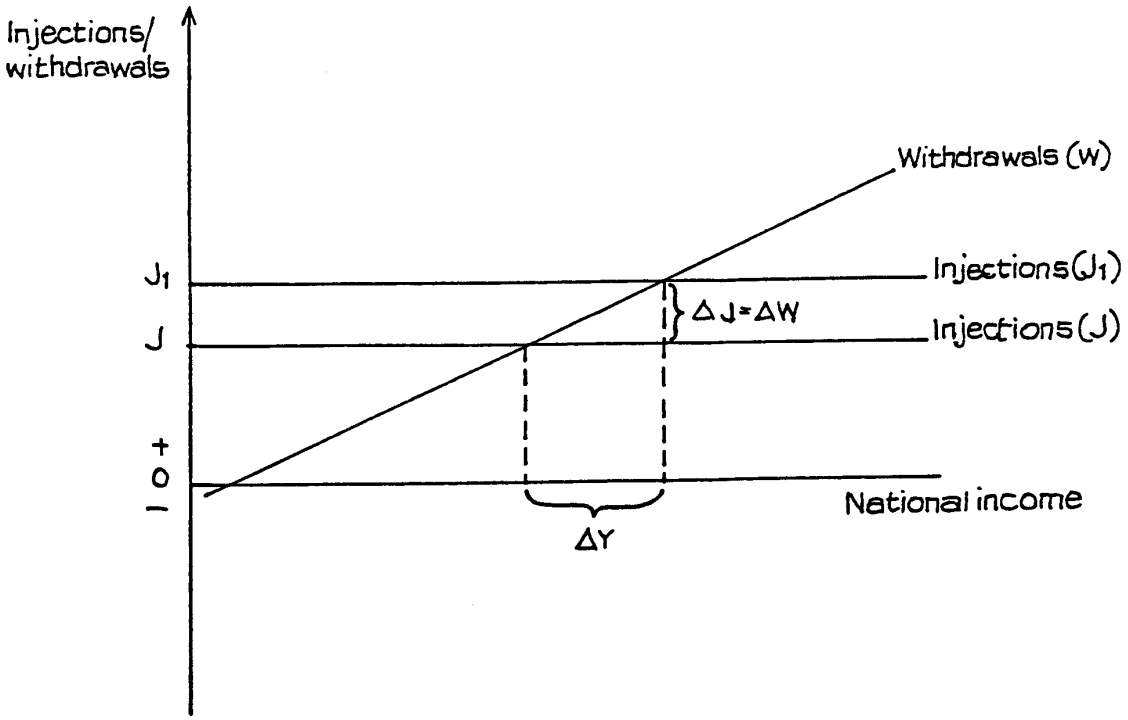

Figure 11.5

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Change in the Marginal Propensity to Save and the Paradox of Thrift

The slope of the Savings function (curve) depends on the marginal propensity to save. If people start to save a smaller proportion of their incomes, i.e. spend a higher proportion, then the curve becomes less steep as each additional £1 of income gives rise to a little less saving. If they start to save a larger proportion, i.e. spend a smaller proportion of income, then the curve becomes steeper, subject to a maximum of 45° if the scales on both axes are the same, because each £1 of income additional produces a larger amount of saving though not, we assume, more than the extra income.

This observation has given rise to what has become known as the Paradox of Thrift which is that the more a community tries to save the less it may actually save. This paradox is illustrated in Figure 11.6.

The original equilibrium condition of the national income is represented by Oe_0 where the level of investment and savings are represented by I_0 and Os_0 respectively i.e. the level where the Saving function S_0 intersects the investment level of I_0. Then, for some reason such as a growing fear of unemployment and economic recession or misguided government policy trying to encourage greater "thrift" and "good housekeeping" in the community, people generally start to save more and spend less from their incomes. The Saving function becomes steeper and moves, say, to S_1. The equilibrium level of national income falls to Oe_1. Business firms face declining sales and rising stock levels so they cut back their production and invest less in productive equipment. The level of investment falls to I_{t+1}. At this lower level the national income falls further to the equilibrium level where $Os_{t+1} = I_{t+1}$ at Oe_{t+1}. At this new equilibrium the level of saving has also fallen to Os_{t+1}.

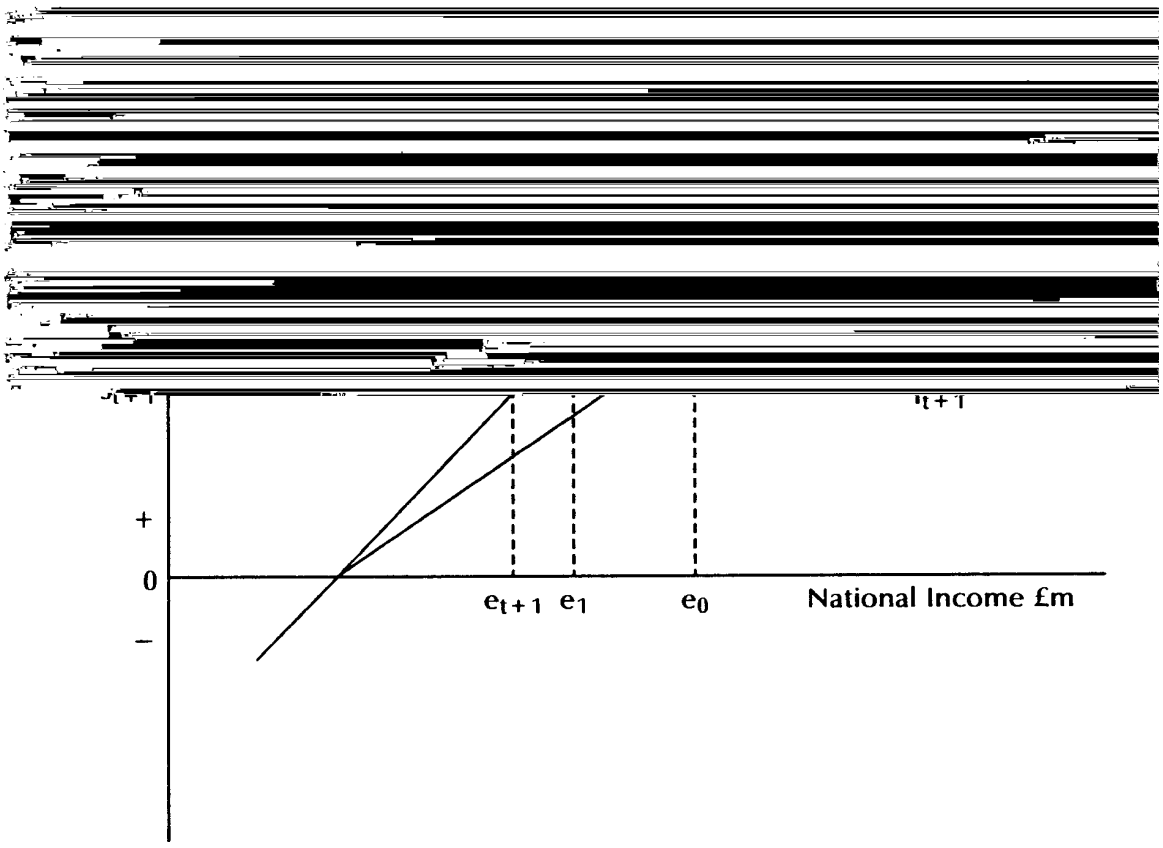

Figure 11.6

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amount of additional capital invested, then, we can make a direct comparison between this and the rate of interest which firms have to pay to obtain capital, which, for the sake of simplicity, we can equate with the cost of capital.

We can also describe this return on business capital as a measure of the efficiency of that capital. Thus, the additional return achieved by an additional unit of capital will be the **marginal efficiency of capital** (MEC). In the short term, and taking the economy as a whole, we can assume that additional amounts of capital take place with the total supply of labour and land remaining constant. Now, if we add additional inputs of one production factor, with the other factors remaining fixed, then the law of diminishing marginal returns will eventually come into effect. Thus, the greater the amount of capital already employed, the less will be the marginal efficiency, as more and more capital is added. We can, therefore, expect the marginal efficiency of capital to fall as the quantity of capital employed by the community rises. This is illustrated in the graph of Figure 11.7.

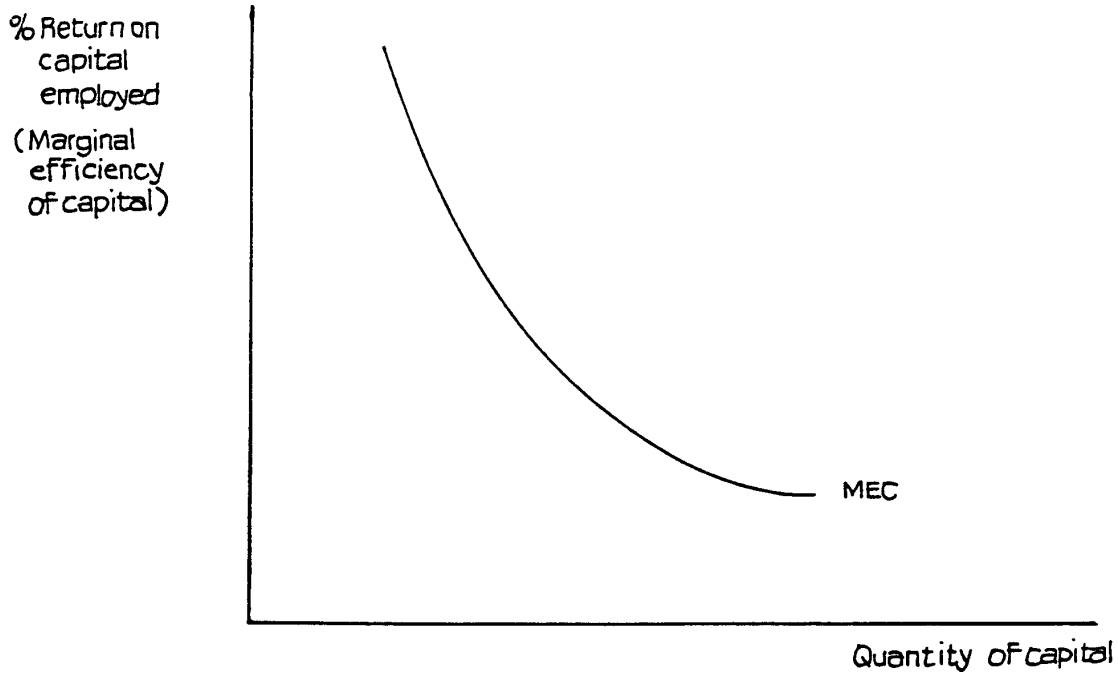

Figure 11.7

Marginal Efficiency of Capital and the Pure Rate of Interest

This view of the diminishing return which we can expect to receive from additional increments of the total capital employed in the community gives rise to a theory of how the pure rate of interest may be determined. The pure rate of interest is the rate which would apply in the absence of differing conditions in the actual finance markets which have to take into account such elements as the risk that money will not be returned, the length of time that money is wanted, changes in the purchasing power of money and expectations of future changes in its purchasing power.

Suppose the capital stock, the total supply of capital available for business investment, is fixed in the short run. If we relate this fixed supply to the demand for business capital, then we have a market situation in which supply and demand can result in the determination of the price of capital – i.e. the interest rate for investment finance.

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Now, we can also expect profit-maximising firms to seek to employ additional capital, up to the point where its marginal efficiency, as explained above, is equal to its cost. Thus, the marginal efficiency of capital curve of Figure 11.8 is also the demand for investment finance curve, assuming that business as a whole is seeking to maximise profits.

To derive the pure rate of interest, then, we need to relate the supply of capital to the marginal efficiency curve, and the point where these are at the same quantity level will establish the pure rate of interest. We can, of course, present the argument in a slightly different way. If we take the view that the rate of interest is determined by a different set of market forces, or by the government, then the same reasoning will suggest to us the quantity of capital that will be employed, if investment finance supply and demand are allowed to reach equilibrium freely.

This idea is illustrated in the model of Figure 11.8, where the equilibrium rate of pure interest is Oi, and the equilibrium quantity of capital invested – where supply = demand – is OK.

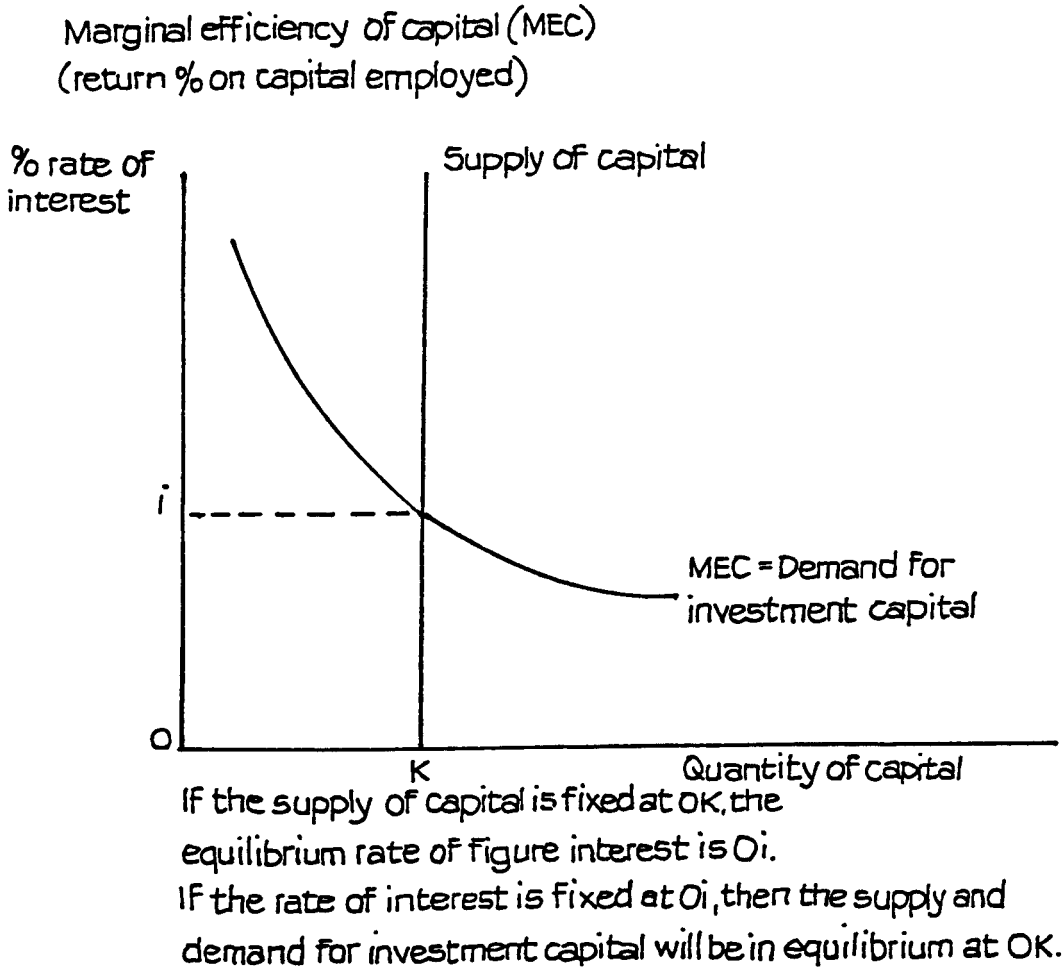

Figure 11.8

Marginal Efficiency of Capital and Interest Rates in the Long Run

In the long run, we can expect the stock of capital in the community to increase as people accumulate more savings and the banking system becomes increasingly efficient. From the model of Figure 11.8, we would, therefore, expect the marginal efficiency of capital to fall and, with it, the pure rate of interest. Test this for yourself by moving the stock of capital line outwards to the right, to represent

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an increasing supply. We know, however, that this does not happen. This suggests that the marginal efficiency of capital curve must also be moving in the long run, to counteract any tendency for a fall. That this does, in fact, happen is not difficult to imagine and explain. In the long run, the level of technology is changing and there is an increase in the size of the labour force. It is the increase in the level of technology that has the main effect, however, on the return earned by additional capital investment. As long as human beings continue to innovate, to push back the frontiers of knowledge and of what it is technically possible to achieve, then we can see no reason why the marginal efficiency should fall in the long run. Given this long-run condition, we can suggest that the demand for capital is likely to remain high. This does not preclude the possibility that, for limited periods and for special economic or political reasons, the yield from capital investment will fall – and so, the MEC curve and interest rates will fall, for short periods. There will also be short-run cyclical movements, caused by the investment accelerator, as described in Section C of this study unit.

It is also likely that investment demand will be higher in some economies than in others. In those economies where the MEC curve is high, we can expect the demand for capital also to be high. On the other hand, multinational companies may be able to raise capital in countries where the MEC and interest rates are low, and employ it where they are higher. Such considerations serve to warn us that the simple models of Figures 11.7 and 11.8 are not, in themselves, sufficient to give full explanations of complex finance markets. They do, however, give us a foundation on which we can build more detailed knowledge.

At this stage you should revise Study Unit 8, with particular reference to interest rates, and give some thought to the question of a government's freedom to set what interest rates it chooses or thinks is in the best interests of the economy.

The IS-LM Model

So far in this unit we have explained national income equilibrium in terms of the equality of aggregate demand and aggregate supply. Although in Study Unit 10 we showed that there were two circular flows in the economy, the flow of goods, services and production factors sometimes known as the "real" economy and the counter flow of money, we have tended to ignore the interaction of these two flows in our explanation of national income equilibrium. In practice any change in one flow must affect the other.

The IS-LM model is an attempt to take account of both flows and indicate the conditions for a full national income equilibrium covering both sets of demand and supply.

The IS Schedule (Curve)

Equilibrium in the real economy occurs when aggregate demand equals aggregate product and income. For simplicity we propose to think in terms of a simple two sector economy and ignore or assume a balance of government spending, taxation and foreign trade. With this simplifying assumption national income is in equilibrium when investment and savings intentions are the same (I = S). The IS schedule (curve) indicates the different combinations of income and interest rates where this equilibrium occurs. The derivation of this schedule is shown in Figure 11.9.

Suppose that at interest rate Or we know the aggregate demand schedule made up of consumption and investment and this is shown in the upper part of the diagram as AD. The equilibrium level based on the 45° line model is at income level Oe where Oe = aggregate demand Od. This same equilibrium income level of Oe is plotted against the interest rate Or on the lower part of the diagram.

A lower interest rate Or_1 could be expected to produce a higher level of consumption and investment and thus raise the aggregate demand schedule to AD_1. The equilibrium level for this schedule where demand at Od_1 is equal to national income is at income Oe_1. This income level is also plotted against

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the reduced interest rate on the lower diagram. If all the national income equilibrium levels corresponding to the full range of likely interest rates are recorded we then produce the IS curve as shown in the lower part of the diagram.

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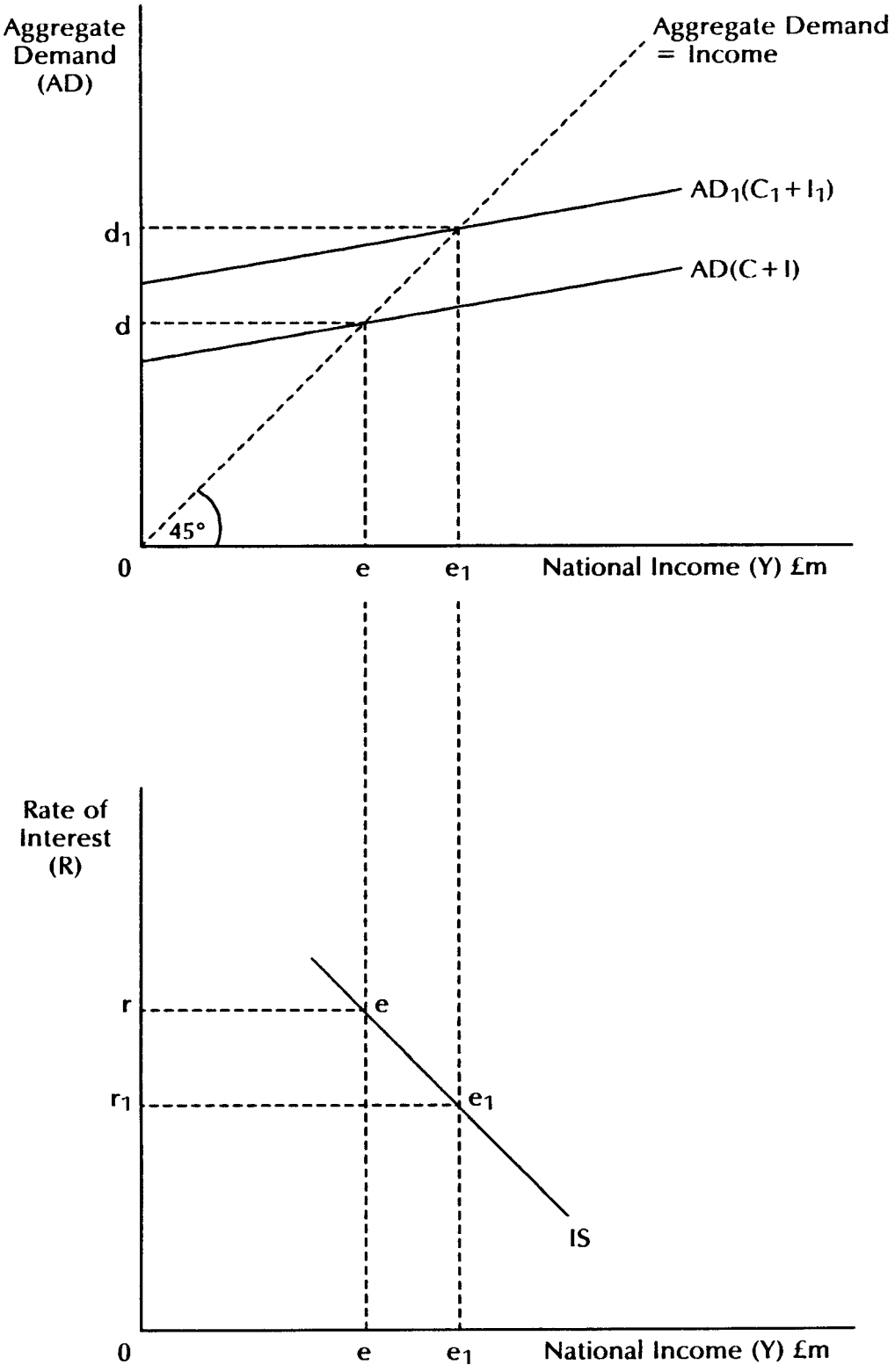

Figure 11.9

Notice that a movement along this IS curve represents a movement of equilibrium income produced by a change in interest rate. If there is a change in the relationship between interest rates and the level of aggregate demand then there will be a shift in the IS curve. The position and the slope of the

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IS curve is thus the result of the interaction of interest rates and levels of aggregate demand. The more responsive the aggregate demand to changes in interest rates the less steep is the slope of the IS schedule. You can test this easily by moving the curve AD_1 higher when you will see that the level Oe_1 will move to the right and the IS curve will get flatter. Thus, a steep IS curve indicates that aggregate demand is not very responsive to interest rate changes. Dropping AD_1 moves Oe_1 to the left and the IS curve becomes steeper.

The LM Schedule (Curve)

The LM schedule (curve) indicates the different combinations of interest rates and income where the money market is in equilibrium, i.e. where the demand for and supply of real money balances are the same.

Construction of the LM curve is illustrated in Figure 11.10.

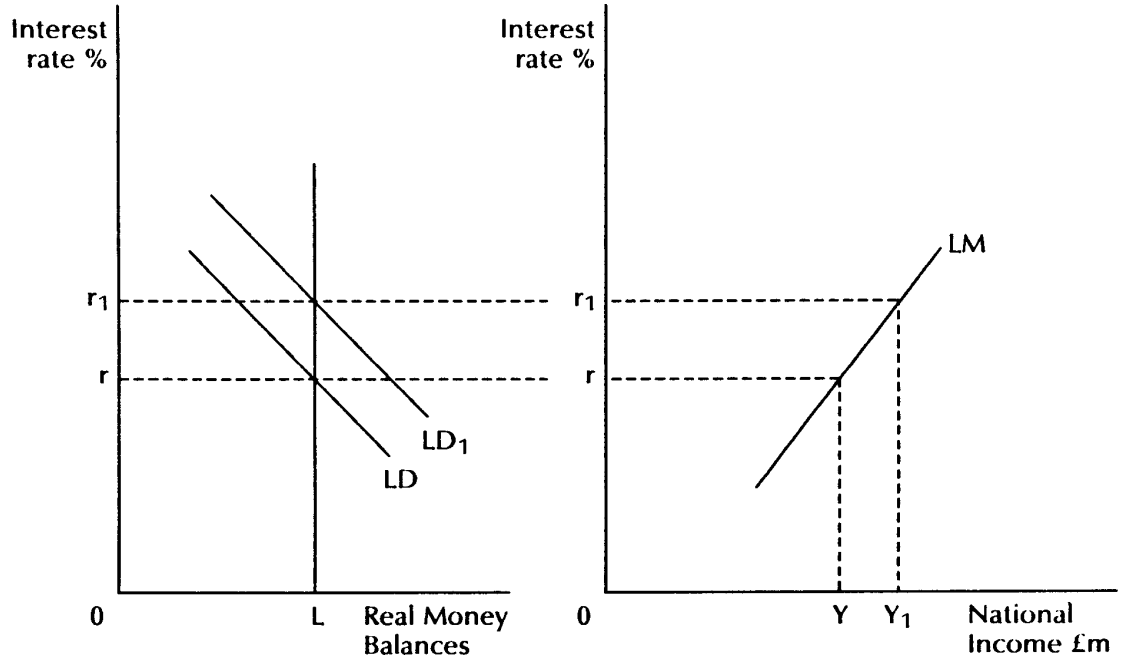

Figure 11.10

The real money supply is assumed to be fixed at quantity L on the left side of the diagram for a national income level of Y shown on the right side of the diagram. At this income level the demand for money balances is represented by the curve LD and demand is equal to supply at the interest rate Or. At any higher rate demand will be less than supply; at any lower rate demand will be greater than supply. At a higher income level, say Y_1, the demand for money balances rises to LD_1 and this demand is equal to (in equilibrium with) supply at the higher interest rate Or_1. Plotting the interest rates Or and Or_1 for the income levels Y and Y_1, provides a section of the LM curve which can be extended by plotting the interest rates for different income levels where the demand for and supply of money balances are in equilibrium.

Notice that as income levels rise the interest rate required to maintain equilibrium in the money market also rises. The higher the level of demand for money for each income level, the steeper will be the LM curve. Also if the demand for money is interest rate inelastic the LM curve is again likely to be steep. On the other hand if the demand for money is not very responsive to changes in income

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but interest rate elastic then the LM curve will be flatter. You can check for yourself the effect on the LM curve of different movements and slopes of the LD curves.

The LM schedule is based on the assumption that the supply of real money is fixed. If there is an increase in the supply of real money balances the vertical supply curve, L, moves to the right. Clearly this reduces the interest rates required to bring supply and demand into equilibrium and these changes will shift the LM curve to the right. This effect is illustrated in Figure 11.11.

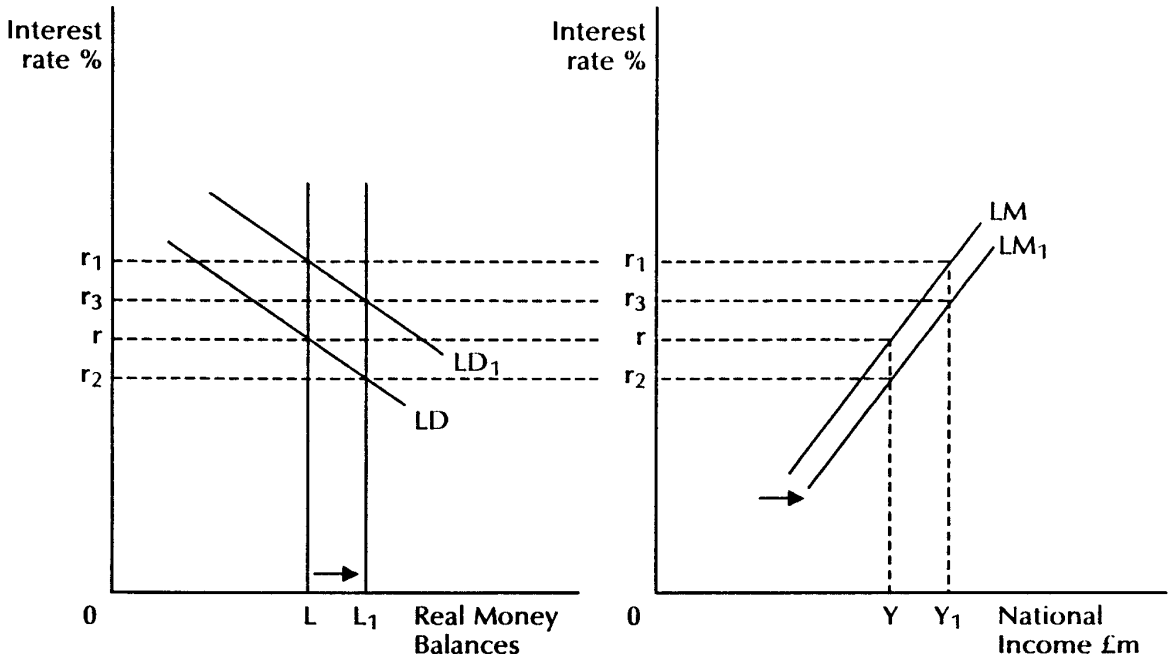

Figure 11.11

In this diagram the LM schedule LM is produced from the supply of money, L, and demand for money LD at income level Y, in equilibrium at interest rate Or. At the higher income level Y_1 the demand for money rises to LD_1, and the new equilibrium is achieved at interest rate Or_1. When the supply of money balances rises to L_1 the interest rates required to maintain equilibrium between money demand and supply fall from Or to Or_2 and from Or_1 to Or_3. This fall in interest rates produces a shift to the right in the LM curve from LM to LM_1. This suggests that a higher income level is required to maintain equilibrium between money supply and demand at each interest rate.

A fall in the money supply can be expected to have the reverse effect, i.e. a reduction in money balances from L_1 to L will shift the LM curve to the left from LM_1 to LM.

Equilibrium in the Goods and the Money Market

The IS curve shows the different rates of interest required to achieve equilibrium in the goods market (real economy) at different levels of income.

The LM curve shows the different rates of interest required to achieve equilibrium in the money market. Putting these two curves together indicates the rate of interest and income level at which there is equilibrium in both markets at the same time.

This is shown in Figure 11.12.

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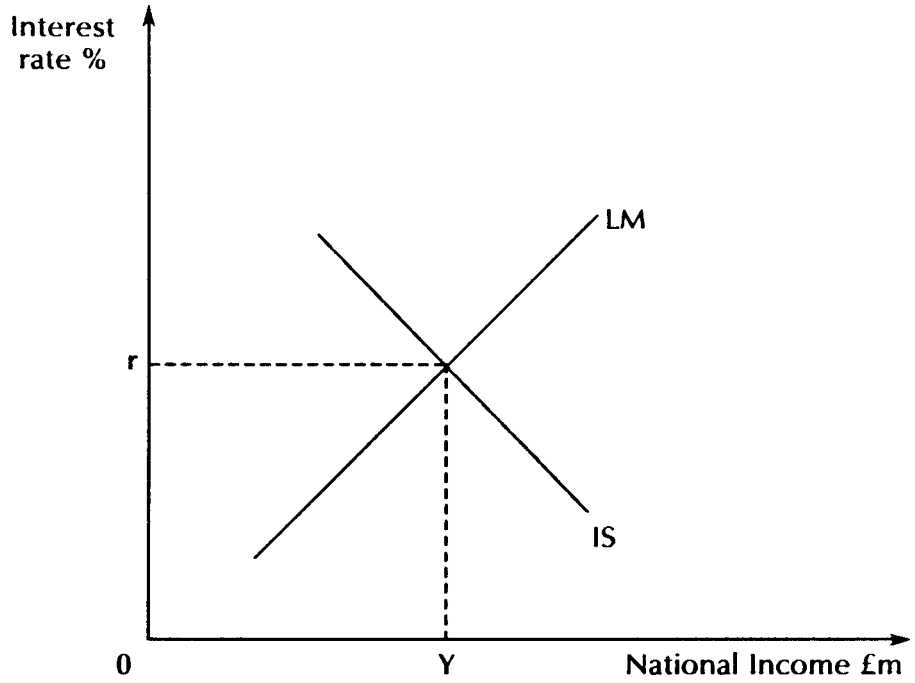

Figure 11.12

Only at income level Y and interest rate Or will both markets be in equilibrium. At higher interest rates equilibrium in the money market will require higher income levels than those at which there is equilibrium in the goods market. At lower interest rates money market equilibrium is achieved at lower income levels than those where there is equilibrium in the goods market.

This model has implications for government policy. If, for example the government injects additional demand into the real economy and does so without altering the money supply then the additional demand will shift the IS schedule to the right. This is shown as a shift from IS to IS_1 in Figure 11.13. Since there is no change in money supply the LM schedule remains at LM and the new equilibrium is achieved at the higher interest rate of Or_1 and higher income level Y_1. If the government does not want interest rates to rise it could increase money supply sufficiently to shift the LM curve from LM to LM_1. This will maintain the interest rate at Or and will encourage national income to rise to Y_2.

Suppose the government allows money supply to rise, say from LM to LM_1 in Figure 11.13, without any change in government taxes or spending. The IS schedule remains unchanged at IS. The LM curve moves to the right and a fall in interest rate to Or_2 is required to restore full equilibrium at income level Y_1. Thus an increase in the supply of money will reduce interest rates and increase the equilibrium level of income.

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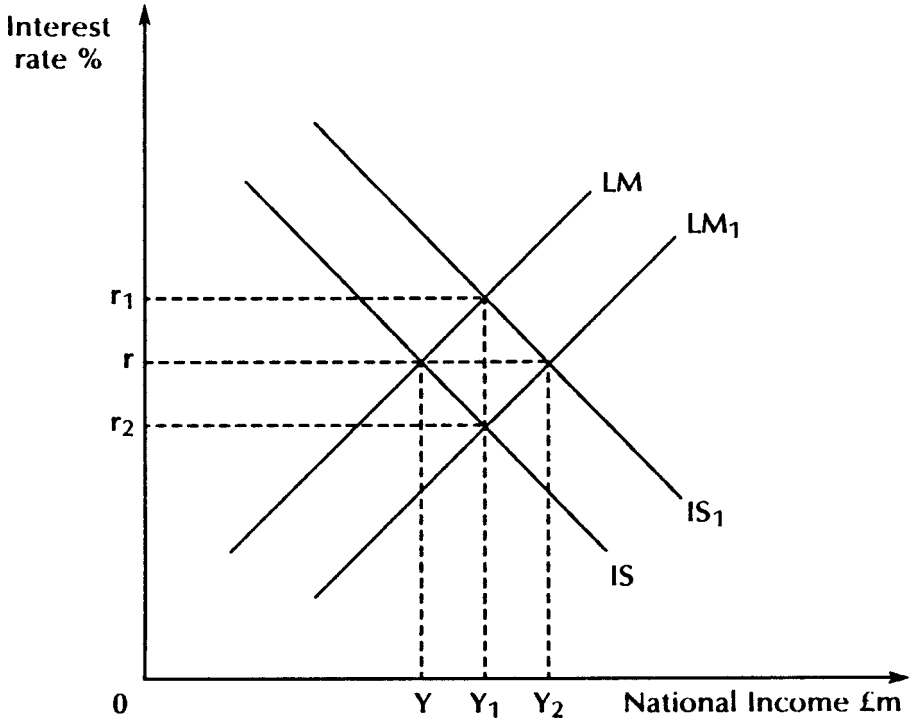

Figure 11.13

In practice the government is likely to be cautious over these changes because they are likely to have further implications. Any change in policy that sets in motion changes in interest rates, aggregate demand and income levels will create expectations relating to employment, prices and wages and these are likely to influence the income and demand relationships. Achieving full equilibrium in both the goods and money markets is a more difficult and uncertain process than the basic IS-LM model suggests.

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Study Unit 12

The Deflationary and Inflationary Gaps

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A. NATIONAL INCOME EQUILIBRIUM AND FULL EMPLOYMENT

Earlier Views – Equilibrium Produces Full Employment

Earlier classical economists appreciated the concept of national income equilibrium but believed that, if the economic forces were left to work freely, this equilibrium level would also produce a situation of full employment. They argued that, as incomes fell, labour costs would also fall, until it became worthwhile for business entrepreneurs to increase their demand for workers.

If instead of this happening, there were large-scale unemployment, then the fault lay, it was argued, with trade unions and other institutional forces in the economy: they were keeping up wages and prices and making labour overpriced in relation to the current level of demand. The remedy for unemployment lay in forcing down wages despite any opposition that might be encountered.

B. THE BASIC KEYNESIAN VIEW

Keynes accepted that, in the long run, it might be possible to bring down wages until labour became so cheap that all workers wanting jobs could be found employment. However, he regarded the price of such action, in terms of social distress and political conflict, as being unacceptable in a modern society. He doubted whether society could withstand the conflicts and pressures that would be set up by the attempt to bring down wages far enough to achieve full employment.

For practical purposes, therefore, and in the interests of social and political peace, he considered that it was better to regard the equilibrium level of national income and the level at which all workers were fully employed as two separate levels, with no natural way of coming together through the operation of the normal economic forces.

This concept of the separation of equilibrium and full employment levels of national income is illustrated in Figure 12.1.

Here, we return to the model based on the 45° line which, you will remember, represents the curve where all income is expended. The intended levels of expenditure at each level of income are shown by the curve C + J (consumer spending + total injections from investment, government and exports).

The equilibrium level, where intentions are fulfilled without changes in prices and stocks, is Oe where the C + J curve intersects the 45° line.

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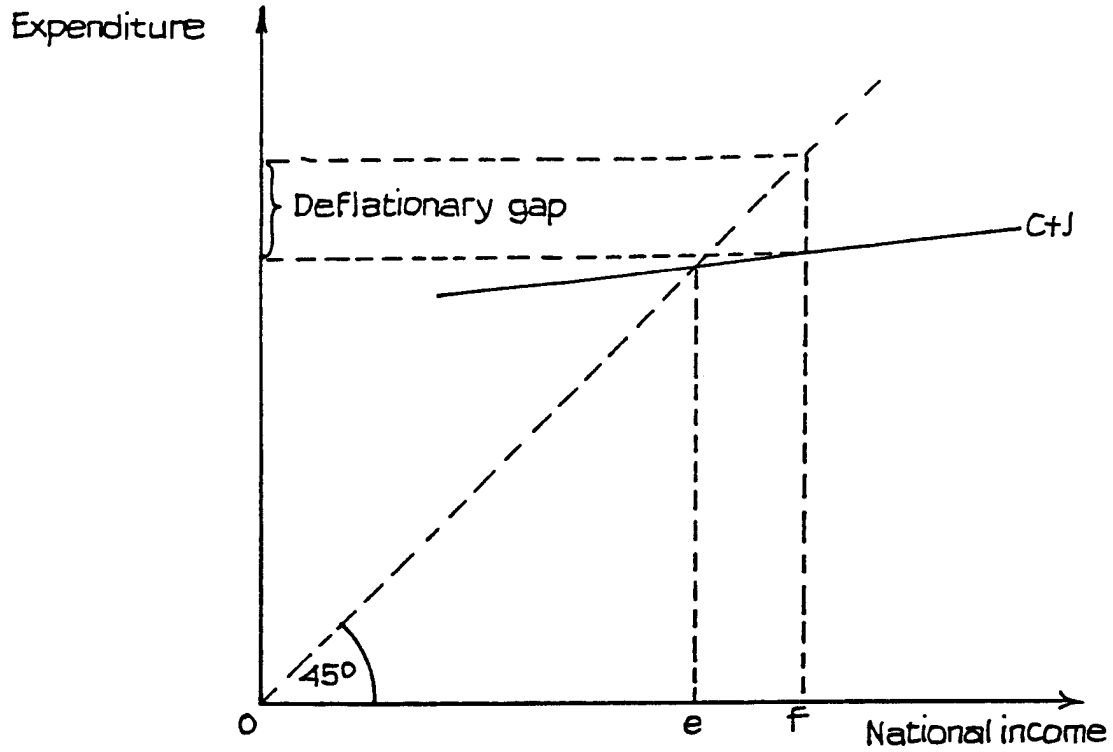

Figure 12.1

Suppose that possible output of goods and services available for purchase by the community, given full employment of all those seeking work, would push up income to level Of. However, at this level of income there is a gap between the 45° line and the C + J curve. This gap indicates that possible expenditure at this income level is greater than intended spending from the total forces of consumption, investment, government and exports.

C. THE DEFLATIONARY GAP

The basic model of the deflationary gap was shown in Figure 12.1. The gap arises when total aggregate demand from household consumption, business investment, government spending and net exports (C + I + G + (X – M)), is insufficient to absorb all the output that could be produced if all available production factors, including those workers seeking employment, were fully employed.

Possible Causes

Strict classical and monetarist economists believe that a deflationary gap would not exist if both product and factor markets were free to perform their basic functions of bringing supply into equilibrium with demand through changes in price. Closing a gap by the operation of market forces alone would imply significant reductions in wages. However, wage incomes are a major influence on the level of consumer demand so that any large scale reduction in wage levels would further depress the Consumption element in aggregate demand. Fear of future unemployment and falling incomes would also depress demand and, of course, business investment so that there is no guarantee that greater wage flexibility in a modern economy would close the gap. It could make it larger. Actions of business firms in making workers redundant and deliberately creating an atmosphere of insecurity

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in their workforces to keep wage levels restrained could be one of the initial causes of the deflationary gap.

Government action to reduce spending and to reduce the size of the public sector in the economy could have a similar effect both in reducing the G element in aggregate demand and in undermining consumer and business confidence in the future of the economy and so causing the gap and making it wider.

Consequences

The immediate and most visible consequence is a rise in unemployment and lengthening of the time that the unemployed remain out of work. This is the feature that made the Great Depression of the 1930s such a searing experience for all those who experienced it and which shaped economic and political attitudes for a generation – until memories of the depression became submerged beneath the more recent and longer-lasting experience of inflation. Long-term unemployment creates severe social and personal problems as well as being a cruel waste of potentially productive economic resources. In Keynesian thinking it is something that governments can and should seek to remedy and preferably avoid altogether.

However, labour is not the only factor of production. In a severe economic depression all factors are unemployed or underemployed. Land goes out of cultivation, business premises remain empty and deteriorate and machines lie idle and rust. It would be wrong to compare the British economic recession of the early 1990s with the 1930s but there are some similarities. We have become familiar with uncultivated land in the form of land "set aside" under European Union arrangements – an indication of a European gap between demand and potential supply, and the sight of large numbers of houses and business premises for sale and to let.

If supply is greater than demand in the factor and major product markets we would expect prices to fall. In some markets, notably the private house and business property markets, there have been price reductions. However, property is regarded as a form of wealth rather than as a consumer good and price reductions for private houses are not welcomed by households in the way that price reductions for, say, furniture or private cars would be welcomed. People feel poorer when the value of their homes falls, especially if they have mortgage loans that are larger than their homes' current market values – a trend known as "negative equity". Under these conditions home movements and associated purchases are much reduced and, in general consumer spending is depressed.

In the 1930s, most prices fell over several years and many people, including those with secure employment and/or fixed incomes enjoyed stability and rising living standards. Insecurity and poverty mainly affected manual workers, especially unskilled workers who had to compete fiercely for the few jobs which became vacant. The majority of "white collar" and professional workers, then a much smaller proportion of the working population than today, were secure and relatively well off. This increased social divisions and greatly aggravated the class hostilities that were to affect attitudes in politics and the labour market for much of the next half century.

In the recession of the 1990s, however, insecurity and unemployment is much more widely distributed through all the occupations and social classes. This is largely because the second industrial revolution based on microelectronics has had its biggest impact on white-collar workers and on those whose work involved processing and transferring information and taking fairly routine decisions based on the flow of information. Computers have taken over most of this work and entire levels of management and clerical support work have disappeared over a wide range of industries. Potential aggregate supply has been increased by these technological changes but the rise in unemployment, much of it concealed by widespread "early retirement" has kept consumer demand constrained so that the 1990s have been marked by a persistent deflationary gap. Although money

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wage levels, on average, have not generally fallen, by the mid 1990s, annual rises were very much lower than those considered normal in the previous two decades. This deflationary gap has helped to widen the gap between the highest and lowest income earners but between these extremes the average differences are still relatively small and most workers have been affected by an increased level of job insecurity.

Policy Options for Closing the Deflationary Gap

The implication of the basic Keynesian model of the deflationary gap is that the aggregate demand curve of C + I + G + (X – M) or C + J (J standing for all the demand injections) should be raised to bring the equilibrium level of national income closer to the full potential employment level. This is illustrated in Figure 12.2.

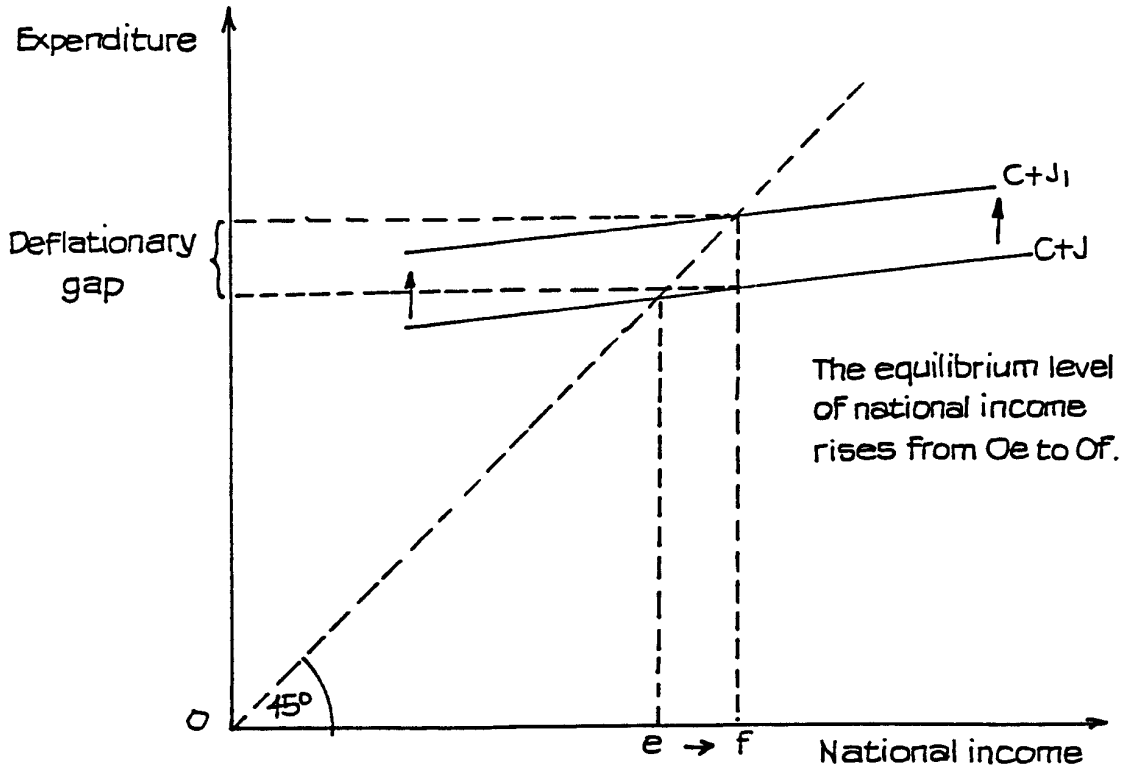

Figure 12.2

Since business investment (I) levels are a consequence of firms' experience of past and current consumer demand and their view of the probable future trend of this demand and are also dependent on net export levels, the potential for lifting I when C is depressed is limited. However, there is one other element within total aggregate demand which is not necessarily an inevitable part of the business cycle– government spending (G). Government spending is the result of political decisions that can be taken independently of the national income and consumer demand, **if** the government abandons the principle of the balanced budget (spending = taxation revenue). This, of course, is government spending on such projects as road and communications development.

The possible result of increasing government spending is shown by the movement in the C + J curve in Figure 12.1. Here, we see that the rise from C + J to C + J_1, brought about by an increase in government spending, is able to close the deflationary gap and remove large-scale unemployment. This, very broadly, was the type of remedy advocated by Keynes for the massive unemployment problem of the 1930s.

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Unemployment in Britain did start to fall when government spending began to increase in the face of approaching war, in the late 1930s. However, a remedy that was developed in the 1930s does not necessarily apply quite so simply in the very different economic conditions of today, and we need to examine the whole problem much more carefully (which we shall do in subsequent study units).

Modern Keynesians now recognise that continued demand stimulation policies aimed at closing the deflationary gap by accepting an unbalanced budget and relatively high levels of government borrowing can have inflationary effects leading eventually to the problem of stagflation when both unemployment and prices rise together.

Keynesians now accept that the demand-management policies of the 1950s and 1960s contributed to the high inflation suffered in the 1970s. Most are prepared to agree that they had understated a number of consequences of government measures to keep unemployment low. These included:

- The rapid expansion of the public sector fed by injections of government spending and relative contraction of the private sector as this became uncompetitive in world markets. Expansion of public spending beyond the capacity of tax revenues to sustain it led to large amounts of government borrowing. These combined to increase inflationary pressures in the economy.
- Long periods of low unemployment and a belief that governments would always act to avoid high unemployment gave labour unions an inflated view of their own power. Union pressure to raise wages and achieve generous legislation to provide job security in spite of increased competition in world markets aggravated the problem of stagflation and delayed the improvements in labour productivity that were needed to increase domestic production and slow down the decline in exports and rises in imports experienced during the 1970s.

Modern Keynesians also recognise that the technological revolution of microelectronics has fundamentally changed the structure of industry and shifted the long-run labour to capital ratio in modern production in favour of capital. They accept, therefore, that the very low levels of unemployment of the 1950s and 1960s are unlikely to return in the foreseeable future and that industrial practices have to become more efficient if firms are to compete successfully in world markets.

At the same time, Keynesians have retained their basic belief in the duty and ability of government to intervene to mitigate the social effects of economic cycles and the consequences of technological change. They do not believe that unregulated markets will always lead to equilibrium conditions acceptable to modern society and they continue to place importance on the public sector provision of those goods and services that are inadequately provided by private sector markets.

D. THE INFLATIONARY GAP

An inflationary gap is created when aggregate demand of C + J is greater than the supply of goods and services provided when national income is operating at or near the full employment level. Such a gap is illustrated in Figure 12.3.

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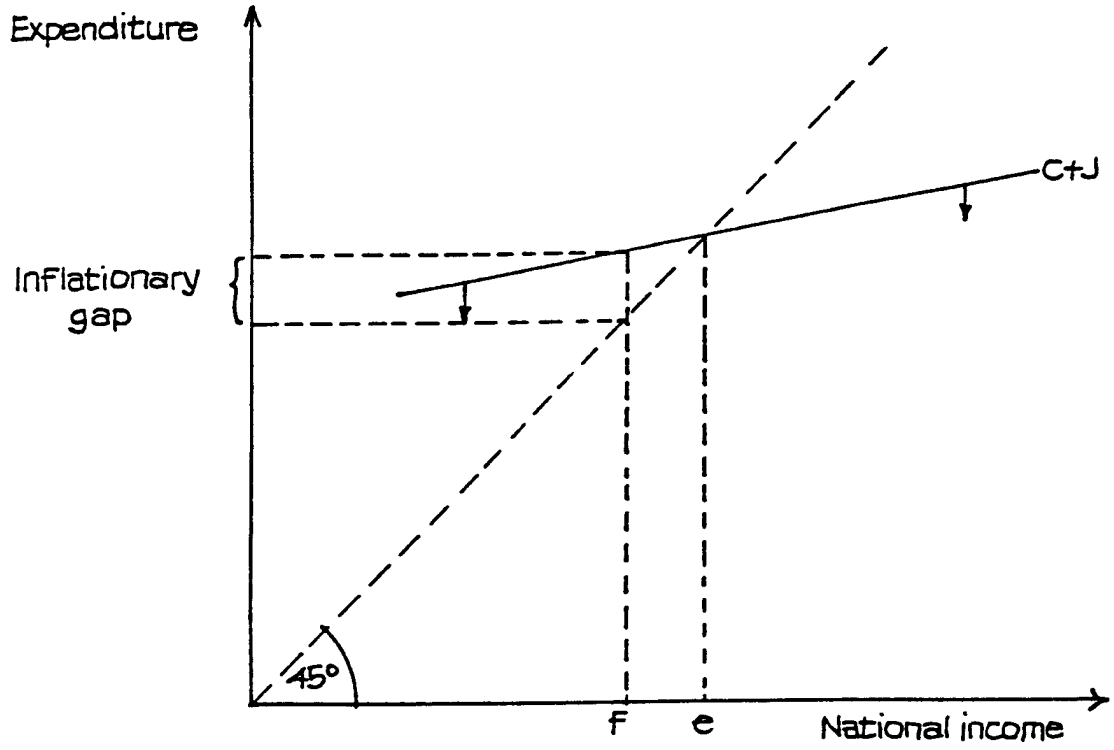

Figure 12.3

Here, total demand, from all the forces represented by the C + J curve, is forcing an equilibrium level of national income above the level of total production and real spending that is possible given full employment at income level Of. The pressure to buy goods and services that are not being produced forces up prices. In this situation, total spending intentions cannot be fulfilled, so that actual spending is lower than intended.

Some Possible Causes

Keynesian models are better at coping with unemployment than with inflation and Keynesian economics went into retreat in the face of the massive inflation of the 1970s and 1980s. Earlier Keynesians had been prepared to tolerate a low rate of inflation, perhaps around 3 per cent, in the belief this provided a stimulus to demand and helped to keep unemployment levels low.

Experience has shown that low inflation rates can very rapidly turn into high rates. The inflationary gap produces price rises and waiting lists for goods and services. Unfortunately these do not actually close the gap. If prices rise people spend the money they had planned to spend but do not buy all the goods and services they had planned to acquire. The spending pressure remains high and rising prices actually increase demand since people prefer to buy now at today's price rather than tomorrow at a higher price. If they finance this spending by borrowing they increase the money supply and this adds further inflationary pressures.

In its simplest terms an inflationary gap arises when aggregate demand is greater than aggregate supply which is unable to respond sufficiently to reduce the excess demand. This then raises two questions:

(a) What causes the excess demand?

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(b) Why, if it is the function of a market economy for supply to respond to demand, is the production system unable to meet total demand?

In their extreme forms, Keynesians and Monetarists have given conflicting answers to these questions. Today, they are closer together but still place different emphasis on different aspects. At this stage these differences are just outlined.

Keynesians have blamed excess demand on excess income which is running ahead of potential production. More recently they have been prepared to accept that money supply and government borrowing have also played a significant part in stimulating demand.

Monetarists have tended to blame excessive demand on excess money supply for reasons that are explained later but they have also linked this with rising wage levels made possible by business borrowing. They have also linked excess money supply to government spending and borrowing.

The original Keynesian model of the inflationary gap assumed that the production system could respond to rising demand up to the point where all production factors were fully employed. A significant inflationary gap would only appear when the equilibrium level of national product rose above the full employment level. This basic model offered little scope for a convincing explanation for the stagflation of the 1970s and early 1980s when both inflation and unemployment were rising. Consequently Keynesians have had to accept deficiencies in the production system at levels below full employment. As already explained they have tended to emphasise problems arising from a period of rapid structural change caused by the contemporary technological revolution.

Monetarists have traditionally been more prepared to see inflation and unemployment as associated rather than opposing problems of a troubled economy. Not only do they regard inflation as a cause of unemployment because of its effect on business productivity and ability to compete in world markets but they also see inflation as being partly caused by defects in the supply side of the economy that encourages people to remain unemployed even though there is excess demand in the economy. Inefficient factor markets permit unused production capacity to remain unused in spite of high levels of demand. However, they have had to recognise the deflationary and unemployment consequences of their monetary and market reform/supply side policies aimed at reducing inflation. Inflation control has proved a far more difficult economic and social problem than the monetarists anticipated.

Consequences

In the 1950s and early 1960s when inflation rates were low by later standards and when the economy was growing at unexpectedly encouraging levels, it was not uncommon for observers to comment that a low rate of inflation might be healthy and stimulating for an economy. However, as earlier explained, inflation tends to feed on itself and can suddenly rise out of control unless measures are taken to impose checks. The common socio-economic problems arising from inflation have tended to be identified as:

- Countries with inflation rates higher than their trading partners and/or rivals soon price themselves out of increasingly competitive world markets. Exports fall and imports rise so that an international payments problem undermines the currency in ways that are discussed more fully in a later unit. To this extent inflation leads to rising unemployment.
- Confidence is lost in the stability of the domestic currency and financial structure. Savings fall and there is a flight of capital in spite of any financial exchange controls that might be imposed. In extreme cases a flight from money to physical goods fuels further inflation.
- As long as most incomes rise faster than prices people can be misled by an impression of rising wealth, particularly when high value fixed assets such as houses and land gain high monetary values. However, as more and more sections of the population fail to maintain the real

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(inflation adjusted) value of their incomes and living standards fall for a growing number of people there is a big increase in social discontent. In extreme cases there is civil conflict, destruction of property and loss of lives. At this stage there is a danger of complete social and political breakdown with unpredictable consequences.

During the period of high and rising inflation of the 1970s there were still those who defended inflation as being preferable to high unemployment and who argued that there would be no undesirable consequences if all financial payments and obligations were to be "index linked", i.e. if all monetary values were periodically adjusted by an agreed inflation measure. Some even argued that this would itself gradually bring down the rate of inflation since there would be nothing to gain from raising prices when costs also rose at the same rate.

In practice, experience soon showed that although some degree of indexation was able to preserve the value of some obligations such as real yields on savings and the purchasing power of pensions, inflation itself is too complex and uneven in its effects for it to be simply indexed away into insignificance. It also became clear that the low inflation countries such as Germany and Japan were able to enjoy more successful economic growth and higher living standards than the high inflation countries such as Britain and Italy. Indexation was, of course, no cure for the international trade problems of the high inflation countries.

By the 1980s there was widespread agreement throughout Western Europe that inflation was a major economic problem that governments had to solve and there was sufficient popular support for this that governments could risk taking measures that they knew would increase unemployment. Few people recognised the full implications of the anti-inflation policies they were embarking on. People were prepared to tolerate high unemployment largely because the social consequences of being without a job had been much reduced by the social welfare provisions that had been made possible by a prolonged period of relatively high economic growth and a demographic and economic structure that kept a rising proportion of older people small in relation to the large numbers of economically active people born in the "baby boom" post second world war years and the growth in numbers of working women.

By the 1990s, however, social, economic and demographic conditions were changing. Economic growth, in the face of increased competition from the newer industrial nations, especially those in Asia, was likely to slow and the cost of the social welfare structure was becoming a heavy burden. Cuts would have to be made if heavy taxes and government borrowing were to be avoided. People started to re-learn the social hardships of unemployment and these hardships were no longer confined to the low paid manual workers. In the early years of the next century governments would face the added burden of a rapidly rising proportion of economically inactive older people with costly health care needs, as the post-war babies started to approach retirement age or were being forced into early retirement by governments anxious to increase business efficiency without too high a rise in published measures of unemployment. By the mid-1990s most Western European countries were starting to cut social welfare obligations – reversing the trend of the previous half century.

Implications of Policies to Close the Inflationary Gap

By now many of these will already have become evident. It has always been recognised that the spending reduction anti-inflationary policies are likely to be more unpopular than policies to increase spending to close a deflationary gap. It was largely an attempt to find a politically and socially acceptable way to close the gap that led to the Keynesian inspired policies of "voluntary" prices and incomes restraints. If the inflationary gap was caused by excess income then closing it meant reducing or holding back the expansion of monetary incomes. As governments of the 1960s and 1970s shrank from the anticipated hostility of significant reductions in government spending they

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seized on prices and incomes policies as offering a politically acceptable escape from the dilemma. The policies depended on restraint from employers, labour unions and the governments in an attempt to keep income increases close to the rate of economic growth, i.e. they sought to keep the rise in demand as close as possible to the rate of production (supply) increase.

The failure of these policies left Keynesians with little credible and politically acceptable answer to inflation and prepared the way for a fresh approach from a government influenced by monetarist-classical economic beliefs. The new policies were based on measures to remove impediments to the interaction of supply and demand in both product and factor markets, weakening the influence and reducing the relative spending and borrowing of the government and tolerating a degree of unemployment in the effort to make the supply side of the economy more efficient and competitive in world markets. Supporters of these policies can claim some success in closing the inflationary gap but this success has not been rewarded by political popularity. This lack of success is due to several factors including:

- the widening gap between the very rich and very poor and increased employment insecurity among all sections of the working population;
- the reduction in asset, especially private home, values and the very great hardship this has brought to large numbers of people who became first time home owners in the 1980s;
- an increasing realisation that the social welfare structure constructed over the past half century is under threat of being dismantled.

These three developments together have created a climate of uncertainty and real fear of the future. For the past five decades people have believed that general living standards were rising and would continue to rise in spite of temporary difficulties. People expected their personal incomes and wealth to rise while sharing in general improvements to the State provision of social welfare. These expectations are now being reversed. The burden of taxation has not been significantly reduced. In total it was increased but more and more people are being expected to contribute to the cost of their children's education, to their own health care and to their own future pensions. In this general environment of increasing insecurity people are understandably thinking that far too high a price has been paid for what may yet prove to be a brief and temporary relief from inflation.

E. MEASUREMENT OF UNEMPLOYMENT AND INFLATION

One of the problems facing economists, particularly when trying to make comparisons over time and between countries is that there are no generally agreed ways of measuring the extent of two of the most serious modern economic problems, unemployment and inflation. Moreover, since governments have a vested interest in minimising each of these problems there is always the suspicion that official measures are manipulated to reduce their reported size.

Measurement of Unemployment

There can be no accurate measurement unless we are clear about what precisely is being measured. People are unemployed if they think of themselves as unemployed, i.e. if they seriously want to work, are prepared to work but cannot find a job. Even this very simple attempt at a definition presents problems. If a person is trained as an architect and is fully qualified to work as an architect but can only obtain a job as a building labourer, waitress or shop assistant, that person, quite understandably is likely to consider himself or herself as unemployed but will not be registered as such in official records. Another person may have left the workforce to have a family and bring up young children

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and then, after some years seek to return to employment but find it impossible to obtain suitable employment. Yet another may have been put under considerable pressure by an employer to accept "voluntary" early retirement and may be receiving an employment pension but, should the opportunity arise would prefer to be employed. None of these is likely to appear in the official figures of the unemployed in Britain and other countries using roughly similar measures to those in Britain.

British unemployment figures are based on those registered, and entitled to receive unemployment or social welfare benefits as unemployed. Consequently it is frequently argued that these official figures significantly underestimate the true unemployment total because they do not include those who are not entitled or likely to become entitled to benefits and who are not, therefore registered. These include those:

(a) who have been out of the workforce for some years (mainly women), or who have never been regularly employed, but who seriously wish to enter employment but cannot find work;

(b) who have retired before the "normal" retirement age and who, if aged 60 or over are not registered as unemployed. Many people under the age of 60, in receipt of pensions or other incomes over a certain figure will also be ineligible for unemployment benefits and are unlikely to appear in unemployment figures;

(c) who would wish to be fully or regularly employed if they had the opportunity but are in currently part time or temporary employment. This group includes many women and older men and also young people in work experience or training schemes;

(d) who would wish to be in employment if work were available but are remaining in full-time education.

At the same time it is also argued that the official British figures may overstate the true amount of unemployment by including some who receive benefit but who are not seeking work. These would include people who:

(e) intend to withdraw from the workforce for some time, for personal or family reasons but who are entitled to unemployment benefits for a limited period;

(f) are actually in employment or self-employment but who register illegally as unemployed in order to receive benefits, sometimes with the connivance of employers who are thereby able to pay low wages.

No one knows the actual size of any of these groups and estimates vary considerably. The true size of the unemployed population is thus not known though changes in the figure for the recorded unemployed are likely to be a reasonably accurate indication of changes in the true total.

Some countries, including the USA, base their unemployment figures on estimates obtained from regular surveys. These figures will include people who are not entitled to social welfare payments but they arouse even more suspicions of official manipulation than totals based on the officially registered.

Measurement of Inflation

In most countries official figures intended to measure inflation are obtained from some kind of index of price movements. It is, therefore, price, rather than wage inflation that is normally measured. As with unemployment statistics, the methods of compiling the price indices, their content and the recording of price changes differ considerably between countries. Comparisons which do not take into account these differences can be misleading.

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The measure most commonly quoted in Britain is the "All Items Index of Retail Prices". This is a weighted average of separate price indices for different classes of goods and services. The weights are revised annually in the light of information provided by a continuous survey of household expenditure which records the spending habits of a sample selection of households in the country.

Retail Price Index

The basis for this is the continuous survey of household expenditure, which provides information on spending habits of a sample selection of households in the country. Information supplied by the sample households can also be checked to a great extent against information supplied by shops and from tax returns.

(a) Grouping and Weighting of Expenditure

Until 1986 consumer spending was divided into 11 main groups (which were further divided into subgroups) and the weighting given to each group in compiling the index was changed at the beginning of each year, on the basis of changes which had been observed in the pattern of spending in the latest available year. The weights used for the years 1968, 1984 and 1986 are shown in the Table below:

Table 12.1

Retail Price Index: Weighting of Each Main Class of Spending

Class	**1968**	**1984**	**1986**
All items	1,000	1,000	1,000
Food	263	201	185
Alcoholic drink	63	75	82
Tobacco	66	36	40
Housing	121	149	153
Fuel and light	62	65	62
Durable household goods	59	69	63
Clothing and footwear	89	70	75
Transport and vehicles	120	158	157
Miscellaneous goods	60	76	81
Services	56	65	58
Meals bought and consumed outside the home	41	36	44

Notice the **increased** importance of spending on services, housing, durable household goods and transport; the **reduced** importance of spending on the basic necessities of food, clothing and footwear; and the very steep relative fall of spending on tobacco. The group weights were used to calculate the "all items" price change and it was this figure which was quoted so extensively.

The basis of weighting and some of the elements of the Index were changed in 1987 and a new Index commenced on 13 January 1987. Consequently, figures post 1986 are not comparable with those up to that year. Table 12.2 shows the new main classes for which monthly figures are produced. It is clear from these that pre-1987 trends have largely continued.

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Table 12.2

Revised Weightings for the Retail Price Index

	1987	**1990**	**1992**	**1995**
Total weights	1,000	1,000	1,000	1,000
Food and catering	213	205	199	184
Alcohol and tobacco	114	111	116	111
Housing and household expenditure	335	346	344	356
Personal expenditure	112	108	99	93
Travel and leisure	226	230	242	256
Broad classes of expenditure:				
All items except seasonal food	974	976	978	978
All items except food	833	842	848	861
Seasonal food	26	24	22	22
Non-seasonal food	141	134	130	117
All items except housing	843	815	828	
Nationalised industries	57	-	-	-
Consumer durables	139	132	127	123

In the revised Index, prices on 13 January 1987 = 100.

(b) Recording Price Changes

The actual price changes are recorded by officials of the Department of Employment, who make regular checks on the prices of selected items sold in a variety of shops throughout the country. Prices are checked on the same day of the week and at the same stage of each month. The articles chosen for checking are those which experience has shown are reliable indicators for a range of other prices.

(c) Only an Average Indication

Notice that the Index is very much a type of average. The spending habits of the highest and lowest income earners are not included in the calculations but the Index can never be more than an average indication of what is happening to prices. If your spending does not fit the average pattern, then you may be better or worse off than might be inferred from the price changes recorded in the Index. If, for example, you spend more than average on transport, then you will probably be worse off because it is in this group that some of the steepest price rises have taken place.

The movement of the “all items” Index to 1987 is shown in Figure 12.4. This shows the very steep rise in inflation in the period 1974-1987 in Great Britain.

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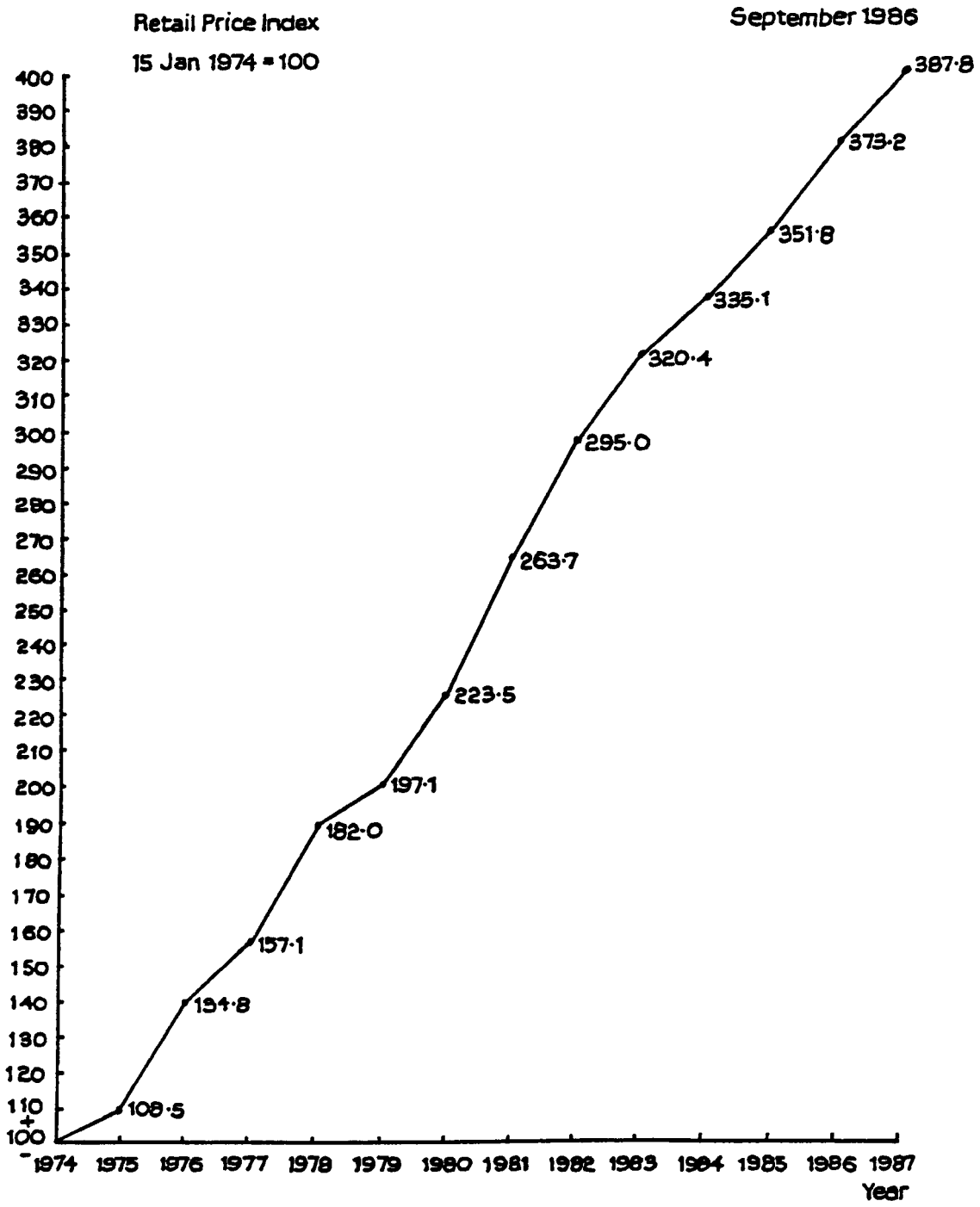

Figure 12.4: Price Index Monthly Averages

In January 1987 the Index reverted to 100 and the base for the Index changed so it is not satisfactory to continue the graph beyond 1987. Since then the annual averages have been:

1987	1988	1989	1990	1991	1992	1993	1994
101.9	106.9	115.2	126.1	133.5	138.5	140.7	144.1

Notice that people have continued to spend an increased proportion of their income on housing and household expenditure and on travel and leisure, while the proportion of income spent on food, alcohol and tobacco has continued to fall.

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These, of course, are very broad averages and by no means all people follow the general trend. Nevertheless, it is clear that the main direction of spending – towards services and housing, with food, clothing and other basic goods taking up a smaller proportion of total spending – has been roughly the same for many years. Remember that these figures concern the **proportion** of total spending. People may be spending more money on food but as incomes rise food can still make up a smaller proportion of total expenditure.

Tax and Price Index and Possible Further Changes

The Retail Price Index is frequently used as a measure of changes in average living costs. In the late 1970s it was argued that price changes alone did not give a true indication of changes in consumer purchasing power. It was also desirable to take into account some of the main changes in consumer net incomes – the money available to people for spending. One of the main influences on the amount of income left to the wage earner for actual spending on goods and services is taxation on incomes; a Tax and Price Index was devised to take into account changes in prices, in income tax and in national insurance contributions.

This index is really a modification of the Retail Price Index and the Price part of it is the same. When the index was introduced the government hoped to be able to convince people of the benefit of tax reductions in raising purchasing power and to reduce inflationary pressures on wages. In fact the index has had little effect and is rarely mentioned in public discussions. Much more attention is paid to the Retail Price Index and to the effects of interest rate changes on people's purchasing power. It has been suggested, by independent observers as well as by government ministers, that the RPI is misleading in its treatment of housing costs and mortgage interest and its references are not common to a distinction between the published rate of inflation (RPI) and the "underlying rate", of which, not surprisingly, there are various estimates.

In setting its inflation targets and measuring performance the present British Government (June 1995) uses a measure (RPI-X) which excludes mortgage interest. At this time it resisted pressure from some sources, including the Bank of England, to use another measure (RPI-Y) which also excluded expenditure taxes. In March 1995 the All Items Index was 147.5 while the All Items, excluding mortgage interest payments was 146.6.

It is, of course, important that there should be an accurate index of changes in price levels and purchasing power because many other changes depend on it. Many pensions, wage negotiations and some tax allowances are all linked to the RPI and, of course, it is one of the major indicators of the state of the economy. No one should seriously object to an honest and independent effort to make the index more realistic but there is always the suspicion that the government – any government – may try to "launder" this indicator in an effort to make its policies look more successful than they really are. There may be sound reasons to have measures that exclude price movements brought about by government through interest rate and tax changes but any attempt to use these when indexing government bond interest and pension rises or wage negotiations would meet with a deserved hostile reaction from the public whose living standards are affected by any price rises regardless of whether they were the result of economic inflationary pressures or government policies.

Special Indices

Some of the class indices that make up the all items index are used by business organisations when these are more relevant to their needs than the more general average. For example, some insurance offices have used the consumer durables price index as a basis for index linking household contents insurance policies.

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A number of professional and trade bodies keep their own indices of prices that are important to them. An example of such an index is the House Rebuilding Cost Index published by the Building Cost Information Service of the Royal Institution of Chartered Surveyors. This index is used by many insurance offices for index linking household building insurance policies.

When compiling the Retail Price Index the official British statistical services disregard the recorded spending of very low and very high income households, the precise income limits being revised regularly. The reason for this is that their spending patterns are not typical of the main body of the population. Nevertheless, it is recognised that the government and those concerned with low income families need to know how these families are affected by price movements and how these movements relate to changes in pensions and social welfare payments. A high proportion of low income households are those of the elderly, especially those pensioners with little income other than the basic State pension. Attempts are, therefore, made to maintain a separate pensioners' index based on the recorded spending habits of pensioners. These efforts are sometimes criticised on the grounds that the different spending pattern of pensioners is the result of their relatively low incomes. Most would probably adopt a different expenditure pattern if they could afford to do so. Thus, to have a separate pensioners' index and to use this as a basis for adjusting pensions would simply reinforce the disadvantages suffered by this group. Moreover, as a result of the changing pattern of retirement the term "pensioner" is becoming much harder to define. It no longer relates just to those over the qualifying age for State pensions but includes large numbers of younger people who have taken, or been pressured into taking early retirement and other older workers made redundant and unable to return to the workforce. The range of incomes of pensioners is also much wider than in the past. Although the majority are still wholly or mainly dependent on State benefits, a growing number now have substantial occupational pensions. It is still true that the spending patterns of older people are likely to differ significantly from those of younger people, but earlier assumptions that a pensioner was someone living on a bare subsistence income, most of which was spent on food and household fuel, no longer applies to large numbers of those who regard themselves as pensioners.

We should always remember that all indices are averages and they do not necessarily record the experiences of any particular individual or group of individuals. Nevertheless, they do provide a means of measuring actual price movements in a systematic way and as long as people understand their limitations they are extremely helpful to those who seek to serve the community either through business or public administration.

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Study Unit 13

Classical and Monetarist Economics

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A. BASIC ASSUMPTIONS OF CLASSICAL AND MONETARIST ECONOMICS

For purposes of simplicity we are not separating classical and monetarist economics; we are taking quite a broad view of the various concepts and beliefs which all fit under these very wide terms. In the interests of brevity we shall use the more widely known term monetarist unless there is a reason to do otherwise. In practice there are differences, just as there are differences between groups of Keynesians and groups of Marxists but it would be confusing and beyond the scope of this course to attempt to describe them in detail. From time to time, however, we shall continue to give an outline of what we take to be extreme positions for both classical monetarists and Keynesians, noting how these are often modified, particularly when they form the basis for actual government policy measures.

The extreme classical-monetarist belief is that, left to themselves, markets are highly competitive and reach equilibrium very quickly. Demand, however, moves more rapidly than supply, particularly in response to changes in the supply of money and credit. Consequently equilibrium is achieved through price changes, i.e. a rise in demand, following an increase in money supply, produces a swift rise in price levels with only a small increase in output and fall in unemployment. Similarly a contraction or curb on increases in money supply will tend to produce a fairly swift reduction in price inflation with little rise in unemployment. If unemployment does rise this is due to other factors such as structural changes.

It is also argued that the **actual** rate of unemployment is the **natural** rate of unemployment and this natural rate (the rate existing when supply and demand in the economy are in equilibrium) is governed by microeconomic forces within firms and industry which are not affected by Keynesian-type adjustments of demand.

Modern monetarists take into account the rational expectations of decision makers in business firms and labour unions. The idea of rational expectations is that people, especially the decision-makers in firms and trade unions, learn from their experiences. They make adjustments in their bargaining to take into account shifts in government policy. If, for example, the government expands demand and money in the hope of increasing employment, the decision-makers in unions and firms know from experience that this expansion will result in price rises, so they anticipate this result in the wages they agree and the prices they charge – hence, the expansion results in price and wage increases at the same level of employment. Perfect equilibrium is, of course, not always achieved, because people make mistakes, and because decisions have to be taken under conditions of uncertainty in advance; but the longer certain macroeconomic policies are pursued, the better able the decision-makers are to predict and nullify them, and the less effective those policies become. This offers an explanation for the apparent collapse of Keynesian policies in the 1970s.

More moderate monetarists recognise that markets do not adjust swiftly so that the movement towards equilibrium following a demand change is likely to involve some change in the level of unemployment as well as in prices. Wage bargaining, for example, is not a continuous process but takes place at regular intervals and, as in product prices, the actions of acknowledged trend-setting groups are likely to be followed by others following their lead. Difficulties in securing wage reductions are also acknowledged and employers frequently find it easier to make some workers redundant than to secure a wage reduction that would enable the firm's employment level to be maintained. Many monetarists believe that the swift market adjustments predicted by their theory of market behaviour are impeded by practical imperfections such as worker resistance to change and reluctance to embrace new technology or adopt more flexible attitudes and practices. Consequently

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they regard supply side reforms in the structure of factor, especially labour, markets to be crucial to success in improving economic efficiency and curing inflation. Because of the social and political consequences of high unemployment, there can be only a gradual return to a full employment equilibrium, so that, from a position of rapid monetary expansion and inflation, a government must gain gradual control over money supply, and bring it down gradually by allowing smaller and smaller successive increases over a period of time. Trade-union and big-business power may be among the causes of slow reaction time in a modern economy but they cannot be wished away, and it is better to adopt gradualist policies than to risk a severe recession.

B. DISTORTIONS OF MARKET IMPERFECTIONS

Although monetarists accept that modern product and factor markets have many imperfections which they regard as damaging, they also seek to remove these where possible, though with variable energy and success.

Product market efficiency is most commonly impeded by the tendency for the most powerful suppliers to collude to drive out competition and form restrictive oligopolies. All the major market economies have some form of public anti-monopoly (anti-trust) policy with a legislative framework. Since monetarists gained political influence in Britain in the late 1970s there has been much talk of encouraging competition and the privatisation programme was “sold” largely on this platform. However, there have been no significant movements to strengthen anti-monopoly policy in this period and the major weakening of a former nationalised monopoly, i.e. the competition now faced by British Telecom, has been the result of technical developments in telecommunications rather than from British Government pressure. Comments from within the Department of Trade suggest that legislation that was drafted some years ago to strengthen competition law has been delayed because of “lack of Parliamentary time”! Cynical observers might wonder, no doubt unworthily, whether there might be any association between the lack of enthusiasm for such a change in the law and the number of large public companies that have made substantial financial contributions to the governing political party in the 1980s.

This apparent lack of enthusiasm for increased competition in product markets contrasts with encouragement for strong competition in the capital markets and resistance to any suggestion that this might be restricted as some other European capital markets are restricted.

The argument for a competitive, unrestricted capital market is based on the belief that managerial efficiency is ensured by the threat of takeover. If a firm is not using its resources as profitably as the market thinks it could then one or more market predators will seek to take it over. The immediate casualties of a takeover are the existing senior management team. Consequently if they wish to retain their positions the senior managers of a public company must operate efficiently – assuming that efficiently and profitably mean similar things.

Unfortunately the desire to make more profitable use of under-used resources is not the only motive for takeover. Another, powerful motive is to reduce the pressure of competition in the product market by reducing the number of competitors. It is one of the main functions of anti-trust legislation to curb this motive. In Britain the main responsibility for ensuring that product competition is not reduced by capital market activity rests with the Office of Fair Trading, supported by the Monopolies and Mergers Commission. Nevertheless these bodies cannot act decisively without the support of the responsible minister, who currently prefers to be known as the President of the Board of Trade, so that the vigour with which anti-competitive practices are discouraged depends, in the last resort, on political judgments.

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During the 1980s more attention in Britain was paid towards efforts to make labour markets more flexible by reducing the power of trade unions and making them more accountable to the wishes of their members. It was felt that unions were preventing wage levels from reflecting changing conditions of demand and supply in labour markets and encouraging attitudes among workers that encouraged them to resist change and made them less adaptable to changing technology and the movement of labour market forces.

It was argued that unemployment was increased by unions and by outdated labour attitudes and practices. This is illustrated in Figure 13.1.

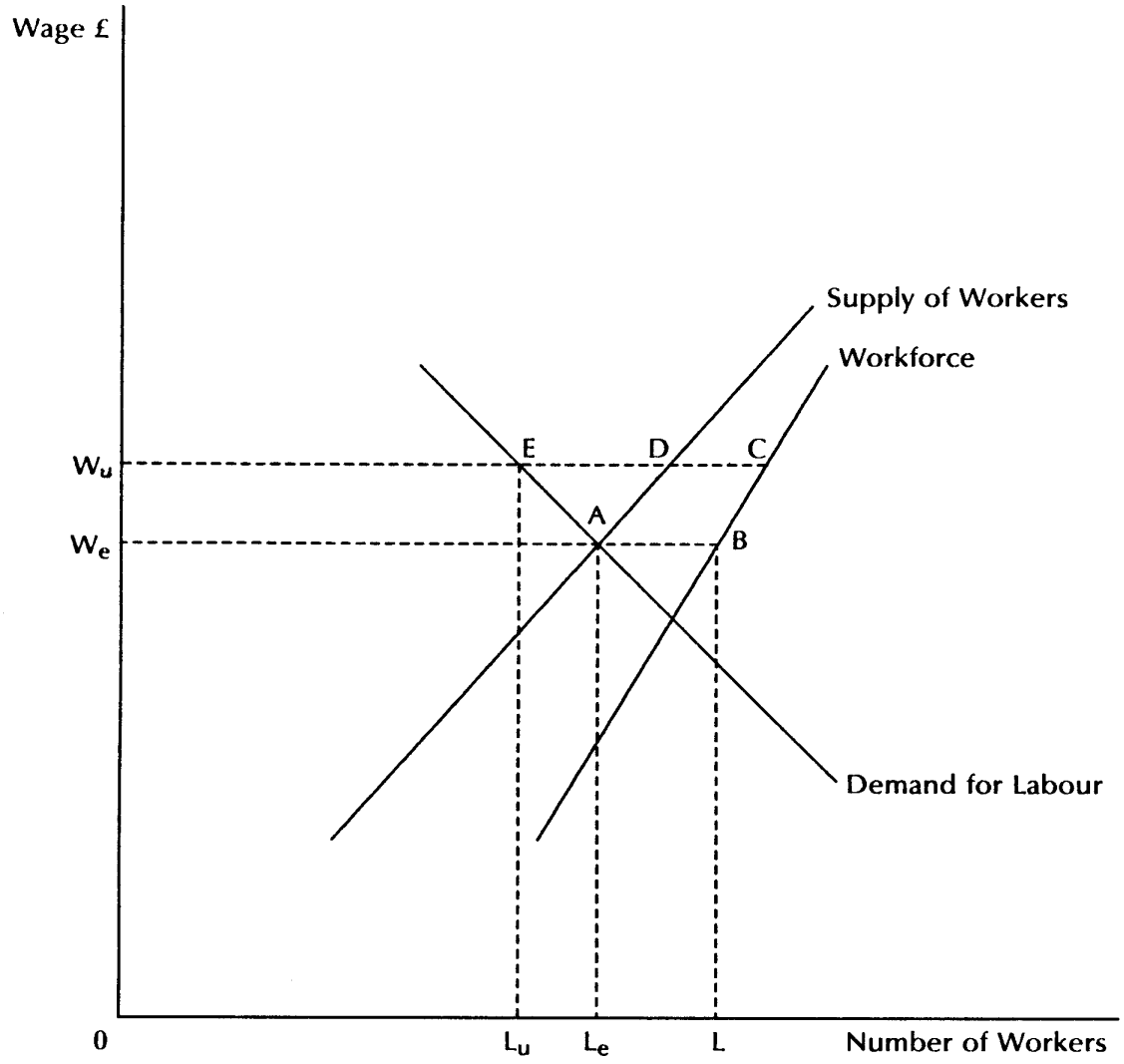

Figure 13.1

This model shows the demand for labour curve and a supply curve (Supply of Workers) to the left of the curve representing the total Work Force (defined as the total of workers in employment added to those officially registered as unemployed and claiming unemployment benefits). The supply curve indicates a supply below the work force because some people will be out of work for **frictional** reasons, for **structural** reasons (demand shifts and changes in production technology) and because of worker reluctance to accept the full implications of changes in the labour market. It is not difficult to understand this reluctance. A worker who has enjoyed a skilled and respected job for many years loses income, social standing and self-respect when that skill is destroyed by changes in production

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technology. To such a person, unemployment or early retirement can be preferable to taking an unskilled job.

The labour market is in equilibrium when the demand for labour and the supply of workers are at the same level, i.e. where the curves intersect, at A (employment level L_e and wage W_e). The gap between the supply of workers curve and the work force curve at this wage, i.e. between intersection points A and B (difference between employment levels L and L_e) is the **natural rate of unemployment**. This is the rate of unemployment when the demand for and supply of labour in the market as a whole are in equilibrium. Such unemployment is frequently regarded by monetarists as **voluntary unemployment** because work is available for those out of work but for various reasons, including those listed above, it is not being taken up by people who identify themselves as seeking employment.

Figure 13.1 also indicates the possible effect of labour unions. If unions raise the wage level above the equilibrium level that unregulated forces of demand and supply would achieve, say, to W_u then the employment level falls to L_u, the level demanded (point E on the demand for labour curve) at this wage rate. At the wage W_u the number of workers who would be willing to take work is represented by point D on the supply of workers curve but many individuals will be unable to obtain work because demand is at the lower level (point E on the demand curve). As individuals these workers are unemployed involuntarily. They are likely to be attending job interviews but finding that the number of those attending with them exceeds the number of jobs available. However, since the gap between demand and supply is the result of union pressure to raise wages many monetarists would argue that this unemployment is also voluntary since union policies on wages are supported by their members.

If unions are powerful enough to press for wage levels that anticipate future price inflation this element of union inspired unemployment will be increased. If employers agree to union wage demands without reducing employment levels in the belief that they can pass on rising wage costs to customers in price increases they may succeed for a time but as their prices rise ahead of world prices they will lose customers to lower cost, foreign suppliers so that domestic firms will go out of business or cut back production and the demand for labour will fall, i.e. the demand curve will move to the left. If you place a ruler to the left of the demand curve and roughly parallel to it you will see that the new intersection points with the supply of workers curve and the union wage of W_u are both shifted to the left, thus reducing employment and increasing unemployment levels.

C. IMPLICATIONS OF THE MONETARIST-CLASSICAL VIEWS FOR ECONOMIC POLICY

Whereas Keynesians would argue that the unemployment produced by these gaps between supply and demand could be reduced by increasing aggregate demand through increased public sector expenditure, this option, as suggested in the previous unit, is rejected by monetarists on the grounds that it would increase inflation and produce further unemployment as a result of this inflation. Monetarists prefer to draw the following lessons from the model:

- Union power should be reduced so that they are unable to push the wage rate above the equilibrium level and so unable to create the kind of involuntary unemployment represented by the E-D gap of Figure 13.1. In Britain a series of statutes in the 1980s reduced union immunities and made it more difficult for them to take industrial action without first ensuring that they had the support of a majority of members obtained by fairly conducted ballot.

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- Individual workers should be put under greater pressure to take jobs that are available even at lower wage levels. In Britain the governments of the 1980s felt that workers were able to stay unemployed longer than was desirable from an economic viewpoint, because of the financial protection afforded by rights to a range of unemployment and social security payments. The range and scale of these benefits have been reduced by a series of measures in the 1980s and 1990s. In 1995 the British Government announced the withdrawal of some important rights to housing benefits for unemployed workers with mortgage liabilities. However this development has put increased pressure on an already depressed housing market and seems likely to increase unemployment by reducing product demand and hence the demand for labour in the many product markets associated with housing. One of the arguments for earlier Keynesian inspired measures for maintaining income levels for those out of work was that these helped to prevent falls in household consumption and this held up aggregate demand and the demand for labour. It appears that, by 1995, the monetarist measures to restore market forces and pressures to labour markets were recreating the kind of problems which had led to the Keynesian demand-management policies of the 1950s and leading to renewed interest in Keynesian models.

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(c) It may **influence ratios by its own actions** – the central bank may conduct open-market operations. These involve buying and selling government securities on the open market. The Bank of England always keeps a store of government bonds (known as "tap stock" because the Bank can release or hold stock like turning a tap on and off). If it offers some of its tap stock to the public at an attractive price, people will buy and pay for the bonds with cheques drawn on commercial banks. In this way, money can be withdrawn from the commercial banking system and kept in the central bank. If the Bank buys bonds, then the opposite happens, and the supply of money in the commercial banking system is increased. (In Britain, open-market operations are used more to influence the day-to-day supply of money required by commerce, rather than to impose major credit or monetary controls.)

Direct Controls over Banks

The government, acting through the central bank, may require the commercial banks to keep their customer lending within stated limits, or to discourage certain forms of lending, or forbid lending for stated purposes. In a market economy or a mixed economy containing a substantial free-market element, such controls are unpopular and difficult to keep in force for very long. They may be regarded as the first step towards total control of the banking system or complete nationalisation of all banks.

The above methods of control assume that the central bank does not itself operate directly in the ordinary commercial finance markets. In some countries, the national central bank does lend directly to industrial and commercial organisations. In such countries, a government wishing to control the money supply would have to keep careful and strict control over these lending operations.

Control of Government Borrowing

There is uncertainty over the effects of government borrowing.

A straightforward analysis of money supply and its changes suggests that an increase in government borrowing will increase money supply **only** if this is financed through the banking system. If it is financed by direct borrowing from the public, through sales of bonds or national savings certificates, then there is no increase in money supply, and there could be a reduction through the withdrawal of money from private-sector deposits with the banks to pay for the government securities.

However, there may be indirect consequences. If the government enters the finance market to compete for a larger share of private savings, then firms may be forced to borrow from the banks instead of raising money through issues of shares or debentures. This suggests that the government is "crowding out" private investment and forcing it into the banking system. Also, if the government forces up interest rates because it is competing with building societies and banks and capital markets for private savings, firms will be unwilling to incur long-term debt at high rates of interest, and they will prefer to borrow on short-term and on more flexible terms from banks, in the hope that future conditions will be more favourable for longer-term funding.

Thus, some economists argue that part of the mechanism for reducing money supply must be to reduce government borrowing, while others say this will have little or no effect.

In practice, modern monetarists tend to want to reduce public-sector borrowing and expenditure because they also believe in the virtues of unregulated markets and the value of the private sector, and wish to reduce the size and power of the public sector, whereas Keynesians will be less concerned about the effects of public-sector borrowing, and may wish to encourage government spending. Once again, the division tends to resolve into monetarist versus Keynesian terms.

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F. THE PROBLEMS OF MONETARISM

Theoretical Problems

The first problem faced by monetarists is that their basic theory is not generally accepted by all economists. No one doubts that a massive increase in the supply of money without any corresponding increase in the output of goods and services will result in an increase in prices, but it is the closeness and inevitability of the relationship between increases in money supply, increases in total demand and increases in prices that Keynesians and others find hard to accept; and some of the other implications of monetarism, particularly those relating to unemployment, arouse considerable dislike.

You might think that this argument should be fairly easy to settle. After all, if the relationship between money supply and prices is so close, then it should be easy to prove by reasonably simple statistical analysis. Unfortunately, proof is not so simple. As already noted, there is disagreement, even among monetarists, regarding the speed with which the economy adjusts to changes in money supply, and the introduction of time-lags between these changes and changes in prices makes certainty difficult to achieve. Professor Friedman, among others, has shown clearly that there is a close correlation between increases in money supply and price increases but, because of the time-intervals between the two sets of changes, this does not prove that a change in money supply must always increase prices to a particular extent. If a close correlation is found between two sets or series of data (say, between A and B), then there are the following possibilities.

Changes in A cause changes in B; changes in B cause changes in A; changes in both A and B are caused by some other influence, say C; the correlation is accidental, so that A and B are not closely related at all.

It is possible, therefore, that the correlation between money-supply rises and price rises is the result of the expansion of money, made necessary by the increased prices caused by some other force.

Practical Problems

There are further problems, in the sense that money, as we have seen, is difficult to measure, and even more difficult to control.

Monetarists are sometimes accused of choosing whatever measure of money most closely appears to suit their particular purpose, and changing the measure when it no longer serves that purpose. The British government has, several times, changed the measure used as the basis for its various monetary targets. In the early 1990s it was publishing two measures, M0 for narrow money and M4 for broad money (including building society deposits), but by this time it was admitting that attempts to base policy on the performance of just a very few economic indicators were likely to be self-defeating. It claimed that the measures of money supply were just two of a range of indicators that needed to be taken into account when taking economic policy decisions.

Controlling the money supply has proved extremely difficult for many governments. The problem tends to revolve around what is known as “disintermediation”.

When banks carry out their normal functions of lending to one set of customers the money deposited with them by others, they are acting as **intermediaries**. If, because of government attempts to control the money supply, their normal lending operations are put under strict controls, with penalties for lending above stated limits, then disintermediation tends to take place. This takes three main forms:

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(a) Firms develop ways of lending between themselves without the intervention of banks, by simply extending trade credit or arranging deals whereby the debt of A to B is transferred to enable B to settle his liabilities to C.

(b) The business of lending and arranging credit passes from the controlled banks to other financial institutions which are outside the existing credit controls; the growth of secondary banking in the 1960s and 1970s owes much to the limitations placed on the activities of the primary banks by governments seeking to control bank lending, and hence the money supply.

(c) The banks themselves develop new ways to create credit that are outside the existing control regulations. Among the more notorious devices used by British banks was the expansion of commercial bills of exchange to evade controls over the simpler lending by overdraft.

The modern financial system has become so sophisticated and complex that attempts to impose tight controls of lending and credit creation are likely to lead to increasingly devious methods of disintermediation, with the main consequence that the price of borrowing and handling money is pushed up, and borrowing by new and adventurous firms tends to be stopped, while established firms which have forged close links with their banks or which have their own connections with the finance markets have no trouble in acquiring the finance they desire.

Attempts to control money supply have been compared with efforts to squeeze a balloon. Such efforts serve only to distort its shape; the amount of air in the balloon remains unchanged.

Some attempts to achieve monetary controls have failed because these have tended to put pressure on the private sector of the economy while, at the same time, the government itself has been increasing its own borrowing and, in so far as this borrowing has involved the issue of Treasury bills and bonds which have been taken up by the banks, this has increased bank credit and the money supply.

The only effective way of restricting money supply appears to be the use of interest rates but these have such a wide and indiscriminate effect that, as had become clear by 1992, they can turn inflation into severe recession with all the social misery that results from high unemployment and the repossession of people’s homes. By the mid 1990s there were very few economists prepared to claim that a government could manage a modern economy using only monetary instruments of control.

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Study Unit 14

Government and the National Product

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A. THE PUBLIC SECTOR

The public sector is the term given to the range of economic activities where resources are controlled and decisions over their use are taken by agencies responsible to the government through its political institutions. It is the economic sector controlled by the State and not directly subject to the normal market forces of private consumption and supply though these may influence decisions taken through the political machinery of the State.

The public sector in Britain consists of two main divisions, the central government and the local authorities. Since the extensive privatisation programme of the 1980s the nationalised industries are no longer a major division of the public sector. At the same time, there has developed a substantial sector controlled by a range of non-elected bodies appointed mostly by central government and popularly known as Quangos (Quasi-National Governmental Organisations). By 1995 no attempt had been made by the Government Statistical Service to measure the size of this group or even to consider it as a separate division of the public sector though there is a strong social and political case for doing so.

The Size of Public Sector Spending

Monetarists have argued fiercely that the public sector has grown too large in modern times and that it should be reduced so that taxes can be reduced and more of the economy left to market forces. The British Governments of the 1980s and early 1990s have sought to identify themselves as reducers of public expenditure and taxation. The official statistics as contained in the Blue Book (United Kingdom National Accounts) tell a rather different story. The following figures do not take account of the privatisation programme which technically transferred around ten per cent of gross domestic product from the public to the private sector. We could argue that the major public utilities, which dominated the old nationalised industries, are different in nature from both completely commercial, competitive enterprises and public sector services such as primary education and hospital care. They have always sold services to the public, have always been required to relate expenditure to revenue and are still subject to a significant degree of non-market regulation. They are not fully part either of the free market economy nor of what has been termed the non-market, public sector.

In 1972 the proportion of general government (central plus local authorities) final consumption (the money spent by government on our behalf according to decisions made through the political structure) to total domestic expenditure was 18.71%. In 1973 this proportion fell to 18.07% but in 1975 it jumped to 21.71%. In 1978, the year before the election of a self-styled monetarist government, it was 20.37% but by 1983 it had risen to 22.17%. In 1990 the proportion had fallen to 19.94% – still well above the figure of 1972-3 but in 1993 it rose again to 21.65%. There is no evidence here of any significant reduction in the public sector, rather the reverse. The figures do fluctuate from year to year, particularly when the government's share of fixed capital formation (investment) is taken into account. This suggests that the government is prone to delay major capital projects when it is seeking to reduce (or give the impression of reducing) expenditure. This, of course, creates a climate of uncertainty and makes it difficult for private firms seeking public sector contracts to make long term plans. The overall impression is that whatever governments may like to say or imply in public, they are able to do very little about actually reducing public sector expenditure but they do create an uncertain environment for public sector investment that is potentially damaging to the economy as a whole.

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The Nature of Public Sector Spending

In view of the apparent inability of governments (which we must assume really do wish to reduce public sector spending) to make any significant long term reduction, we need to examine more closely what form this expenditure takes.

Analysis of total general government expenditure for 1993

	£ million	**%**	
General public services	12,633	4.63	
Defence	24,384	8.94	
Public order and safety	14,979	5.49	
Education	33,885	12.42	
Health	36,863	13.51	60.08%
Social security	93,180	34.15	
Housing and community amenities	10,939	4.01	
Recreation and cultural affairs	3,705	1.36	
Fuel and energy	954	0.35	
Agriculture, forestry and fishing	3,930	1.44	
Mining and mineral resources manufacturing and construction	1,529	0.56	
Transport and communications	6,838	2.51	
Other economic affairs and services	4,977	1.82	
Other expenditure (mostly debt interest and non-trading capital consumption)	24,053	8.82	
Total expenditure	272,849	100.00	
		(apparent error due to rounding)	

Total general government expenditure (at current prices) for 1993 is broken down into broad classes in the above table. This shows very clearly that a little over 60% of the total is accounted for by just three major areas of spending. These are:

- social security (which by itself accounts for over a third of all spending);
- health; and
- education.

It is not difficult to understand why these three sectors all feature so often as topics of political controversy. It is not just monetarist economic theorists that are concerned about the amount of social security spending. Any responsible government has to examine this huge element in its budget and we have to recognise that the same problem now faces all the Western market economies which developed strong social welfare structures in the years of strong economic growth and relatively young, vigorous populations in the period 1950-1975.

However, when we try to learn from the Blue Book of United Kingdom National Accounts more precise details of this social security spending the picture becomes a little confused. In view of the importance of this item the confusion is rather disappointing. The total 1993 amount of £93,180

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million for social security expenditure is dominated by £80,392 million described as "current grants to the personal sector", i.e. they are transfer payments of one kind or another. Clearly they include unemployment benefit, children's allowances, social welfare payments and state pensions. Unfortunately it is not possible from the Blue Book tables to produce a breakdown of benefits that fits the total figure of £80,392 million. By far the largest amount is termed "social security fund's benefits" and this is made up of such items as retirement pensions, widows' benefits relating to unemployment, sickness, invalidity, maternity and so on. Supplementary benefit and income support payments are another large item in social security spending. The largest single item appears to be for retirement pensions. Again we can understand the concern of Western governments at the implications to their budgets of the bulge in the number of elderly people expected from around the years 2010 onwards and their anxiety to change the pension rules while the proportion of older voters remains small enough to override without too rough a political storm.

Financing Public Sector Expenditure

Discussion of public sector spending, if we do not take care, tends to ignore the inconvenient fact that the government has very little money of its own. It rarely has any significant savings, though it may have accumulated some physical assets. The main inheritance each government gains from its predecessor is a debt, the **national debt** and it has to assume liability to service (i.e. pay interest on) that debt before it can begin to spend anything on the services it wishes to provide or which it is legally liable to provide by laws enacted by its predecessors. Some politicians found it fashionable to compare government finances with those of a family but not many families would care to become burdened with huge debts and the cost of servicing those debts as soon as their parents departed this world. They would quickly seek to repudiate the actions of their parents but if governments try to take that course they become discredited in the world of international finance and find it very difficult to borrow the money they need.

To raise the money it spends the government can take the following courses:

- selling its assets;
- selling services to the public in the market;
- raising revenue from taxes or the sale of licences (permissions to carry out restricted activities);
- borrowing

(a) Selling Assets

The most notable modern example of this has been the British privatisation programme for the nationalised industries, mostly public utilities and major companies which had been taken over by the State for various reasons in the past. It proved such a fruitful source of finance in the 1980s that other governments have sought to copy this example. If there is one certainty in political life it is that when one government discovers a rich source of funds others, whatever their political complexion, will certainly copy it. The only problem with this course of action is that assets, once sold are not available for sale again. By 1995, there were no significant trouble-free assets left for the British Government to sell. The nation's "family silver" had gone. If some enterprising politician can discover a way to sell the equivalent of homing pigeons no doubt the attempt will be made. A near equivalent might be for a future government to change the ordinary shares in the privatised utilities into fixed term debentures which could be reissued periodically in constantly devalued currency.

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(b) Selling Services in the Market

Efforts have been made in recent years to charge for some services provided by the public sector, the best known probably being the attendance of police at football matches. Many former "free services" such as museums are now expected to cover a significant part of their costs from charges. However these charges still form only a very small proportion of the government's total receipts.

(c) Raising Licences, Taxes and "Near Taxes"

The Blue Book summary tables do not show licences as a separate item though most of us are familiar with licences relating to motor vehicles, television and activities such as fishing and shooting. Most are a form of taxation on expenditure and many people have argued that there would be advantages in replacing most of them with straightforward expenditure taxes, e.g. additional tax on motor fuel so that people were taxed on the use of vehicles rather than on their ownership.

The main classes of tax and "near tax" identified in the main national accounts are:

- **taxes on income** – roughly equivalent to what economists like to call **direct taxes**;
- **taxes on expenditure** – roughly equivalent to what economists like to call **indirect taxes**;
- **social security contributions –** because there is no direct relationship between total contributions and total expenditure on benefits, these are really a contribution to the total tax receipts of the government and are more like employment, payroll or wage taxes;
- **local taxes** – unlike some countries Britain has only one major local tax which is now levied on the ownership and occupation of property and is known as the **Council Tax**.

These taxes and their economic implications are examined more fully in the next section of this unit.

(d) Public Sector Borrowing

Except for a few years in the 1980s when the British Government was receiving substantial amounts from oil revenues and the privatisation sales, most modern British Governments have spent more than they have received. Consequently they have had to borrow to bridge the gap between receipts and expenditure and this is broadly the **Public Sector Borrowing Requirement (PSBR)**. Clearly the government has to plan its borrowing which is mostly administered by the Bank of England so it has to estimate its borrowing requirement and then plan sales of various forms of debt to raise the money it expects to need. These estimates are rarely completely accurate because the government does not know accurately in advance how much tax will actually be paid as this will depend on the volume of household spending and on the amount of incomes paid to workers and profits earned by firms. Its spending will also depend heavily on the amount of unemployment and other social security benefits it becomes liable to pay. When most workers lose their jobs and are unemployed for more than a few weeks they change from being taxpayers into receivers of social security benefits so a sudden, unexpected rise in unemployment can severely upset the Government's estimate of its PSBR.

Government borrowing has many important economic implications and these are also examined more fully in a later section of this study unit.

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B. TAXATION AND THE ECONOMY

Types of Tax

The broad classes of taxation have already been outlined. We shall now adopt the three broad classes of tax, i.e. direct, indirect and payroll and endeavour to fit the best known taxes into these.

(a) Direct Taxes

These are called direct because they are levied directly on to people in accordance with the income they receive or the wealth they create, inherit or transfer. Income tax itself is the main generator of revenue for the government in this class and the most direct since all employees have the tax deducted from their pay by employers who act as tax collectors for the government. The earnings of the self-employed and those with investment income are assessed separately. The British government is currently moving towards a system of self-assessment similar to that operated in the USA.

Limited companies are legal entities in their own right and corporation tax is levied on their profits. This is another major direct tax.

Government statistics treat taxes on capital as a separate class but for our purposes we can regard them as direct taxes. The main types are capital gains tax, levied when financial and physical assets are transferred and inheritance tax, levied on the estates of people when they die. Recognition that capital gains tax is a form of income tax is implicit in the move by the British Government in the summer of 1995 to tax the capital gains of investors in the Government's bonds (known as gilts, or gilt-edged securities) as income.

The locally levied and collected council tax can also be regarded as a direct tax. It is a tax on the ownership or occupation of property and rights to property have traditionally been regarded as a form of income or wealth. It is also similar to an income or wealth tax in that the more valuable the property owned the higher the amount of tax likely to be paid.

(b) Indirect Taxes

These are called "indirect" because they are not levied directly on the people who eventually bear the burden, or incidence of the tax but are levied on goods or services when they are traded. They thus become a production cost which, along with all other costs, has to be included within the price charged to the ultimate consumer.

Most are taxes on expenditure levied at some stage when goods or services are traded. The best known is Value Added Tax (VAT). As goods pass between firms as they go through the production process each firm purchasing goods and services pays VAT but is able to offset the tax paid against the tax it collects when the goods are sold on to the next firm or to the consumer. In effect, therefore, firms pay just the amount of tax levied on the value they add to the inputs they purchase. Only the final consumer has to pay tax levied on the full, final total value.

Other common taxes include customs duty paid when foreign goods enter the country, or in the case of members of the European Union (EU), when goods produced outside the EU enter the EU for the first time. Some goods, such as beers and wines are taxed when they are first produced and these taxes are known as excise duty. A number of goods are subject to special taxes. These include motor vehicles and hydrocarbon oils.

Although there is supposed to be a single EU market in goods (but not services) member countries levy taxes, including VAT, at different rates and this provides considerable

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opportunities for smuggling and corrupt practices. This is not a new problem. Throughout recorded history governments have constantly devised new forms of taxation while the governed have been equally diligent in devising new ways to avoid paying taxes. Everyone recognises that taxation is an unfortunate necessity. Very few of us want to pay a penny more than is absolutely necessary. Most of us harbour some degree of dislike for the fact that we have to hand over a proportion of our earnings to governments to spend in ways which we often feel powerless to control. We also have to recognise that tax evasion is a crime and punishable as such but tax avoidance is a major industry employing some of the best brains in the financial services. The line between the two is sometimes so thin and delicate that references are common to "tax avoision".

(c) Payroll Taxes

Governments have always sought new ways to impose taxes. For a period the British government had a selective employment tax (SET) largely as a device to tax services which were then untaxed in contrast to indirect taxes on goods. At that time unemployment was not a problem and the government could use the excuse that an employment tax would encourage employers to make more productive and efficient use of labour.

Entry to the European Community and the adoption of value added tax which applied to all forms of production allowed the unpopular SET to be abandoned but a more general employment or payroll tax still exists in the form of national insurance contributions paid both by employers and employees. For a long time this was less disliked than income tax because people felt that they were paying for benefits in the form of health and injury insurances and for retirement pensions.

Today, however, there is a widespread realisation that the level of national insurance premiums is not guided by any principle of insurance, and that the "contributions" simply go into the government's current revenue. Health service costs and State pensions are also paid as current expenditure. There are no State insurance or pension funds.

Consequently no one now disputes that national insurance contributions are anything other than a payroll tax. Proposals have been made to abolish them and raise the levels of income tax and VAT but governments are notorious for not abolishing taxes if they can possibly avoid doing so and they fear the public hostility to the high rates of VAT and income tax that would be necessary. We are unlikely to see the end of national insurance contributions in the near future.

Economic Effects of Direct Taxes

A direct tax reduces the taxpayer's financial ability to purchase goods and services. It also reduces the taxpayer's ability to save. The extent to which the tax affects the individual's consumption expenditure and saving depends on that individual's marginal propensity to consume and to save. The higher the individual income the more likely is it that the marginal propensity to save will be high and a direct tax increase may have relatively little impact on the high earner's consumption.

For very high income earners a rise in direct tax may make the individual feel that it has become worthwhile to bear the cost of highly skilled tax advice and to take measures to avoid the extra cost, e.g. by transferring property to another country. It is now recognised in both the USA and Britain that a reduction in the highest rates of income tax can actually increase the amount of revenue paid in taxes as the high earners find it cheaper and more convenient to pay the tax than to employ the more costly and risky tax avoidance measures.

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For the economy as a whole the effect of a rise in direct tax will depend on the aggregate marginal propensities to consume and to save bearing in mind that people cannot always make significant changes in their consumption patterns quickly. However desirable it may be to have a smaller house and lower mortgage payments or reduced travelling costs, it is expensive to move home. This is especially true in a period of stable or falling house prices. Consumption and savings patterns are sometimes linked together, e.g. when insurance schemes are tied to house mortgage loans. If these cannot be changed people may have to reduce consumption on other goods or services. Consequently we can say that the main effect of a rise in a direct tax will be to reduce consumption of those goods and services which have a high income elasticity of demand and of those forms of saving which can be abandoned without suffering financial loss.

Propensities to consume and save are not, of course, fixed and are partly determined by people's expectations of the future. If people expect incomes and living standards to rise they may not be too concerned with a relatively small increase in a tax – indeed they may simply press for a speedier or greater increase in income to make good the loss through tax. One reason given by the British Government for moving from direct to indirect taxes in the early 1980s was that rises in income tax tended to add fuel to wage inflation. If, however, they face an uncertain economic future with high unemployment and widespread job insecurity, a tax rise can have a very damaging effect on consumption as people try to maintain savings as a hedge against a further drop in income. You are more likely to carry an umbrella when the sky is dark and overcast than when it is bright and sunny!

If, as part of its fiscal policy to reduce inflation, a government wishes to use direct taxes to reduce consumer demand the most effective economic measure would be to raise those rates of tax which most affect the lower income earners since they will have a high marginal propensity to consume and they will be forced to reduce consumption. However, this may have unacceptable social and political consequences. These are examined in the next section of this unit.

Economic Effects of Indirect Taxes

As earlier noted an indirect tax acts as a cost of production and firms must cover all production costs in their prices if they are to survive in a competitive market economy. A change in an indirect or expenditure tax thus shifts the supply curve. This was explained and illustrated in Study Unit 5 and you should revise this unit very carefully if you are not sure how these tax changes affect the supply curve and the market price of the product taxed. Study Unit 5 also drew attention to the importance of the slope of the demand curve and the price elasticity of demand for the product at the relevant range of prices. You should remember that the immediate direct effect of the tax change will be greatest on those goods and services whose demand is price elastic. Suppliers will face price resistance when they try to pass on a tax rise in the price and supply will fall as will employment of factors in the production of the product. Consequently, if governments aim to maximise tax revenue they will seek to impose the heaviest burden of tax on those goods and services the demand for which is price inelastic. Unfortunately this will reduce the remaining incomes of consumers available for consumption and consumers will tend to buy less of those goods and services which are income elastic. Factor employment in these industry sectors will fall.

Notice, therefore, that the most serious employment consequences of a rise in either a direct or an indirect tax are likely to be felt in those business sectors the demand for whose products is income elastic. Demand for these products is also often price elastic so the worse effects of any tax rise tend to fall on the same group of products, usually the relatively high value household durable goods and the more expensive services such as the more exotic foreign holidays. In the longer term there is likely to be a fall in demand for houses and this will have a further effect on the demand for household durables. At the same time of course, the sectors which suffer from tax rises will also benefit most from tax reductions although a reduction that comes after a number of tax increases may

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be treated with suspicion and suppliers will want to see firm evidence that a demand increase will be sustained before they risk expanding employment and production to any significant degree. It takes longer to build up confidence in the economy than to destroy it.

Economic Effects of a Payroll Tax

This is the term frequently applied to British social security contributions. These are in two parts, the contribution paid by the employer and that paid by the employee by deduction from salary. Both have the same effect of creating a gap between the amount paid by the employer and the amount received as disposable income by the employee. This is shown in Figure 14.1.

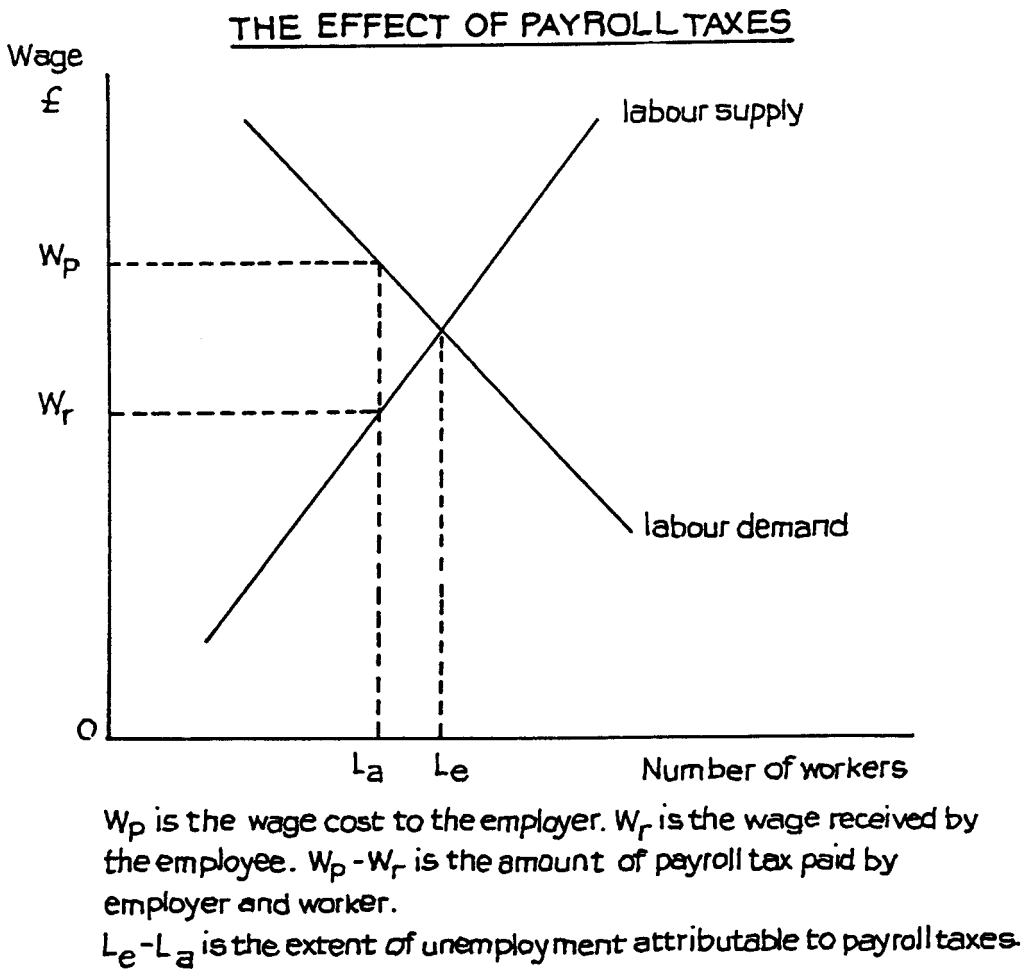

Figure 14.1

This shows a labour market in which there are payroll taxes – or compulsory payments, which have the same effect. There is a demand curve for labour, indicating the employers' wish to employ workers at a range of wage levels, and there is also a supply curve for labour, indicating workers' willingness to work at the same range of wage levels. $W_p - W_r$ is the extent of payroll tax, so that OW_p is the wage cost to the employer and OW_r is the net pay received by the worker.

Under these conditions, the employment level will be OL_a, which is lower than the level that would be reached if there were no payroll taxes and the wage paid was the same as the wage actually received (level OL_e). Thus, the difference ($L_e - L_a$) is the amount of unemployment that can be attributed to payroll taxes. Clearly, the proportion that this bears to total employment depends on:

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(a) the slopes of the labour demand and supply curves

(b) the proportion of tax to total earnings – i.e. $(W_p - W_r)/OW_p$

In the case of low-paid manual and unskilled workers easily substituted by machines, labour demand could be fairly elastic and, in the past, the proportion of national insurance costs to total pay has been high, so that the amount of unemployment caused by the taxes has been thought to be significant. More recently, the pattern of payments has been changed to reduce their cost in relation to the low-paid workers and to compensate government revenue by increases in relation to highly-paid, highly-skilled workers whose demand and supply curves are thought to be inelastic at current wage levels. The total effect should have reduced unemployment, especially among those unskilled workers who suffer the highest rate of unemployment.

In practice, the change may have had further effects, in particular the encouragement of part-time working by highly-skilled women workers in computing and similar occupations as, in practice, part-time work is not taxed as heavily as full-time work.

The illustration helps to emphasise the fact that no tax is really neutral in its economic effects. People will seek to reduce the cost of any tax, and they will change their behaviour in order to reduce their own burden of tax.

Governments, therefore, need to be aware of the consequences of any tax change, and to try to make changes that accord with their own economic objectives. In effect, then, all governments have to have a fiscal policy.

Social Aspects of Taxation

In economic terms there is really no such thing as a completely neutral tax. Any direct tax affects spendable income and this affects different people and different sectors of the economy in different ways. Some goods and services are more sensitive to changes in income than others. Any indirect tax affects prices and different goods and services respond differently to changes in price. Moreover the people most affected by the tax are likely to change their income and/or their expenditure patterns to try and minimise the tax they have to pay. Consequently no government can ever be completely sure what the ultimate effect of a tax change is going to be. Nevertheless, because the time horizon of most politicians tends to be very short governments usually look only at the immediate effects and leave the longer-term consequences for some future government to face.

We also have to recognise that historically governments have had a strong tendency to use taxation to favour those groups on whose support they rely for continued power and have less consideration for those believed to oppose them and even less for groups considered to have no political influence at all.

Until relatively modern times, therefore, governments paid little attention to the wider economic or social consequences of taxation and simply imposed them where they could be collected with least trouble and protest. Often it was the poorer groups which had to bear the heaviest burdens because they had the least power to resist.

Adam Smith's Four Canons of Taxation

It was Adam Smith, often known as the "father of economics" who, in the 18th century, established four basic canons for a taxation system which, if followed, would minimise the social and economic effects of taxes. These are still relevant today and will remain relevant as far as anyone can see into the future. These four canons can be summarised as:

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- **Certainty**

  People should know what their tax liabilities are and be able to calculate their obligations and plan their finances and expenditure accordingly.

- **Convenience**

  The government has a duty to organise its taxation structure so that payment can be made conveniently.

- **Economy**

  The tax should not cost more to collect than it produces in revenue. It may appear difficult to believe that any government would maintain a tax that reduced its revenue but many have done so in the past and only an incurable optimist would believe that it will not happen again in the future.

- **Equity**

  Liability to tax should depend on ability to pay. Adam Smith was well aware that many taxes of his day bore hardest on the less well-off and he was concerned to correct this injustice. In fact a proportional tax would probably have satisfied his requirement, i.e. if there were a single percentage rate of income tax for everyone then those with high incomes would pay more than those with low incomes. However, those who believe that income inequalities should be removed have extended this canon to suggest that it requires higher income groups to pay a higher **percentage** of their income in tax than lower groups. This, it is argued would narrow the inequalities in **disposable** (after tax) incomes.

The underlying belief represented by these canons is that taxes should not breed resentment, should not encourage evasion and should interfere as little as possible in the existing economic and social structure. Tax is seen as a regrettably necessary burden that should sit as lightly as possible on the shoulders of the community.

Taxation as an Instrument of Social Policy

During the nineteenth century the ruling groups in the more economically advanced countries began to develop a social conscience, to recognise that there were serious social ills in society and that governments did have a duty to try and cure these ills. This recognition was reinforced by the growing political power and organisation of ordinary working people and a realisation that if reform were resisted and denied then violent revolution was almost inevitable. Pressure for reform became stronger in the present century. In Britain an organised Labour Party emerged as a major agency for social reform while the foundations of the old social structure were violently shaken by the ravages of two world wars.

Reforming governments, encouraged during the 1930s by the economic theories developed by Keynes, came to see taxation as an effective instrument for social reform and the achievement of a greater degree of income equality also came to be seen as a major objective of social reform. The aim was to employ taxes to take money from the higher income groups and use it to improve the incomes, living conditions and opportunities of the lower income groups.

Taxes need not be **proportional** i.e. taking the same percentage or proportion of everyone's income, they could be **regressive** or **progressive**.

A regressive tax is one that takes a proportionally higher percentage of income from the poorer groups than from the better-off.

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A progressive tax is one that takes a proportionally higher percentage of income from the higher income groups than from the lower. Social reformers, in their pressure to reduce income inequalities have, of course, favoured progressive taxes.

Any tax can be regressive, progressive or proportional. It depends on how the tax is framed and collected. The old "purchase tax" of the 1940s and 50s was a progressive expenditure tax as it was levied on so-called "luxury goods". Inevitably it led to many anomalies and a number of MPs made popular reputations by exposing these. National insurance contributions are to some extent a direct tax that is still partly regressive though not as much as in the past when all income earners paid the same percentage up to a cut off income level. Earnings above this level required no further "contribution" from employees.

In practice, British income taxes tend to be progressive in that the rate rises (1995 figures) from 0%, through 20% and 25% to 40% in successive income bands. Indirect, expenditure taxes such as Value Added Tax tend to be regressive in that the lower income groups are likely to spend a higher proportion of their income on goods and services and thus pay a higher proportion of their income in tax than the higher income earners.

These general statements should be modified to take account of anomalies. Some of the highest marginal rates of tax are paid by low or below average income groups. For example a very low income family can pass from a situation of paying no income tax and receiving income support and other social security benefits to one of paying tax at 20% and losing entitlement to benefits following a fairly small income increase. People over the ages of 65 and 70 can also lose their age-related additional personal allowances if their income rises above a certain level. At the critical income level which by 1995 was well below the average earnings level, they can thus effectively be paying tax at a very high marginal rate. These anomalies encourage tax evasion and raise collection costs as the revenue authorities have to take expensive anti-evasion measures or risk widespread evasion which, in turn, creates a sense of injustice among honest taxpayers.

Notice also that the idea that tax should be an instrument for social reform requires that the additional taxes collected from the well-off should be used for the benefit of the lower income groups. In practice there is considerable evidence that the more articulate and better organised and educated groups tend to gain an increasing share of government social expenditure over time. Schools and hospitals in the more affluent areas become more effective and offer better services than those in poorer areas. A higher proportion of the children of the higher income groups make use of higher and further education facilities than the children of poorer groups. Some observers have argued that taxation seldom leads to any significant degree of income re-distribution in favour of the poorer groups and can lead to the opposite effect.

What is very evident is that the heaviest tax burdens tend increasingly to fall on the middle income groups who receive relatively few of the benefits of social security, suffer from both high expenditure and high marginal direct tax rates and who do not earn enough to justify employing expensive "tax advisers" to arrange the more complex "avoision" schemes that have enabled the wealthy to maintain their wealth.

C. PUBLIC SECTOR BORROWING REQUIREMENT (PSBR)

By the 1970s the British Government was recognising that there was a growing resistance from all sections of the population to high taxation. At the same time there was strong resistance to reductions in what was regarded as socially desirable public sector expenditure. There was an evident temptation for the government to evade its difficulties by the short term remedy of increasing its borrowing. The monetarist inclined governments of the 1980s sought to achieve balanced budgets

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and limit expenditure to the constraints of its revenue receipts. Its apparent success in this objective was, however, achieved by the device of privatisation which brought it large sums of capital which were treated – and spent – as revenue. By the early 1990s there was little left to privatise and the Public Sector Borrowing Requirement (PSBR) again became a major economic issue.

Financing of the PSBR

There are three main sources of finance for government borrowing. These are the **Non-bank, Non-building Society Private Sector**, the **Banks and Building Societies**, and the **Overseas Sector**.

The financial instruments whereby the government borrows from these three sources are all roughly the same though, of course, their relative importance is different in each sector. The main instruments are:

- **Notes and coin** – the cash we carry in our pockets is technically considered to be finance lent to the government. This dates from the origins of the bank note as a receipt of money deposited with a bank. Although we no longer have to deposit gold or silver with the Bank of England to obtain a Bank of England note, this still takes the form of a receipt and it continues to carry the now, meaningless "....promise to pay the bearer on demand the sum of....". The government could increase its borrowing by ordering the central bank to print more and more notes. If it did so the notes would soon lose their value and acceptability.
- **Treasury bills** – these are a kind of very formal IOU, issued for large sums and sold to banks and other institutions prepared to lend money to the government on a short-term basis.
- **Other Government "paper"** – bonds, certificates, and other financial instruments sold directly to the public and not to banks and building societies. The best known of these paper securities are the national savings certificates and bonds that are issued through post offices or through the Bonds and Stock Office in Blackpool. The bonds known as "gilts" (gilt edged securities) are marketable, i.e. they can be bought and sold through the Stock Exchange at their current market price. Others can only be bought and sold directly through the Bonds and Stock Office on terms specified at the time of issue.

During the 1980s the British Government sought to finance as much as possible of its PSBR through the non-bank, non-building society private sector and the overseas sectors as these sources were thought to have less effect on the money supply than borrowing from the banks. However, in a highly complex financial structure such as that of the United Kingdom there is some doubt as to whether that is really the case. It was also able to increase its revenue income by privatisation, i.e. by the sale of shares in the former public corporations such as British Telecom, British Gas and British Airways, when these were turned into public liability companies and transferred technically from the public to the private sectors of the economy. In doing this the Government was accused of "selling the family silver" and there is certainly some doubt as to the long term desirability of treating as revenue the proceeds of the sale of capital assets.

The General Government Financial Deficit

The danger with all the major economic indicators is that governments and others find ways to distort it so that it ceases to be a reliable guide to the true position it is supposed to indicate. Some economists argue that the British PSBR can be subject to distortions of the kind produced by privatisation receipts in the 1980s and early 1990s and is, therefore, not always a true indication of the relationship between the government's main taxation revenues and expenditure. They argue that a more realistic picture of the relationship between government revenue and expenditure is provided by the General Government Financial Deficit (GGFD). This is a simple measure of the difference between total tax collections and the net spending by the whole of central and local government. It is

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the measure that the finance ministries of all the member countries of the European Community have agreed to use to measure the performance of the national fiscal policies in the period when members are supposed to be moving towards a single European currency.

Importance of Public Sector Borrowing

In the short run the amount of savings in the economy is fixed. If the total demand for finance exceeds its supply from savings the would-be borrowers have to compete for their share of the available supply. Interest rates are the price of money and like any price they depend fundamentally on the interaction of supply and demand.

Consequently, if the government wishes or is forced to increase its borrowing it has to compete with the business and personal sector and there is a danger that interest rates will rise even though for other reasons the government might be seeking to keep them low. If the government wishes to borrow from foreign investors it will have to offer interest rates that are attractive in world finance markets. If there is a fear of inflation in the home economy, the government will have to offer interest rates that are higher than rates applying in countries where inflation is less of a problem. Investors, quite naturally, wish to protect the purchasing power of the money they invest. The level of public sector borrowing is thus one of the factors influencing the level of interest rates within a country.

It is possible that public sector borrowing will increase the money supply and thus contribute to inflationary pressures in the economy. The precise effect on money supply depends on how the money is borrowed. Some economists argue that an increase in public sector borrowing will only increase money supply if the government borrows from banks or building societies. In these cases the government borrowing creates bank assets which are then balanced by increased lending by the banks and the money multiplier operates to increase the total of bank deposits within the economy. Bank deposits are the main element in the total money supply.

It can be argued that increased borrowing from the personal, non-banking sector does not have this effect. When the government borrows from private individuals there is simply a transfer of purchasing power from the private to the public sector. The individual cannot spend money lent to the government. There is no direct increase in the amount of money or bank deposits in the community.

This is the direct effect but indirectly the increased government borrowing may have further consequences which do affect the money supply. If private individuals lend money to the government they cannot lend the same money to business firms or building societies. These institutions may turn instead to banks for their finance, having been “crowded out” of personal lending by the government. If business firms have to borrow more from banks because they cannot raise money on the capital market there will be an increase in bank deposits and lending, i.e. an increase in money supply with its potentiality for increasing inflation.

Borrowing from overseas investors does not increase the domestic money supply but it does increase expenditure demand. If there is spare capacity in the economy this will increase the demand for resources, stimulate production and reduce unemployment, assuming that the government is going to spend the money borrowed on home produced goods and services. If there are inflationary pressures in the economy the increased demand may increase these and contribute to rising prices. If the government spends on foreign goods and services it will reduce the credit balance or increase the deficit on the current balance of payments.

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It is clear that there will be important economic consequences of a change in government borrowing. What these are depends on the sources of borrowing and on how and where the borrowed finance is spent.

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Study Unit 15

Economic Problems and Policies

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A. THE MAJOR ECONOMIC PROBLEMS

What Is An Economic Problem?

In many respects, an economic problem, as perceived by a government, is an aspect of what is generally known as the fundamental economic problem – i.e. the attempt to satisfy unlimited wants with scarce resources, so that full satisfaction is impossible and choices have to be made between competing claims on those resources. At the same time, this general problem is aggravated by inefficiencies in the production system, so that the achievement of available resources is not as great as it might be.

In practice, we can identify a number of distinct problems which afflict modern industrial economies and which are considered to be within the power of modern governments to reduce, if not totally solve.

Inflation

We have already noted this. "Inflation" is the term used to describe a condition of constantly-rising product and factor prices – the main factor price being wages: the price of labour. Inflation is a problem because it makes the production and distribution system less efficient. It creates uncertainties about costs and it makes planning more difficult and uncertain. It makes long-term agreements difficult to make, because past agreements become unjust as the value of any agreed constant payment is steadily reduced. Money is unable to fulfil those functions which depend on confidence that it will retain its purchasing power and acceptability in the future. Savings lose their value, and people who have saved for future needs feel a sense of injustice. Countries suffering the most severe rates of inflation find that their exports become more expensive and difficult to sell in world markets, while imports become cheaper and grow in volume.

If inflation is not checked, it increases in intensity until prices rise daily and all confidence in money is lost. Trade reverts to a basis of barter, and all confidence in the financial system collapses. This condition of **hyperinflation** is, usually, associated with extreme political and social unrest and uncertainty for the future.

Unemployment

Unemployment is said to exist when resources, especially people, available and seeking employment cannot find employment. It is an economic problem, in the sense that the community loses the production that could have been achieved, had all resources been employed. Unemployment is also a major social problem because work is an important element in a person's standing in the community. A person who feels that he ought to be working but who cannot find work often feels rejected by society and, not uncommonly, resorts to anti-social behaviour.

We have already noted that Keynesians and monetarists have differing views concerning the nature and causes of unemployment, and it is convenient here to summarise some of these important differences.

(a) Both groups agree that there are elements of frictional and structural unemployment but monetarists believe that the structural element in modern Britain is higher than it need be, because relatively high unemployment and welfare payments reduce the pressures to adjust to changing economic conditions. They also believe that social attitudes by trade unions delay adjustment to change.

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(b) Keynesians believe that much unemployment is caused by a deficiency in total demand consisting of household spending (C), business investment (I) and government spending (G). This element is sometimes referred to as "demand deficiency", or "Keynesian unemployment". Monetarists believe that, if it exists at all, its extent is exaggerated by Keynesians.

(c) Monetarists believe that the natural rate of unemployment would be very small if markets were free to operate according to the unrestricted interplay of the normal market forces of supply and demand. The natural rate of unemployment is that rate which exists when the total demand for labour is roughly equal to total supply. People are then unemployed for frictional reasons – the normal wear and tear of firms closing, people changing jobs for personal reasons and so on – and structural reasons – changes in the labour market caused by shifts in product demand and changes in production technology. A high rate of unemployment is, therefore, blamed on imperfections in labour markets. These are seen mainly in terms of failure to understand and to adjust to structural change, and undue trade union power. They argue that a large part of high unemployment is "voluntary", in the sense that people are waiting for jobs they think suitable, instead of accepting what is available, and because they support trade union measures which force wages above the market equilibrium and, so, reduce the demand for labour.

Trade Difficulties

These are closely associated with inflation which increases export and reduces import prices in world markets. Both Keynesians and monetarists would agree that rising imports indicate a condition where demand is greater than the supply from the home-production system. However, whereas Keynesians would concentrate attention on what is perceived as excess demand, monetarists pay more attention to failings in the supply or production system which they would tend to regard as inefficient for a variety of reasons, including trade union power, lack of profit incentives, inefficient management, often associated with monopoly power and bureaucratic barriers to business enterprise.

The UK has suffered from persistent trade problems since the early 1960s. Between 1980 and 1986 these were largely hidden by earnings from North Sea oil but as you will see later in the course there have been further problems since those years and the UK now imports more manufactured goods than it exports. The traditional earnings from financial services are no longer as reliable as they have been in the past so that trade revenues remain very much a problem area for the British economy.

Regional Problems

If you live and work in the United Kingdom, you will, probably, be aware that the central problems of inflation and unemployment do not affect all areas of the country with equal intensity. In the southern areas, for example, inflationary pressures seem to be greater, whereas unemployment is, generally, more severe in the northern areas. If you live in some other country, you are likely to be aware of similar regional differences. These are regarded as economic problems, because the failure of some areas to develop as successfully as others suggests that production is being lost through the under-use or inefficient use of available scarce resources.

People tend to think that they are well or badly off, according to the comparisons they are able to make with other people. If living standards and employment opportunities are very different in different regions, there is likely to be social and political discontent. There is also the problem that large-scale movement of people from one region to another to find employment is a further possible cause of social trouble, as families are divided and pressures build up on housing and other services in the more prosperous areas.

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The regional problem as it relates to the United Kingdom is examined later in this study unit. You should try to apply similar general principles and arguments to the problems of your own country, if this is not the UK.

Lack of Adequate Economic Growth

What is adequate depends on what is achieved elsewhere. If the economy of the UK grows at the rate of 1% per year, this will be seen as inadequate if other countries of similar size and stages of development are able to achieve growth rates of 4% or more.

It is also true that all the problems identified in this study unit so far seem fairly minor if the economy is growing at what is seen as a fast rate, and if living standards for the great majority of the people are rising fast and constantly. If, on the other hand, there is very little growth, then these problems become magnified and harder to solve. People's aspirations may be raised by what they see being achieved in more successful economies, and there is dissatisfaction and unrest at the failure to make similar progress at home. When there is a high rate of growth, governments have resources to introduce measures which are politically popular, and their chances of keeping power are greater. Low growth and inability to carry out popular measures make it difficult for governments to stay in power, at least by democratic means.

Economic growth, with particular reference to the UK experience, is examined more fully later in the course.

B. POLICY INSTRUMENTS AVAILABLE TO GOVERNMENTS

Fiscal Policies

These relate to the use of government spending and taxation as instruments to influence the economy. They are chiefly associated with Keynesian ideas of using the power of the government to influence aggregate demand on the assumption that the economy is demand led, i.e. that total supply responds to changes in total demand.

The belief that a government can influence the behaviour of an economy by influencing total demand, largely through fiscal policies, owes much to the arguments of Keynes and the set of economic principles that are broadly known today as "Keynesian". To understand these, it is helpful to remind ourselves of the simple Keynesian model of the economy. This is shown below in Figure 15.1.

Assuming that the scale of the national income axis is the same as for national expenditure, the 45° line represents the series of equilibrium positions where total income = total production = total expenditure. Total demand is shown by the C + I + G curve. This, ignoring foreign trade or assuming it to be in balance, shows total or aggregate demand as consisting of household consumption (C), + business investment (I) + government spending (G). Given the position of this particular C + I + G curve, the economy is in equilibrium with total income = total expenditure at level Oe – but this lies below the level of national income where there is full employment (i.e. where all resources available for and desiring work, are employed). The consequent differences between what could be produced at the level of Of and total demand at that level is the deflationary gap, represented by Oa – Ob. As long as this gap remains, there will be unemployment, caused by the deficiency of total demand. The remedy this analysis suggests is, clearly, to raise the total demand curve.

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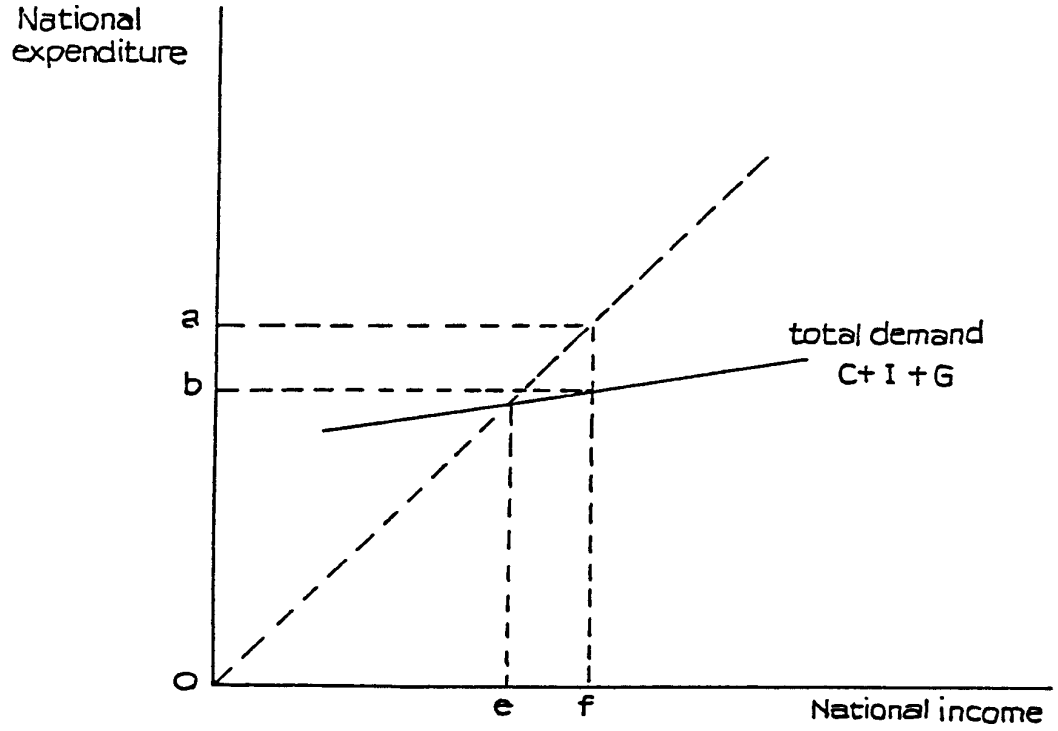

Figure 15.1

Roughly the same idea is illustrated through the familiar supply and demand analysis shown in Figure 15.2.

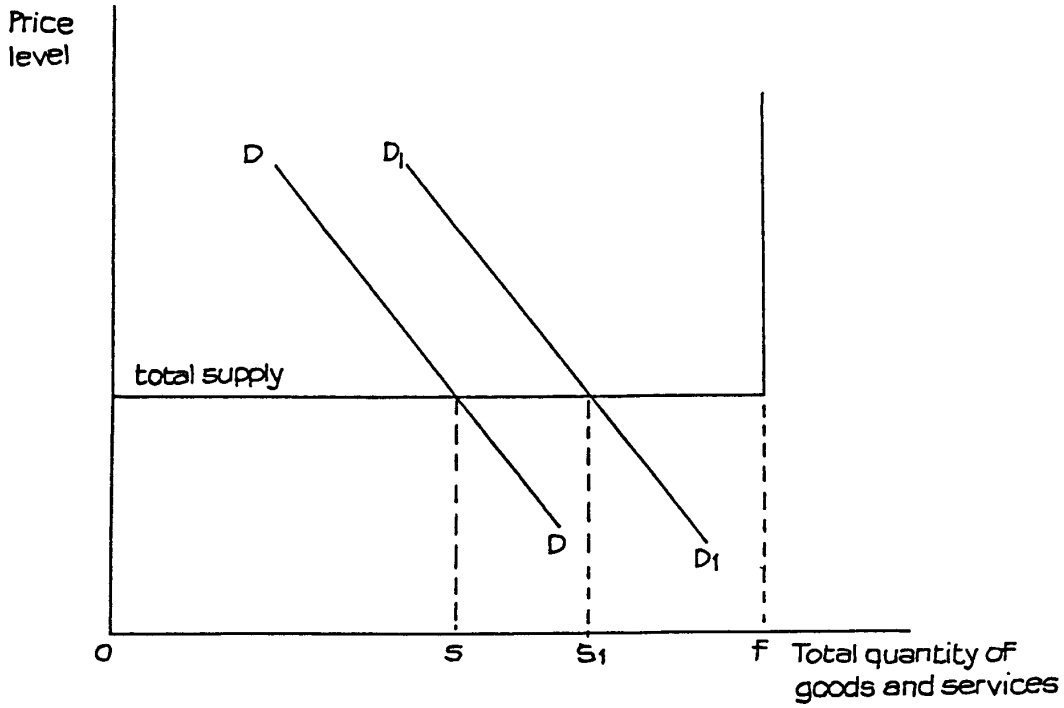

Figure 15.2

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If an increase in demand is to reduce unemployment, then it must be assumed that total supply – and, therefore, the demand for labour and other production factors – will rise in response to the change in demand. The extreme Keynesian position assumes that supply will always respond fully to an increase in demand, as long as there are unemployed resources in the economy. It will cease to do so only at the full employment level, where all available resources are already employed.

This view produces the total supply curve shaped as in Figure 15.2. It is totally elastic as far as the full employment level Of, and then it becomes totally inelastic.

Thus, an increase in total demand at any level below Of will result in a rapid increase in supply. In the model, the increase, following a shift of total demand from DD to D_1, is from Os to Os_1. The increase in supply will be achieved by employers increasing production and their employment of labour, etc.

Demand Management and the Deflationary Gap

If our theory suggests that to reduce unemployment we must raise total demand, then the problem becomes one of how to achieve this. Our earlier national income analysis suggests that this can be achieved by injections of new demand which will then be multiplied within the economy to produce the new and higher equilibrium level that is desired.

Keynesians argue that the desired effect can be achieved if the government is prepared to operate with an unbalanced budget – i.e. if it spends more than it receives in taxation. This means that, to raise the total level of aggregate demand, the government can increase its own spending (G) without increasing taxes, and/or reduce taxes in order to encourage household spending. Remember that Keynesians believe that the most powerful influence on total spending is income. A reduction in income tax will increase people's net, disposable income, so that they will increase their spending in accordance with the **marginal propensity to consume**.

Fiscal policies are, thus, very important to the Keynesian, because it is through the adjustment of taxation, and income tax in particular, that the government is able to influence the level of disposable income, changes in which will have an immediate effect on spending and, hence, on aggregate demand which, in turn, produces a change in supply and the level of employment. The effect of the income tax reduction does not end there. The initial injection of extra spending will produce a larger change, in accordance with the national income multiplier. There will also be an additional impact resulting from the perception by business firms that demand for their goods and services is increasing. To meet the increased demand, they will increase investment – and this produces a further injection in the economy, with a further multiplying effect. The combination of investment accelerator and national income multiplier will ensure that the total increase in demand will be larger than the initial injection achieved by the tax reduction.

The Keynesian relies, then, on a fiscal policy of tax manipulation combined with a willingness to tolerate an unbalanced budget to achieve and maintain full employment – or something as close as possible to full employment – in the economy.

A reduction in indirect or expenditure taxes would also be expected to stimulate the economy, because more of the consumer's gross spending will actually go to the suppliers of goods and services. Firms can be expected to increase the quantities they are willing to supply at each level of market price – the supply curve will shift to the right. The precise effect on output and price will depend on the slopes of the demand and supply curves. This is analysed later in the study unit but we can see that we would certainly expect some increase in supply and employment following a reduction in indirect taxes – a reduction which could also mean the government's having to be

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prepared to operate an unbalanced budget, with revenue falling short of expenditure and the difference made good by borrowing.

Demand Management and the Inflationary Gap

Theoretically there is no reason why fiscal policies employed to reduce a deflationary gap cannot be reversed to reduce an inflationary gap. This would mean reducing government spending and increasing taxes, using any excess of tax revenue over expenditure to reduce the national debt. However, such policies meet serious constraints in practice. In the first place a great deal of government spending is determined by earlier government decisions many of which have been given the force of law by Parliamentary statutes. For example a motorway built in the 1980s will require heavy maintenance expenditure in the 1990s and other legal commitments, such as the level of social security spending, cannot be changed quickly but will require Parliamentary approval. In addition any attempt to cut public sector spending will provoke fierce political resistance and will be politically unpopular. We are all in favour of reduced government spending in general but we all oppose any cuts in those areas of spending that affect us and from which we benefit! Similarly we all agree that taxation is necessary but we all dislike paying tax ourselves. Consequently it is much easier for governments to reduce taxation and increase spending than to raise taxation and reduce spending. It is no surprise, therefore, that Keynesian demand management policies have been more successful in reducing deflationary than inflationary gaps. As inflation came to be perceived as the major economic problem of the 1970s and 1980s attention turned away from Keynesian demand management towards a revived form of monetarism.

Taxation and Monetarist Policies

We have seen that monetarists do not believe that an increase in total demand will produce an increase in total supply. They believe that the more likely result is an increase in the general price level. They also argue that the government or public-sector borrowing necessitated by an unbalanced budget will also increase prices. This will be the direct result of the increase in money supply brought about if the government finances its borrowing through the banking system, and it could be the indirect result if increased borrowing from the public forces business firms to increase borrowings from the banking sector.

The monetarist preference is to maintain a balanced budget whereby government spending is limited to the amount of revenue it can raise from taxation and other sources.

At the same time, it also prefers to maintain a low level of taxation, and this would depend on its ability to keep public-sector spending low.

When, therefore, a monetarist government assumes power in a period of high inflation and it inherits a high level of public-sector spending, it is faced with a considerable dilemma.

Its prime objective will be to bring down the rate of inflation, and it believes that this requires a firm control over the money supply and the restoration of a balanced budget. The dilemma arises from the level of spending that it has to maintain because of the commitments that it has to honour. Remember that much of the spending is dictated by legal obligations to make unemployment and social security payments, and by programmes commenced before it came to power.

In this situation, the government will seek to replace as much borrowing as possible by revenue, and this is likely to lead it to increase taxes. It will not wish to increase income and profits taxes, because of its belief that reduced taxes on wealth- and income-creation are needed to stimulate business activity, for reasons examined more closely later in the course. It will be obliged, therefore, to increase expenditure and payroll taxes, and to accept that these moves will lead to reduced output and employment.

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Nevertheless, the monetarist will also wish to pursue his long-term aim of reducing all taxation, and he will recognise that this can be achieved (without borrowing and with a balanced budget) only if government spending is also reduced.

The real objective, then, is to reduce the level of government-controlled activity in the economy, because this is regarded as being inefficient and a burden that the wealth-creating private sector has to bear, and that should be kept as light as possible. However, as long as that burden remains high, the monetarist will see an increase in taxes as a lesser evil than increased borrowing. The fiscal policy of the monetarist, then, is to try to reduce the burden of taxation but to ensure that tax revenue is sufficient to meet the level of government spending that has to be maintained.

Fiscal policies are not, then, seen as a primary means of economic management but, simply, as a means of financing government spending, and an unfortunate necessity required to fulfil the social and political policies that the government has to honour.

Monetary Policies

The theoretical basis of monetary policy, the money equation and the main elements of monetary controls were examined in Study Unit 13 and you should make sure you understand how these differ from fiscal policies. Remember that monetarists and Keynesians share a common belief that the major cause of inflation is an excess of demand over available supply. However, the Keynesian belief that demand is mainly a function of the level of income has led traditional Keynesians to rely chiefly on fiscal measures and later Keynesians to support direct controls over the level of incomes. In contrast monetarists believe that demand is mainly a function of the availability of money and credit (money supply) and this has led to their reliance on monetary controls. Experience, however, has forced an admission that the only element in the package of monetary controls to have any significant effect is the level of interest rates and this has become the main monetary instrument in the 1990s with considerable publicity attaching to the regular meetings of the Governor of the Bank of England and the Chancellor of the Exchequer. Much of the activity in the Stock Exchange has now become a continuous process of betting on the future movement of interest rates. It is doubtful how far this contributes to the development of a healthy capital market.

Direct Controls

A government can always obtain the legal powers to control certain aspects of the economy but it must be remembered that these powers are, usually, only negative. A government can **prevent** people or firms from doing certain things but it has considerable difficulty in forcing them into positive action – i.e. actually to do things it wants done, purely by the exercise of its legal powers.

It may be used to encourage people to make their savings available to business enterprise – e.g. through the business-expansion scheme which allows tax relief to be claimed on money invested in the shares of new or expanding companies, subject to certain conditions. It may also be used to encourage business investment in modern equipment and technology, or to encourage business firms to transfer or expand their activities in regions which the government wishes to assist.

Government Spending

Government (public-sector) spending is a major part of total demand, so that, to the Keynesians, relying on demand management, variations in government spending can be used to influence the level of national income and product. The Keynesian uses government spending as a "counter-cyclical" instrument, so that the government can inject additional demand when household consumption and business investment are considered to be too low, and reduce public-sector spending when the economy is thought to be "overheating" with excess demand from the private sector. In practice, it is

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easier for governments to increase public-sector spending than to reduce it, as has been discovered again since 1979.

The monetarist, not believing in demand management, does not recognise the use of public-sector spending as a means to regulate the total level of economic activity, and he wishes to keep the total of this spending as low as possible.

However, both Keynesians and monetarists do agree that the pattern of economic activity can be influenced by government spending decisions. Governments have sought to encourage the development of the computer industry by assisting investment and by helping schools to buy British-made computers. It can influence the development of transport by spending on roads rather than on the railways. It can also try to help some regions by directing some public activities to them, and away from London.

For example, a government may stop a firm from building a new factory in a particular place but, if that firm says that, if it cannot have the factory where it wanted it, then it will not build a new factory at all, there is very little the government can do. Similarly, a government may prohibit the import (and, sometimes, the export) of particular goods or goods from (or to) particular countries but it cannot force people in foreign countries to buy goods made by its producers.

One of the most controversial examples of the exercise of direct controls by the British government has been the successive attempts made to regulate wage, and sometimes price, increases. For a few months in the 1960s, the government even imposed a “wage freeze” and prohibited all wage increases. When legal or statutory prices and incomes controls proved unworkable, attempts were made to secure voluntary agreements between government, employers and trade unions – but these rarely lasted for very long. Regulation of price or factor price without also controlling the forces of supply and demand is never successful because it must lead to serious distortions in supply and demand and it threatens to destroy the whole mechanism of the market. During all the periods of attempted wage regulation, employers and unions found ways of overcoming the controls in order to keep the labour markets working. Even so, shortages of skilled workers sufficient to hold back the expansion of some profitable firms and industries have been blamed on these controls which made it difficult for firms to attract workers into activities requiring long and difficult periods of training when nearly as high wages could be obtained from less demanding work. Nevertheless, the pay of people employed in the public sector, which is largely insulated from the forces of supply and demand, continues to cause problems. There does appear to be a need for guidance from some kind of authority for public-sector pay. As long as there are not generally-agreed principles and the government simply relies on its power as an employer, continued disputes and feelings of injustice are highly likely.

This issue re-appeared in the Autumn Financial Statement of 1992 when the British Government reacted to its severe economic and financial difficulties by setting a pay rise ceiling for the majority of public sector workers of 1.5% and strongly criticised the large percentage rises that had been awarded in the previous few years to many company directors and senior managers. This, of course, represented a major policy change for a government, which, in the early 1980s, had been so confident in its belief that unregulated market forces were the universal cure for all economic ills. Observers with very long memories began to recall the political difficulties encountered by a much earlier Conservative Chancellor of the Exchequer, Mr Selwyn Lloyd, who had made tentative moves towards an official policy of pay controls over the public sector by blocking pay rises for hospital nurses at a time when public sector pay had been falling behind pay in the private sector. Few economists believed that the 1992 version of pay controls would prove any more effective in economic or political terms.

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Governments generally think that they have more power than they actually possess. When controls are imposed to prevent actions that people would otherwise take, there will be attempts to evade the controls, and the government may be forced into increasingly difficult, complex and expensive control measures. Many countries have sought to impose strict import controls, only to discover that they have created a major smuggling industry, while many of those responsible for maintaining the controls simply use their powers to increase their personal incomes with bribes from both legal and illegal traders. We have only to note the problems of seeking to prevent the import of illegal drugs to see what happens when a government tries to suppress trade for which there is an effective demand. It is only too clear that a government cannot stop the abuse of drugs just by trying to prevent drugs imports.

C. POLICY CONFLICTS AND PRIORITIES

Difficulties in Pursuing all Objectives at Once

Keynesians recognise the possible conflict of objectives more readily than monetarists. The success of demand management depends on holding a very fine balance between total demand and total supply, and any swing in one direction is going to lead to difficulties. In order to reduce unemployment, the Keynesian will wish to expand demand, and he would be prepared to operate an unbalanced budget. He accepts that this may bring about some price inflation, and that it could also lead to rising imports and trade difficulties. To reduce unemployment, the Keynesian recognises that he may increase problems of inflation and excess imports. Similarly, he will accept that action to bring trade into balance, or to control price rises, will, probably, bring about a reduction in the growth of the economy and in an increase in unemployment.

A monetarist will have a rather different analysis. He believes that, in the long term, successful achievement of economic growth, successful trade and full employment all depend on an absence of inflation and a stable financial system. He believes that business enterprise, freed to operate in unregulated markets, will achieve growth, exports and employment, provided that the government keeps its own spending under control, keeps a tight grip on the money supply, and avoids inflation. There is, therefore, no fundamental conflict of aims in the monetarist analysis in the long term. However, starting from a position of high inflation and unemployment inherited from a period of Keynesian misguided demand-management, the monetarist believes that it is not possible to avoid some increase in unemployment. The monetarist is also sceptical concerning Keynesian remedies for regional problems, as explained in the next section of this study unit.

The monetarist does not believe that macroeconomic policies, as understood by the Keynesian, are effective at all. The Keynesian is concerned with aggregates, in the belief that injections of demand from government spending and tax reductions will operate on the economy as a whole, to increase employment. The monetarist is not convinced that the government has the power to influence the whole economy in this way, and he tends to prefer supply-side policies which operate on the economy through improving the operation of individual product markets – i.e. through microeconomic measures. If all, or the majority of, individual markets operate more efficiently, then the economy as a whole will prosper.

Differences in Priorities

If, to begin with, we adopt the Keynesian position, then it is clear that there has to be some sense of priorities in choosing objectives. This is because not all can be pursued at once. The Keynesian would argue that his most important objective is to achieve and maintain full employment – but that this may have to be modified from time to time if inflation or trade difficulties become too serious.

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However, the main objective is always to avoid large-scale unemployment; and, if this is threatened, some inflation or trade imbalance may have to be accepted.

Critics of Keynesian economics would suggest that, in practice, governments do little more than react to a series of crises, lurching between expansion and deflation as each problem becomes steadily more serious and as the production system becomes increasingly dislocated by sudden shifts in demand policy. They see the inevitable consequence as uncontrollable inflation which, eventually, brings about mass unemployment as the production system fails to compete with more efficient foreign systems.

The monetarist, thus, argues that "there is no alternative" to controlling inflation and freeing private-sector markets from controls and barriers, so that they can expand production and increase employment. In the meantime, however, the effect of reducing public-sector activity and restoring a more competitive and efficient private sector is likely to cause strains and to increase unemployment. We have seen earlier that monetarists differ in their approach to the timing of policies. Some prefer a gradual approach, accepting that inflation should not be brought down too swiftly, in order to avoid the social and political upsets of too rapid a rise in unemployment, while others consider that the adjustment can be carried out more quickly and that more vigorous methods can be applied to remove restrictions to industrial markets.

D. SUPPLY-SIDE POLICIES

The disappointing experience of demand management policies when inflation became a major economic issue and the monetarist argument that demand expansion almost invariably led to inflation because of the failure of domestic production to respond quickly enough to demand stimulation led to the development of what became known as supply-side economics. It is monetarists who are most closely associated with modern approaches to the stimulation of supply. In this approach, supply-side economics is seen as the use of microeconomic incentives to change the level of full employment, the level of potential output and the natural rate of unemployment. The objectives are to increase total production, to increase the productivity of labour, and to make producers more competitive in world markets. A government pursuing supply-side policies wants business firms to produce more and to employ more labour – but to do so profitably, in competitive markets.

The Natural Rate of Unemployment

Central to understanding the theory on which supply-side economics is based is the concept of the **natural rate of unemployment**. This is the rate at which the labour market is in equilibrium – i.e. in which labour demand is equal to labour supply, so that there are no pressures to increase or decrease money wages. This concept and the related diagrammatic model were introduced in Study Unit 13 but it is summarised again in view of its importance to the contemporary debate over appropriate policies for reducing unemployment without increasing inflation.

The natural rate of unemployment will never be zero, because at any given time there will be unemployment arising from two important causes. These are known as **frictional** and **structural** causes. Frictional unemployment arises from the normal wear and tear of business life. There will always be people changing jobs, for a whole range of different reasons, from dissatisfaction with an employer or with working conditions; because of moving home; the failure of individual firms; or just simply boredom or the desire to do something different. It is not always possible to move immediately from one job to another, although the average length of time that a "frictionally-unemployed" person can expect to be without work varies with the level of total unemployment. It is not, usually, more than a few weeks.

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Structural unemployment has two related meanings. It arises, on the one hand, from shifting patterns of demand. If, for example, many women decide to give up wearing jeans and trousers, and instead choose to wear skirts and dresses, then jeans manufacturers will have to lay off workers, while skirt manufacturers will be expanding their activities. Different firms in different localities may be involved, and it is not always possible for workers in the declining activity to move quickly into one that is expanding.

The other form of structural change is also known as "technological change". It arises from changing production methods, usually from the increased use of machines, including advanced electronic devices and computer software which can do a great deal of work previously carried out manually. When this kind of change takes place, there is no immediate compensating expansion in another activity. New technology always creates new activities and occupations in time but these may be very different from the old, requiring new and different skills, and they are often located in completely new areas. Structural unemployment from technological causes can be greater and more disruptive than that from shifts in demand.

The two types, however, are often related, in the sense that new technology creates new products which replace old ones. The transistor destroyed the radio-valve industry; the small electronic calculator destroyed the production of slide rules and mechanical calculating machines. Modern electronics has, in fact, changed a great deal of product demand, and it has had a very great impact on the labour market.

It is clear, then, that, if we regard the natural rate of unemployment as being made up of frictional and structural unemployment, it is likely to be much higher today than it was in the 1950s and the early 1960s, before the current electronics revolution. Where monetarists differ from other, particularly Keynesian, economists is in their belief that the whole – or almost the whole – of the actual amount of unemployment is natural unemployment. If the actual rate of unemployment is seen as being at a level which is socially and politically unacceptable – and economically damaging, in the sense that production that would be possible at a higher level of employment is being lost – then the problem lies in reducing this natural rate. Monetarists believe that this natural rate is too high, and that it can be reduced by microeconomic (supply-side) policies.

The effect of the natural rate of unemployment is illustrated in Figure 15.3.

In this model, the curve WP represents the labour force that is available for work, and it is the working population, recorded as wishing to work.

The curve SL lies to the left of WP, and it represents the actual supply of labour – i.e. those workers prepared to take a job at the wage offered. This supply is less than the working population at each wage level, because there are always those between jobs (frictionally unemployed) and those who have not adjusted to the changed structural position in which they are now unable to obtain work at their previous earnings level, and they still hope to obtain better jobs than those on offer. Given the demand schedule for labour, the equilibrium employment level is at E at wage rate OW, and the quantity of workers represented by the distance EZ is the natural rate of unemployment. This analysis, so far, assumes that the market is left to find its own equilibrium, without outside intervention. If, in fact, there are trade unions powerful enough to force up the actual wage level above OW to, say, OWu, then the actual rate of unemployment is increased to UB. On to the natural rate, as previously defined, which is now AB, there is the additional "collectively-agreed" unemployment resulting from trade union influence. This is, normally, regarded as part of the natural rate of unemployment at the higher wage level.

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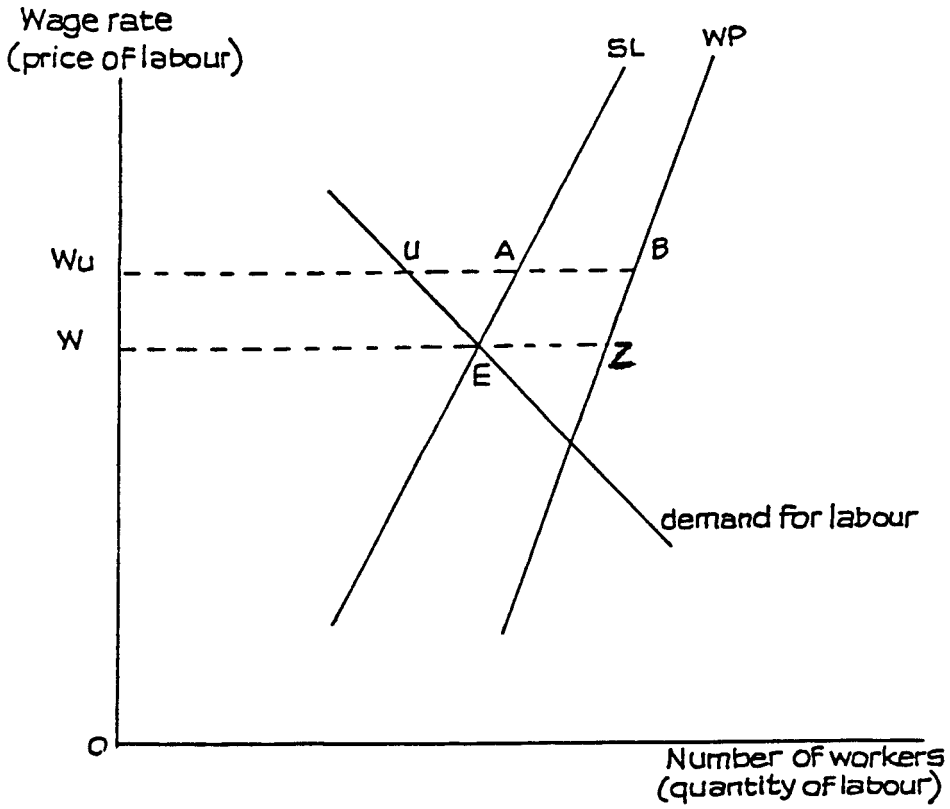

Figure 15.3

Almost the whole of this unemployment (UB) is also seen by supporters of this view as "voluntary unemployment", in the sense that it is the consequence of unwillingness to accept the realities of market supply and demand, and of individual and collective decisions to achieve what people regard as acceptable wages, rather than market-determined wages. Those who do obtain these wages may be regarded as doing so at the expense of those unable to find work at all, because the number of jobs on offer at wages above market equilibrium is lower than the number of workers seeking those jobs.

Figure 15.3 gives the general analytical model. The actual distances UA, AB and EZ are not based on any statistical research. Indeed, these are the subject of some controversy, and you can imagine that it is extremely difficult to produce the actual SL and the total demand for labour schedule.

Clearly then, monetarists and supporters of supply-side theories, take an almost opposite view to Keynesians of the basic causes of unemployment. Whereas Keynesians see unemployment and inflation as opposite forms of national income disequilibrium (the deflationary and inflationary gaps) monetarist/supply-siders see unemployment and inflation as caused by similar forms of market failure with inflation as the primary result of this failure and helping to produce unemployment by pricing domestic production and production workers out of employment in world markets. Much supply-side policy, therefore, depends on removing imperfections, including government intervention, from product and factor markets.

Supply-side Objectives

If you look again at Figure 15.3 and bear in mind the earlier outline of objectives of supply-side economics, you will realise that supply-side policies will be designed to shift the SL curve to the right – i.e. increase the number of workers prepared to work at each wage level, and so reduce the natural

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rate of unemployment, to move the actual demand for labour (and, hence, raise the production level) further to the right along the demand curve by reducing the gap between union-imposed and the market-equilibrium level of wages, and shift the demand-for-labour curve to the right by increasing employers' production intentions. A number of possible ways of achieving these results may now be examined.

Taxation and Fiscal Measures

As far as the public-sector-spending side of fiscal measures is concerned, there is a desire to reduce public-sector spending in order to release resources of labour and capital for use in the private sector. This is because it is believed that private-sector activity is more likely to generate further growth and employment, whereas much public-sector activity and employment has to be paid for by taxation which operates as a burden on the private sector and prevents its expansion.

The main objective is to reduce taxes both for employers and for employees. The effect of an income tax reduction for workers is illustrated in Figure 15.4.

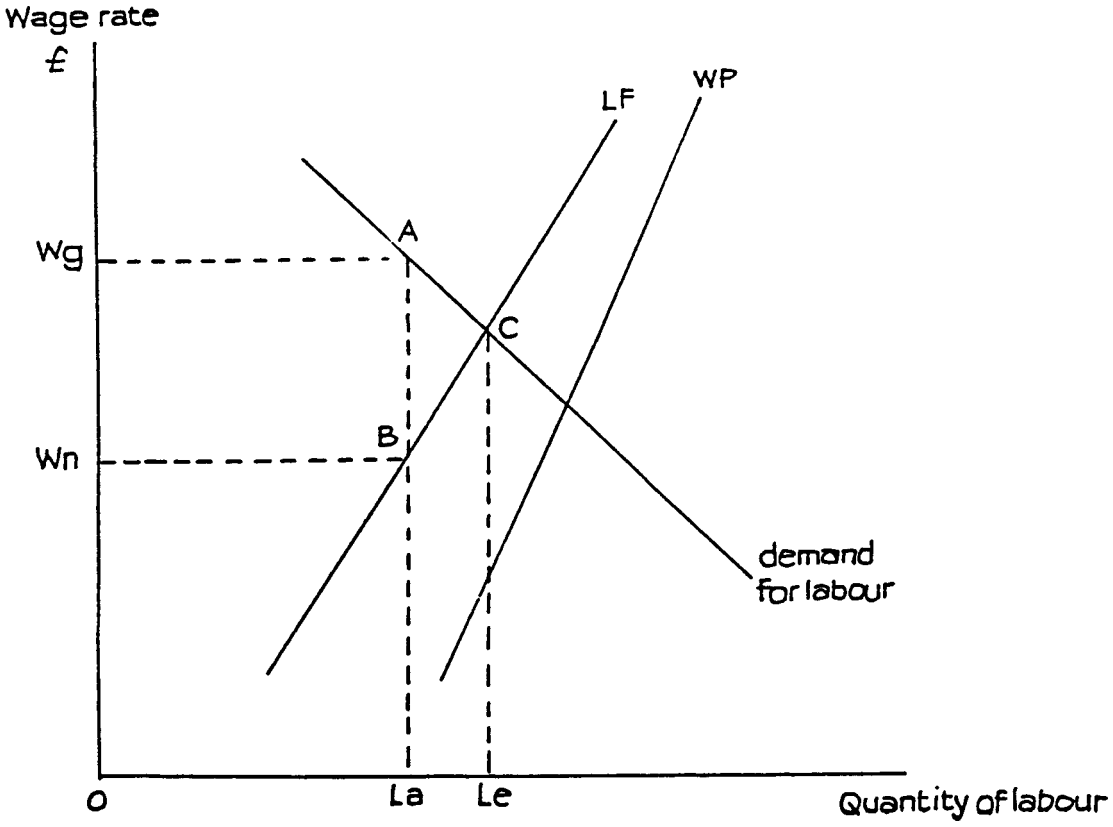

Figure 15.4

Here are shown curves for the working population (WP) and the actual supply of labour (LF) and the demand for labour, as before. If there are income taxes and other payments of the nature of "payroll taxes", as discussed earlier, then the wage cost may be OWg – the gross wage paid by employers plus compulsory payments which employers have to make, whereas the net wage actually received by the workers is OWn. The vertical distance AB represents the amount of income tax and "payroll taxes". If this distance could be eliminated, the supply and demand for labour would move to the equilibrium position C, and employment would be at the higher level of OLe. Income and payroll tax reductions

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would have reduced the amount of unemployment by an extent depending on the slopes of the curves and the various distances involved.

In practice, the government recognises that this is impossible to achieve for the total labour market – but it may be possible for particular sections of the labour market which currently suffer from high rates of unemployment, especially in the markets for lower-paid and unskilled workers. This explains the changes in National Insurance contributions noted in the last study unit and the government's declared desire to take more workers "out of the tax net".

If the pattern of income and payroll taxes is changed to reduce the burden on the low-paid workers, if necessary at the expense of the more-highly paid, the government will be able to avoid the criticism often levelled at tax reductions aimed at increasing labour supply – i.e. that the supply-of-labour curve is backward-sloping, so that, above a given wage rate, further increases in net wage will reduce rather than increase the willingness to work (because above a certain income level workers are more likely to prefer increased leisure to increased income). As long as the government's fiscal measures are concentrated on helping those whose net wage is below OW in Figure 15.5, which illustrates this concept, any achievement in increasing the net wage received by workers will raise the quantity of labour being offered to producers.

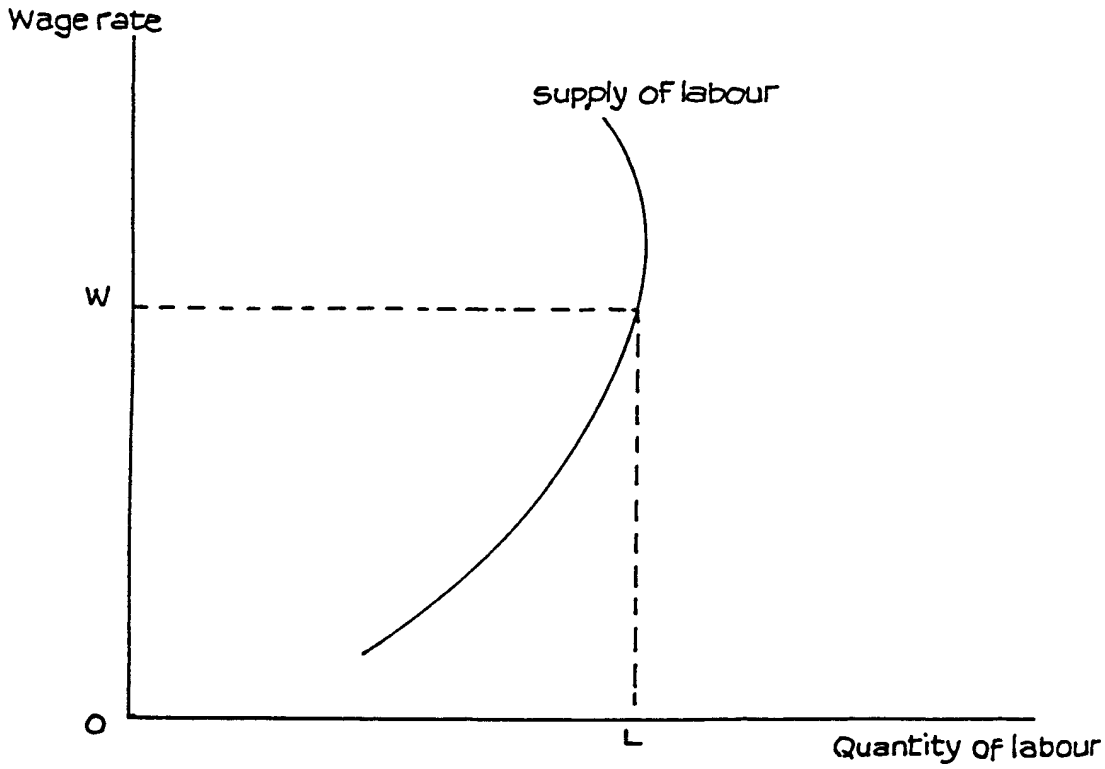

Figure 15.5

Another aspect of supply-side fiscal policy is to increase the rewards of successful business enterprise. This is likely to involve a number of fiscal measures, including a reduction in the higher rates of income tax – i.e. the rates paid by high-income earners, on the assumption that a high proportion of these will be employers or business managers who are responsible for making the decisions that determine the level of output and for achieving business success.

Other aspects of tax reduction may involve granting tax allowances for investment in business enterprise by individuals and reducing taxes on wealth and capital transfer which supply-side

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economists would regard as penalties imposed on people who have committed the "crime" of being successful in business, of increasing the wealth of the community and the employment opportunities of others.

Political practicalities may prevent a government from pursuing all its desired policies. For example, attempts to end or reduce tax concessions for income paid in home-mortgage interest and for pension contributions in order to finance tax reductions on income and wealth earning were abandoned in the face of political opposition in 1984/85.

There is a further aspect of fiscal policy on which there is some uncertainty. This concerns the investment allowances made to business firms which use their earnings to purchase equipment. These have, traditionally, been favoured on the grounds that they encourage business expansion and modernisation, and create employment in the capital-goods industries which provide business plant and equipment. However, in 1984, these allowances were made less favourable, on the grounds that the government wished to reduce taxes on company profits and that it wished to encourage firms to make decisions likely to produce profits, rather than simply to save tax. This is in line with supply-side beliefs that seek to encourage profit-seeking enterprise and enterprise likely to be successful in competitive markets – i.e. to reward genuine business efficiency, rather than "tax efficiency". The fact that a high proportion of equipment financed by investment allowances has tended to be produced in foreign countries may also have influenced government thinking.

Trade Unions and Supply

To monetarists and those accepting supply-side theories, trade unions are generally regarded as being restrictive, reducing output, business profitability, competitive power, and increasing unemployment. Any weakening in the power of trade unions, therefore, might be expected to increase the ability of firms to survive and expand in competitive world markets, to make business production more profitable and therefore, desirable, and to reduce unemployment by allowing more workers to work at wages closer to the market equilibrium. The influence of supply-side beliefs on the actions of the British government since 1980 is clear. A series of labour laws has sought to weaken trade union powers to restrict, and to reduce labour costs to the employers.

The government has also reduced the powers of wages councils, so that they would have no authority over the wages and conditions of employment of people under the age of 21, and for those over 21 they could only establish minimum rates and conditions. The move is, clearly, in line with supply-side beliefs that minimum wages tend to increase the amount of unemployment.

How far statutes have changed the relative strength of management and unions, and how far any such changes have resulted from changed attitudes among workers or from high levels of unemployment, are matters which must remain uncertain. Whether, indeed, the British government deliberately forced up unemployment as an aid to the weakening of unions is a matter which must be left to future political historians.

Encouragement of Competition

Supply-side economists would regard the possession of undue market power by any organisation, whether worker or employer, as likely to reduce output and efficiency and raise costs and prices. Competition and the weakening of monopoly power is, thus, seen as a desirable objective, likely to lead to increased efficiency and production and, in the long run, to a higher and more secure level of employment.

By 1980, some of the most powerful of the remaining monopolies, oligopolies and cartels were in the service industries and the so-called "professions". Monopoly and uncompetitive conditions could be found, for example, in banking, the law, estate agency, and the "fringe" areas of the health services

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(e.g. opticians). Since 1980, attempts have been made to increase competition and business efficiency in these areas, and considerable changes either have taken place or are taking place in many of the service occupations, especially in finance, where competition has already assumed new dimensions in sectors as different as building societies and the Stock Exchange, after the reforms of 1986 which allowed stockbrokers to become, if they wished, dealers in shares as "market makers" and also allowed banks and other financial institutions to enter the stock market directly as owners of broking and market making firms.

The Removal of Bureaucratic Controls Over Business

It has been a frequent complaint of business managers that costs have been raised, efficiency reduced, and expansion hindered by the great range of planning and other bureaucratic controls to which business has become subjected in the second half of this century.

Controls on business activity have been imposed for, generally, sound social reasons – usually, to protect the environment and to prevent indiscriminate expansion of industrial activity, to protect workers from exploitation, to protect consumers from unscrupulous or careless marketing and production. A defence could be made for every measure but, taken as a whole, their cost has become great, and if the general result is to reduce output and employment, then the balance of cost and social benefit may have swung against the overall interests of the community.

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Study Unit 16

National Product and International Trade

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A. THE BALANCE OF PAYMENTS

Trade Revenues and the National Income

We now return to our basic model of national income. Remember our proposition that total expenditure = total spending = total product. In a closed economy, where there are no foreign payment transactions (or where these are ignored):

- total income can be expressed as Y = C + S + T; and
- total expenditure, which also represents total demand (the desire to spend) can be expressed as

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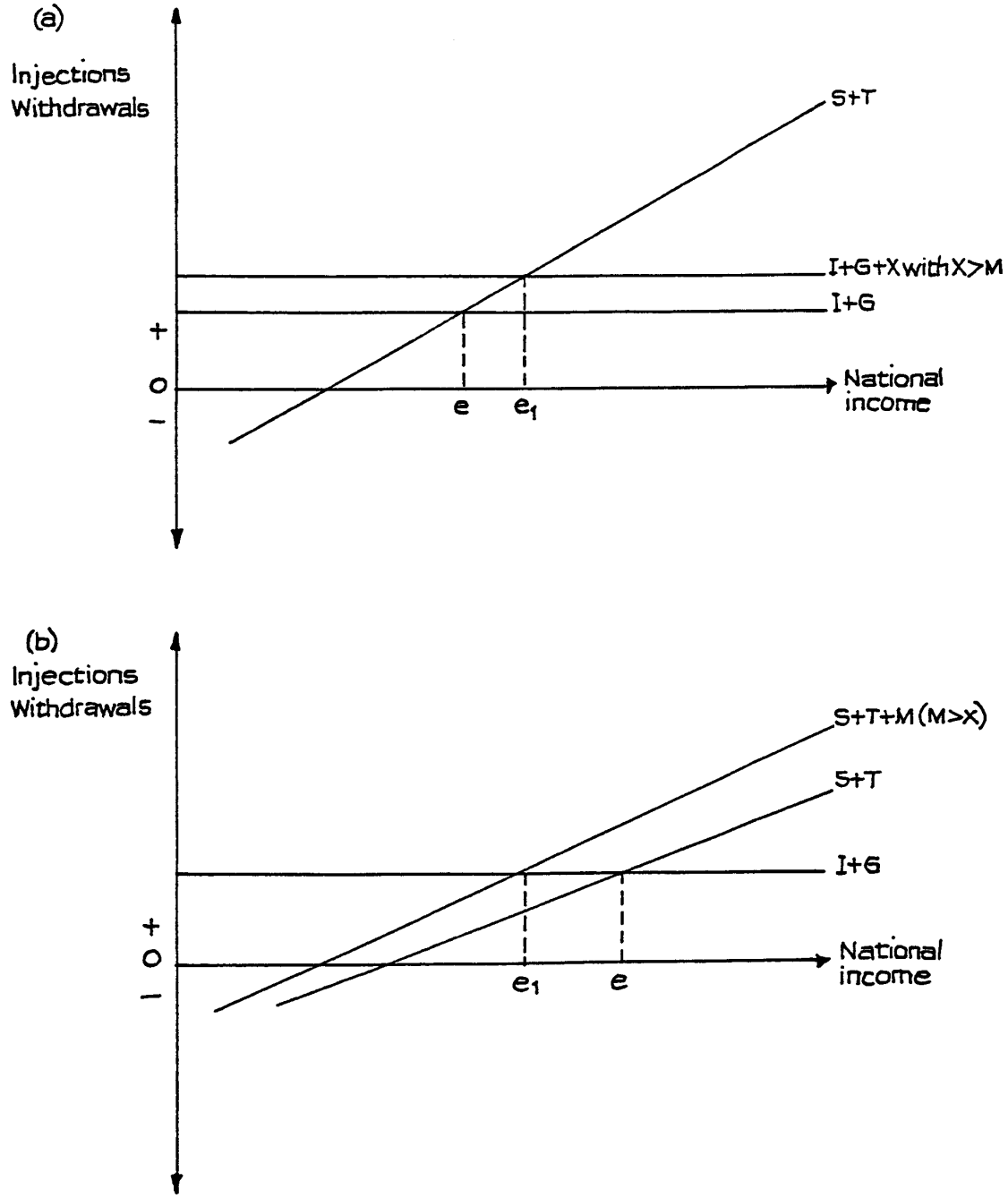

Figure 16.2

In Figure 16.2(b), imports raise the slope of the withdrawals (S + T + M) curve to bring down the equilibrium income level from (Oe to Oe_1). Notice that net exports are shown as a parallel line, indicating that they do not rise directly as national income rises, whereas imports are shown as having a greater effect at higher income levels. This is because the consumption element in imports increases with higher incomes, showing a behaviour pattern similar to that of any other form of consumption.

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These illustrations help us to appreciate how imports reduce the value of the national income multiplier, in the sense that:

(a) increased consumption on imports makes the withdrawal curve steeper; the value of the multiplier is 1/w and any increase in the value of w, which represents the steepness of the withdrawal curve – the propensity to withdraw, reduces the value of the reciprocal of w;

(b) any increase in the import element in business investment spending reduces the net rise in I and, hence, the injection brought about by I; if a firm buys machines made in another country, it is not creating jobs in home factories;

(c) any government spending on imports reduces the value of G to the domestic income in exactly the same way.

There is nothing strange in any of these propositions. They are exactly what we would expect. However, we should remember that they all assume that the home and foreign economies are entirely distinct – i.e. that the home economy is not affected in any way by changes in foreign economies. A little further thought causes us to doubt this. Modern economies are closely interrelated.

It is true that there is no **direct** relationship between the size of the national income of country A and the level of exports to country B but, if the two are trading partners, the national income of country B and its ability to buy goods from A will depend to some extent on its ability to sell its own products to A. There is a connection, and we should beware of making over-simple deductions from the apparently obvious propositions above.

The Balance of Payments Accounts

The balance of payments is defined as a systematic record of all economic transactions between the residents of a country and the rest of the world during a period of time.

The national accounts which give details of payments and receipts and general financial transactions with other countries are called the “balance of payments accounts”. They mostly follow a fairly standard pattern, so that, although the following details relate chiefly to the United Kingdom, the main principles involved are likely to apply to most countries.

There are two main accounts:

- The Balance of Payments on Current Account
- Transactions in external assets and liabilities (the Capital Account)

The Current Account is divided into:

- The Visible Trade Account – The Balance of Trade
- The Invisible Trade Account – services, transfers and interest, profits and dividends.

It is important to remember that the accounts represent flows of money. These flows are in the opposite direction to those of goods and services. For example, exports flow out, payment for them flows in; British ships carry goods for German firms and payment flows in. Capital investment by UK companies in America is an outflow of money, whereas the purchase by Americans of shares in British companies is an inflow.

Structure of the Accounts

The Balance of Payments accounts are shown in Table 16.1, where a minus sign represents money flowing out of the country and a plus sign indicates money flowing in. We shall then go on to discuss what the various items mean.

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		£ billion	
Current account			
Goods			
Exports		+121.4	
Imports	–134.6		
Balance of visible trade			–13.2
Services			
Exports		+36.6	
Imports	–31.6		
Interest, profits and dividends			
IPD receipts		+74.0	
IPD payments	–71.0		
Transfers			
Transfer receipts		+5.4	
Transfer payments	–10.5		
Balance of invisible trade			+2.9
Balance of payments on current account			–10.3
Transactions in external assets and liabilities (the Capital account)			
Direct and portfolio investment			
Investment overseas	–102.9		
Investment in the UK		+49.5	
Net investment			–53.4
UK bank transactions			
Lending abroad		+12.7	
Borrowing abroad		+23.7	
Net lending and borrowing			+36.4
General Government Transactions			
Overseas assets	–0.6		
Overseas liabilities	–0.1		
Net increase or decrease			–0.7
UK non-banks transactions			
Lending overseas	–10.1		
Borrowing overseas		+12.7	
Net lending and borrowing			+2.6
Net transactions in assets and liabilities *(balance of payments on capital account)*			+8.3
Balancing item		+2.7	

(Note: The figures may not add because of rounding)

Table 16.1: The UK Balance of Payments in 1993

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(a) Visible Trade

When we think of trade, we usually think first of trade in actual physical goods, such as motor cars, oil, food. This is, normally, called the trade in "visible goods", and the balance between the value of imports and exports is called the "visibles balance". Some writers – and examiners – still refer to this as the **trade balance** or **balance of trade** – so, you should be prepared to meet this term.

Visible trade is usually classified into a number of broad groups, and it is useful to look at the composition of UK trade on the basis of these groups. (You should try to obtain similar figures for your own country, if this is not the United Kingdom.) The main classes are the following:

- ***Food, Beverage and Tobacco***

  In 1993, over 7½% of Britain's exports and a little under 10% of her imports were in this group. Imports account for a substantial share of food in the UK but they are no longer a dominant part of trade.

- ***Basic Materials***

  Sometimes referred to as raw materials, these are the basic metals and commodities required for manufacturing. The UK has few of these to export and less than 2% of exports fall into this class, but it accounts for a little under 4% of imports (1993).

- ***Mineral Fuels and Lubricants***

  This class, of course, includes oil, and here, the British position has changed since the discovery of oil in the North Sea. British oil is of high quality – too high to use on its own for most purposes – and it has to be blended with the heavier oils of the Middle East. The UK, thus, both imports and exports oil, and it accounted for over 6½% of exports and over 4% of imports in 1993. Exports of North Sea oil reached their peak in 1985.

- ***Semi-manufactured Goods***

  In 1993, these accounted for over 29% of exports and over 25½% of imports. The massive trade in components and goods destined to become parts of other goods illustrates the international nature of modern production. Descriptions such as "made in Britain" usually mean "assembled in Great Britain from goods made in several other countries". Much of this trade in semi-manufactured goods represents trade between different parts of the same large company group. This is called "intra-company trade", and it has become a most important part of total world trade. Its implications are considered more fully in a later study unit.

- ***Finished Manufactured Goods***

  There is still, of course, a substantial trade in finished products, and these form the largest group for both imports and exports – in 1993, they accounted for over 53% of exports and nearly 54½% of imports. There was, in that year, a substantial deficit in finished manufactured goods.

If you add up the figures given so far, you will notice that there is a gap for both imports and exports. This 2% gap, represents commodities and transactions not classified according to any of the groups (a) to (e), above.

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(b) Direction of Visible Trade Flows

We should also be aware of the main trading partners in this general process of international exchange. Britain's main trading partner has, for some years, been the rest of the European Community – as anyone living near one of the main roads to the Channel ports knows only too well. Increased trade was one of the main benefits hoped for by the UK when she joined the Community, and this has, indeed, taken place. Over 52½% of exports and over 51% of imports related in 1994 to the EU, but this trade resulted in a deficit of nearly £4,000 million.

Other western European countries accounted for over 8% of exports and over 11½% of imports, so that, in 1993, about 62% of British trade was with western European countries.

In the same year North America accounted for over 14% of exports and 13% of imports; other developed countries for nearly 4% of exports and 7% of imports; and the oil-exporting nations for nearly 5½% of exports and over 2½% of imports; leaving a little over 15% of exports and imports for the rest of the world. As far as these geographical groups are concerned, by far the largest deficit was experienced in trade with western Europe, including the European Community. The largest favourable (from the British viewpoint) balance was with the oil-exporting nations.

(c) Invisible Trade

Invisible trade is so called to distinguish it from trade in goods, which are tangible items. It consists of:

- **Services** including sea and air transport, tourism, consultancy and financial services. In 1992 the City of London's invisible earnings were £10,572 million.
- **Interest, Profits and Dividend** (IPD) comprising interest on borrowing and lending abroad by UK banks, remitted profits in overseas branches where a UK company has made a direct investment or to foreign firms investing in British subsidiaries, and payment of interest and dividend on portfolio investment in stocks and shares.
- **Transfers** of funds to or receipts from other countries for non-trading and non-commercial transactions. The government is responsible for most transfers in the form of grants to developing countries, subscriptions to international organisations like the United Nations and net payments to the European Community. Private transfers include payments to dependants abroad by UK residents, and gifts.

The amount of IPD earnings depends on the amount invested in the past. Direct investment refers to the purchase of foreign assets. It includes buying control of firms in other countries, establishing subsidiaries and acquiring land and property. Portfolio investment is in stocks and shares. IPD receipts are influenced by the level of interest rates and the conditions in the economy which affect interest and dividend payments.

Profits and dividends in the balance of payments can cause confusion about how they appear in the accounts. If a British company has a wholly-owned subsidiary overseas which earns a profit, the invisible earnings are the profit remitted to the UK, but the part of the profit which is retained in the overseas subsidiary is treated as a capital outflow and appears under direct investments in the capital account. If the British company does not control the overseas subsidiary but receives a share of the profit, it only appears in the invisible account.

A more detailed breakdown of the balance of invisibles is shown in Table 16.2. This shows the main group headings and the actual balances (difference between money going out and money coming into the country). Study these group headings carefully. You will see that, for the

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United Kingdom, the largest money outflows are accounted for by general government transfers, Travel, General Government services and General Government Investment income. Clearly the public sector develops a substantial deficit with the rest of the world through its grants to foreign countries and organisations and the cost of foreign aid and for armed forces overseas. Travel includes both tourism and business travel. The deficit under this heading has widened considerably in recent years, suggesting that foreign holidays have become more popular with the British.

The largest inflow of funds comes from the financial services and "other services", many of which are related to industrial and commercial services and "invisible exports", such as the royalties received for pop music, television films, business management services, and so on. Britain also receives money for licences and patent rights for goods manufactured overseas. She has become an exporter of skills and know-how, as well as of finished goods.

When you study the table, remember that the service headings "Sea transport" and "Civil aviation" refer to **travel** on ships and aircraft. Trade in ships and aircraft themselves is, of course, part of the country's visible trade.

Note also the heading Investment income. This relates to the earnings received from past investment in foreign countries less payments to foreign investors in Britain. This net balance has fluctuated during the past decade and although it continues to provide a substantial inflow of revenue we must expect the capital investment in British industry by foreign companies to lead to increased payments of profits to foreign investors.

Table 16.2 shows the visible balances for 1983 to 1993, the main classes of invisibles and the resulting total balance, which is shown as the **current balance of payments**.

This figure represents a country's income or loss following a year's general trading with the rest of the world. The importance of this balance is examined in the next section of this study unit.

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£ million

	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Balances	-1 537	-5 336	-3 345	-9 559	-11 582	-21 480	-24 683	-18 809	-10 284	-13 104	-13 209
Visible balance	-1 537	-5 336	-3 345	-9 559	-11 582	-21 480	-24 683	-18 809	-10 284	-13 104	-13 209
Services											
General government	-1 052	-1 181	-1 298	-1 409	-1 620	-1 801	-2 254	-2 359	-2 351	-2 148	-1 898
Private sector and public corporations											
Sea transport	-837	-623	-529	-464	-287	-241	-257	-312	-283	-362	-458
Civil aviation	302	255	201	-408	-616	-911	-528	-295	-384	-521	-451
Travel	-87	-49	571	-530	-1 020	-2 032	-2 412	-2 131	-2 666	-3 354	-3 306
Financial and other services	5 503	5 803	7 453	9 034	9 785	8 942	8 812	8 786	9 392	10 474	11 055
Investment income											
General government	-424	-527	-752	-912	-1 095	-863	-561	-689	-811	-1 571	-1 868
Private sector and public corporations	3 255	4 871	3 048	5 534	4 852	5 287	3 949	1 670	594	5 864	4 930
Transfers											
General government	-1 930	-2 099	-3 427	-2 233	-3 277	-3 248	-4 278	-4 596	-1 083	-4 834	-4 836
Private sector	337	368	316	76	-123	-270	-300	-300	-300	-275	-270
Invisibles balance	5 066	6817	5 583	8 688	6 599	4 863	2 171	-226	2 108	3 273	2 898
Of which: Private sector and public corporations: Services and investment income	8 136	10 257	10 744	13 166	12 714	11 045	9 564	7 718	6 653	12 101	11 770
Current balance	3 529	1 482	2 238	-871	-4 983	-16 617	-22 512	-19 035	-8 176	-9 831	-10 311

Table 16.2: Balance of invisibles/visibles

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(d) The Capital Account

The correct name for this account, as we have seen, is "Transactions in external assets and liabilities". This account records only *changes* in assets and liabilities. When the pound rises in value against other currencies it becomes relatively cheap for British companies to invest abroad, whereas if the dollar is strong compared to sterling,

American investors will buy assets in the UK. Portfolio investment is undertaken by pension funds, unit trusts and investment trusts to diversify their portfolios and to seek gains from rising share prices in rapidly growing countries.

The cumulative effect of investments into and out of the UK is that, at the end of 1993, the UK's balance sheet (its external assets and liabilities) showed a surplus of assets over liabilities of £20.3 billion.

(e) The Balancing Item

The balancing item is a statistical adjustment to account for the failure to record some of the thousands of items in the current and capital accounts. It is the difference between the recorded entries in the balance of payments accounts and the change in official foreign exchange reserves.

Table 16.3 develops the information in Table 16.1 by providing a summary of the full balance of payments for the years 1983 to 1993. You will see that, apart from the current balance, there are a number of other monetary movements which, together, cancel out the current balance. At this stage of study, you do not need a detailed knowledge of these – but note that they include movements of capital (the capital account), payments to and receipts from the International Monetary Fund (IMF), and a range of transactions with foreign monetary authorities.

From this table, you can see what is meant when it is said that, in the end, the balance of payments of a country will "always balance", but, in effect, this balance may have to be achieved by borrowing, from payments from past reserves and with the help of a balancing item which is often quite substantial! The really important balance, though, is the current one. This shows whether the country is trading profitably and successfully or not. It is the current balance which is the best indication of a country's economic health. No country can overspend its current income and draw on past savings or borrow from other countries for ever.

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£ million

	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Current account											
Visible balance	−1 537	−5 336	−3 345	−9 559	−11 582	−21 480	−24 683	−18 809	−10 284	−13 104	−13 209
Invisibles											
Services balance	3 829	4 205	6 398	6 223	6 242	3 957	3 361	3 689	3 708	4 089	4 942
Investment income	2 830	4 344	2 296	4 622	3 757	4 424	3 388	981	−217	4 293	3 062
Transfers balance	−1 593	−1 732	−3111	−2 157	−3 400	−3 518	−4 578	−4 896	−1 383	−5 109	−5 106
Invisibles balance	5 066	6 817	5 583	8 688	6 599	4 863	2 171	−226	2 108	3 273	2 898
Current balance	3 529	1 482	2 238	−871	−4 983	16 617	−22 512	−19 035	−8 176	−9 831	−10 311
Capital transfers	-	-	-	-	-	-	-	-	-	-	-
Transactions in UK assets and liabilities											
UK external assets	−30 378	−32 189	−50 617	−91 833	−82 495	−57 342	−90 583	−80 680	−20 717	−82 219	−158 450
UK external liabilities	25 818	23 655	46 897	88 719	89 205	68 317	110 219	98 873	29 336	85 588	166 763
Net transactions	−4 562	−8 534	−3 720	−3 115	6 710	10 975	19 636	18 193	8 619	3 369	8 313
EEA loss on forward commitments	-	-	-	-	-	-	-	-	-	-	-
Allocation of special drawing rights	-	-	-	-	-	-	-	-	-	-	-
Gold subscription IMF	-	-	-	-	-	-	-	-	-	-	-
Balancing item	1 033	7 052	1 482	3 986	−1 727	5 642	2 876	842	−443	6 462	1 998

Table 16.3: Summary of balance of payments

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B. PAYMENTS, SURPLUSES AND DEFICITS

Current Balance Surplus

We have seen how a surplus of revenue from all forms of export over payments for imports results in the equilibrium level of national income being raised.

The implications depend on whether or not the extra money available for spending pushes the national income equilibrium above the full employment level. If it does – i.e. if demand for goods and services is greater than the amount of goods and services available for purchase – then there will be inflation – i.e. prices will rise, or there will be shortages.

If it does not, then the extra inflow of money will generate extra economic activity, and unemployment will fall. The general level of employment and standard of living of the country will rise. This is often known as an "export-led boom".

However, if there is pressure on the country's capacity to produce sufficient to meet the higher level of total demand, inflation may still be avoided if the country exports some of the surplus money by investing abroad, or by making loans or grants to other countries. This may help these countries to develop their economies, and it will also help the revenue-exporting country's invisible balance in future years.

The ability to allow or to encourage money to be used abroad will also help the country's political power and influence. It is little wonder that governments seek to achieve a balance of payments surplus on current account.

Current Balance Deficit

The equilibrium level of national income is reduced by an import surplus. In this case, money flows out of the country and the flow of goods and services in relation to the pressure is increased.

The immediate effect, again, depends on the existing level of economic activity. If the economy is operating under inflationary conditions, with demand greater than can be satisfied at full employment, the deficit will reduce the inflationary pressure. People who cannot buy home-produced goods, because not enough are being made, will buy foreign goods instead.

However, if the economy is operating at lower than full employment, then the effect is to increase that rate of unemployment – more people will lose their jobs, and more machines will be idle.

In an advanced country, this can be only a fairly short-term effect, as a deficit causes other problems. These problems lead to measures to correct the deficit, and there are then yet further effects on the price level and on the extent of unemployment.

In a developing country, a deficit can be tolerated for a longer period, if it can be financed by foreign countries or by loans from the International Monetary Fund as measures to raise general world living standards and increase the speed of world economic development.

In the advanced country, the outflow of funds to pay for imports will be greater than the inflow paid for exports. This means that the demand for foreign currencies to pay for foreign-produced goods and services is greater than the demand for the home currency to pay for that country's goods sold abroad. In this situation, the exchange value of the home currency is likely to fall.

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Causes of a Persistent Current Balance Deficit

It is difficult to work out effective remedies for a balance of payments deficit, unless the causes of the problem are known. We have to admit that there is some uncertainty on this question. It is possible, however, to examine some of the influences operating on the pattern of a nation's trade.

(a) Changes in the Terms of Trade

The "terms of trade" measures the relative movement of import and export prices. It is calculated from:

$$\frac{\text{unit value index of exports}}{\text{unit value index of imports}} \times 100$$

The unit value index represents the average movement in price of a "unit" of imports or exports. The unit itself is a kind of average of all types of visible imports and exports. The terms of trade thus gives a general indication of how average import and export prices are moving. The actual calculations for the UK for 1983 to 1993 are shown in Table 16.4.

We can analyse the results of changes illustrated by the index. At one time, a rise in the index was regarded as being favourable because a given quantity of higher-priced exports could earn enough to buy more imports. In the modern world, the results of trading-price movements are a little more complex.

- ***Import Prices Rise Faster than Export Prices***

  The effect will depend upon the elasticity of demand for imports. We can assume that, in an advanced country, the demand for imported raw materials and foods and oil is fairly price inelastic, whereas the demand for most manufactured (especially consumer) goods is likely to be price elastic – provided that the home country is able to manufacture acceptable substitutes for foreign-made products. In this case, the demand for the price inelastic goods will fall in a smaller proportion than the rise in price, so that the total cost of payments for these imports will rise. In the case of imports the demand for which is price elastic, the fall in demand will be greater in proportion to the rise in price, and the total cost of these imports will fall.

  For a country such as Britain, where over half of the imports consist of manufactured goods, the effect of a change in import prices will depend on which imports are most affected. A price increase on foods, basic materials or imported oil would create a balance of payments deficit or make an existing deficit worse. If it is the prices of the manufactured goods that rise, we would expect there to be a fall in the total cost of imports. That is, of course, if demand is price elastic. If, in fact, there are not sufficient home-produced alternatives to make good the higher-priced imported products, then the demand may turn out to be inelastic and upset the predictions relating to total revenue.

  For a developing country, most imports are likely to be demand inelastic if they are needed to promote development, so that a rise in import prices would make for a deficit or aggravate an existing deficit.

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		1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Unit Value Indices (1990 = 100)												
Exports												
All goods	CGTO	86.3	93.1	98.1	88.4	91.5	92.4	96.6	100.0	101.4	103.5	114.8
Non-oil goods	CGSX	76.6	82.4	87.6	88.5	91.5	94.3	97.5	100.0	102.3	105.0	116.9
Imports												
All goods	CGTP	84.2	91.8	96.3	91.9	94.6	93.7	97.7	100.0	101.2	102.1	110.5
Non-oil goods	CGSY	80.0	87.3	91.7	92.1	94.8	95.0	98.2	100.0	101.7	102.9	111.8
Terms of trade												
All goods	CGTQ	102.5	101.4	101.9	96.2	96.7	98.6	98.9	100.0	100.2	101.4	103.9
Non-oil goods	CGSZ	95.8	94.4	95.5	96.1	96.5	99.3	99.3	100.0	100.6	102.0	104.6

Table 16.3: Terms of trade

- ***Rise in Export Prices***

  Again, the effect depends on the price elasticity of demand for exports. In this connection, a developing country exporting basic materials with price inelastic demand would gain, and would receive an increase in total export earnings. In a developing country, it might be difficult to absorb a large balance of payments surplus, and much of it might have to be invested abroad until the home economy could be developed. This was the case of some oil-exporting countries when they gained from oil-price rises.

  One problem for a developing country that relies on the export of a few basic commodities is that its living standards are very much at the mercy of world prices of these commodities. When prices are high, the country might develop a standard of living highly dependent on imports, and this might be very difficult to maintain when world prices of the exported goods fall. It would be no use trying to stimulate demand by reducing prices, because this would only cut export earnings still further.

  For a country such as Britain, exporting chiefly manufactured goods, export demand is likely to be price elastic and a price rise – caused, perhaps, by home inflation – is likely to lead to a fall in total export earnings and, hence, to a deficit or the worsening of an existing deficit.

(b) Economic Weakness

Many economists think that relative price movements are little more than a symptom of economic conditions, rather than a basic cause of those conditions. For a developing country, a balance of payments deficit may simply reflect the world-market situation that ensures that total export earnings for the volume of goods exported are not sufficient to provide enough money to pay for the goods and services needed for development. The position will be made worse if:

- World demand is declining for the country's basic exports, or
- there is a failure in production, resulting from natural disaster or other causes – e.g. a crop failure or internal conflict, or
- there is a high demand for imported consumer goods from a section of the population that has developed a fashion or taste for imported clothes, cars or food.

For an advanced country, the problem may be caused by a weak economic or business structure, an economy that is less successful than that of competing nations. If production is cut by poor working methods, under-investment in modern machinery or labour disputes, then export earnings are likely to fall and imports and the cost of imports rise, almost regardless of price advances, in favour of the home country. Germany and Japan, for example, have been consistently more successful in exporting than Britain and the USA.

(c) Activities of Multinational Companies

About a third of international trade is made up of payments between the different parts of multinational empires. These companies, operating on a world scale, may prefer to move production away from high-cost, highly-taxed and closely-regulated countries to other areas where they have lower costs and more control over production methods. It is notable that countries with a high proportion of multinationals – the USA and Britain – tend to have persistent problems with their balance of payments, whereas Germany and Japan which, until recently, have not produced world-scale enterprises, have had very successful export records and few balance of payments difficulties. It will be interesting to see which effect the

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development of German and Japanese multinationals has on those countries' payments balances.

C. REMEDIES FOR A CURRENT BALANCE OF PAYMENTS DEFICIT

There are three main remedies for a balance of payments deficit.

Devaluation

By devaluation we mean the reduction in the exchange value of a nation's currency in terms of foreign currencies. For example, before devaluation a British pound might be equal to 12 French francs but, after devaluation, it may be equal to only ten francs.

Devaluation may be allowed to happen through the normal operation of the foreign exchange markets. If, on these markets, the demand for pounds falls and that for francs rises, the price of the pound is likely to fall relative to that of the franc.

Alternatively, if exchange rates are fixed by governments, then the governments can change the value by declaration. In whichever way it is brought about, a devaluation raises the price of imports and reduces the price of exports, at least in the short term.

Some writers (and examiners) distinguish between "devaluation" (action by governments when exchange rates are fixed) and "depreciation" (fall in value of a currency as a result of market movements). You should be aware of this – but you must also recognise that governments do intervene in currency markets to try to influence market movements, and a change in interest is sometimes brought about by a government in a deliberate attempt to change the currency value.

(a) The J Curve

It is sometimes pointed out that in the very short term firms cannot change their plans. It takes a little time for traders to react to international price changes resulting from exchange rate movements. Consequently a swift devaluation or depreciation will increase the prices of imports and decrease those of exports without changing quantities traded very much. The immediate effect of the price changes will be to deepen the balance of payments deficit. Fairly soon, however, plans and trading patterns are modified and we would expect demand for imports to fall and foreign demand for exports to rise. The result would be to reduce the deficit and, if the reactions were strong enough, to turn it into a surplus. This is illustrated by what is usually known as the J curve, as illustrated in Figure 16.3.

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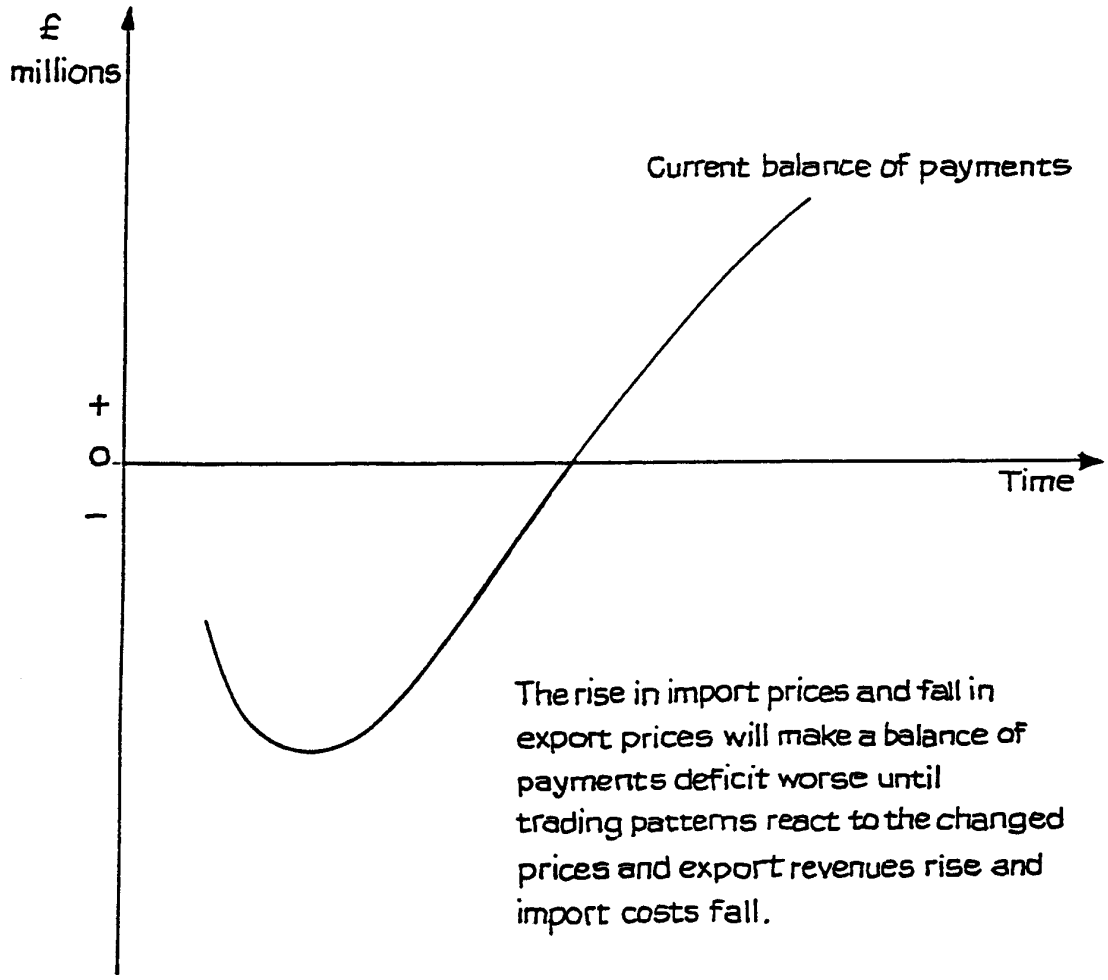

Figure 16.3: The J Curve

(b) Importance of Demand Elasticities

For the changed trading pattern to replace a balance of payments deficit by a surplus, the rise in demand for exports at the reduced world price must increase export revenues by a greater amount than any increase in import costs resulting from the import price rise. It will, of course, help if the import costs actually fall. The desired gain in net revenues can only come about if the combined price elasticities of demand for exports and imports add up to a value that is more negative than –1.

(c) Effect in Industrial and Developing Countries

In Britain's case, where manufactured goods dominate exports and form a high proportion of imports, we would expect a devaluation to have a favourable effect on the balance of payments in the short term.

In the long term, this beneficial effect of increasing net earnings is likely to be weakened. Britain has to import most of her basic commodities and, until recently, these included essential oils. She also imports much of her food. Any rise in the prices of these imported commodities – fuels and foods – must soon increase the costs of manufacturing. It will also lead to an increase in the living costs of the workers. If the workers are able to secure wage increases in an attempt to restore living standards, then manufacturing costs will, again, rise. Inflation of

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both prices and wages, thus, erodes the competitive price advantages gained for exports against imports by the devaluation. If inflation continues at a high rate, the export price advantage may be lost very quickly.

For a developing country, both exports and imports are likely to be price inelastic. Thus, the result of a devaluation, in this case, is to worsen an existing balance of payments deficit. The devaluation will reduce total export earnings and increase total import costs. Devaluation, therefore, will not help a developing country with balance of payments problems. It may help an advanced industrial country – but, probably, only in the short term. In itself, it does nothing to cure the basic economic weakness which gave rise to the trading imbalance in the first place.

(d) UK Experience

The British experience has been mixed. In the early 1980s, when sterling was valued at a high rate as the UK started to become an oil-exporting nation, there was a very satisfactory favourable balance for manufactured goods. This owed much to the depression of those years, as distribution firms ran down stocks and as consumer demand for exports was also falling. Manufacturers, however, were as much concerned about the very great fluctuations in rates as about their level, and there is no doubt that the very large swings in 1984-5 were damaging to trade. At the same time, it seemed that British manufacturers were suffering from an over-priced sterling, brought about by the oil situation. In 1983, Britain's manufacturing account moved into deficit for the first time since the Industrial Revolution, and in 1984 there was a manufacturing deficit of around £3,250m. This seemed to indicate that sterling was overvalued in relation to Britain's non-oil trade. This position was probably owing not only to North Sea oil but also to high interest rates caused by the British government's monetarist economic policies. By 1988-89 a series of record monthly trade deficits, accompanied by renewed domestic inflation was calling into question the entire economic strategy being pursued by the British Government. Nevertheless the Government persisted in a high exchange rate strategy and reinforced this with entry to the European Exchange Rate Mechanism which required this rate to be maintained. The Government apparently hoped that exchange rate pressures would ensure that business firms would resist inflationary tendencies to "squeeze inflation out of the system" and make British business more efficient and competitive. However, an overvalued currency could not be sustained in the long run and sterling was forced out of the ERM in the Autumn of 1992. Its value quickly fell by about 15% against most other major trading currencies.

Helped largely by this devaluation, the manufacturing account and the current balance of payments responded well and the UK was able to follow the USA out of recession before the other members of the European Union. This experience raised serious doubts about the value to Britain of full membership of the European Union and helped to set in motion a fierce political debate that, by mid-1995, was threatening to split the Conservative Party and which was also a highly controversial issue within the Labour Party.

Deflation

Spending on imports is a form of consumption that is usually regarded as being dependent on the level of income of a community. The higher the income, the more is likely to be spent on imports. One way, therefore, to correct a balance of payments deficit is to reduce import levels or, at least, to stop them rising too fast. A government faced with a balance of payments problem may seek to reduce disposable income in the hands of consumers, and so reduce all consumption expenditure. This will cut the demand for imports and also reduce the strength of demand for home-produced

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goods, so releasing them for export markets – if firms can be persuaded to make a bigger export effort. The government will achieve deflation by:

- reducing its own spending and the demand for workers in the public sector;
- increasing taxes, and so reducing consumers' disposable (after-tax) incomes;
- restricting the money supply, so making it difficult for firms to increase wages and raise prices;
- seeking to keep down wages or wage increases, with or without co-operation from unions.

This policy is usually successful in the short term but it does produce unemployment and it is, politically, unpopular. It may also disrupt some sectors of industry, especially durable-goods manufacturers. Firms may go out of business or invest abroad rather than at home. The result may then be that, when the period of deflation is relaxed and demand rises again after the balance of payments problem appears to have been cured, the increased consumer and business investment demand has to be met from imports to an even greater extent than before the deflation. This leads rapidly to an even worse balance of payments problem than the one just solved.

For a developing country, deflation is unlikely to be a satisfactory solution, because the imports are needed for economic development and, if living standards are already very low, any reduction could lead to violent social and political unrest.

Import Controls

The failure of devaluation and deflation to provide satisfactory long-term cures to Britain's balance of payments difficulties led to a revival of strong demand for control over imports through measures such as quotas and tariffs.

Supporters of controls suggest that the danger of retaliation is not as great as is often assumed, and they say that only with the protection of controls can the economy be fully revised. They usually also suggest that massive government aid would be needed for industrial modernisation and investment, and that the government would have to have greater controls over industry if it were to provide this aid. Taxes would also be likely to stay high if this policy were adopted.

Other people remember that it was the attempt of individual countries to impose controls over imports, yet keep on exporting, that led to the trade wars of the earlier part of the century – and these, in turn, helped to bring about the very severe depression and unemployment of those years. They feel that the risk of such a tragedy being repeated is too great to allow import controls to be tried. However, the demand for controls is very strong and, in the face of what are often termed "unfair trading practices" of some countries, the chance that Britain may be forced to take some protective measures must be recognised to be high.

Another danger is that industries do not, in fact reorganise behind the protective barrier and simply become less competitive and rely on satisfactory home demand. This is why advocates of import controls also tend to advocate increased public control to force modernisation.

The demand for import controls always increases during an economic recession when there tends to be strong political pressure from industries with high unemployment rates or suffering from economic change to be given protection from foreign competition. There was a tendency in the late 1980s and early 1990s for informal methods of protection – the use of various administrative devices to make importing more difficult and expensive – to increase. The GATT (General Agreement on Tariffs and Trade) negotiations for reducing tariff and other barriers in order to encourage world trade, originally due to be completed in 1992, encountered many difficulties as governments sought to defend their own politically powerful groups – including of course the farmers.

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The negotiations were eventually concluded by the end of 1994 and some progress was made towards further trade liberalisation though these were extremely modest in relation to the three major trading blocs of the European Union, North America and Japan. At the beginning of 1995 GATT was replaced by a more structured body, the World Trade Organisation (WTO), which was given limited powers to enforce agreements and discourage openly protectionist measures. These were quickly tested by a trading dispute between the USA and Japan though this was resolved without breaching WTO rules.

Need for a Healthy Business System

A balance of payments deficit for an advanced industrial country is a sign of economic weakness, and the only really effective long-term remedy is to strengthen the country's business structure. This means increased investment and business modernisation. The causes of a country's economic weakness in the face of stronger foreign competition are not always fully understood. They may be social or political, as much as economic. Devaluation, deflation and import controls are only short-term remedies. All may aggravate the weakness if no healthy business system is encouraged. There is unlikely to be a quick and easy solution, and some reduction in living standards may be inevitable before economic health is restored.

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Limitations to the Gains from Comparative Advantage

It is sometimes argued that, because of comparative advantage, there will always be gains from international trade, and that such trade should be freed as much as possible from government rules or restrictions. Before accepting this, we should remember that there can be general gains from increased specialisation and international trade only if:

- production factors, including workers, are able to move from one activity to another within each country – i.e. there is factor mobility within countries;
- no factors are left unemployed and unproductive as a result of the movement resulting from increased specialisation;
- there is a demand for the increased product made possible by changes;
- there is no movement of production factors between countries.

If, for example, the advantage of country A, in the example above, arises out of superior managerial skill, then the greatest gains might be achieved by exporting managers from A to B and improving the standard of production in B.

These are very important qualifications, and they do not always hold good under modern conditions. Production, today, is often highly specialised, and it is difficult – and sometimes impossible – to transfer resources (including workers) from one activity to another within a country. Machines are often built for one purpose only, and people may take years to retrain, and unions are often hostile to movement. Many people displaced from one activity are just not able to learn the skills required for another, expanding, activity. In these circumstances, it is not unusual to find high unemployment in some sectors of production and a shortage of workers in another.

B. TRADE AND MULTINATIONAL ENTERPRISE

The Multinational Company

The traditional theory of international trade based on the concept of comparative cost advantage now requires some reconsideration. There is no general agreement on a precise definition of a multinational company but, for our purposes, we can regard it as any company which produces goods and/or services in several different countries. The company must own and directly control production facilities in the various countries. This is often referred to as “direct investment” overseas, and it is in contrast to “portfolio investment”, where the home company simply owns shares or loan stock in foreign enterprises, and does not directly control their activities.

The term “multinational” usually conjures up an image of a very large company – and, indeed, the leading multinationals are giant enterprises. These include the oil-producers and the mass-production motor manufacturers. On the other hand, there are many small companies which operate across national boundaries and take advantage of modern communications.

There are multinational companies owned and directed in many different countries but the majority are American, European or Japanese owned. Until recent years Japanese companies preferred to concentrate production in Japan and export to the rest of the world but as a result of several trends and pressures they have now started to take the multinational path to expansion.

Reasons for Growth of Multinational Enterprise

There have been some large, world-scale, producers for a long time. The British Hudson Bay Company and the British and Dutch East India Companies were large organisations as early as the

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18th century. However, these grew out of trading enterprises. World-scale manufacturing is a development that belongs more to this century, and especially to the period after the Second World War.

There are many reasons for this development. Among those most commonly put forward are the following:

(a) Improvements in Transport and Communications

In a world of jet air travel, international telephones, fax, telex and radio links, it is possible to retain control over the day-to-day activities of a worldwide enterprise in a way that would have been impossible in earlier times.

(b) Efficient International Capital Markets

An international banking system has developed with the growth of world trade and the spread of European influence in other continents. Bankers are often anxious to finance local branches of the large world-scale companies, sometimes in preference to more risky local business. Restrictions on capital movement from countries such as the USA and the UK in the 1950s and 1960s also tended to ensure that money earned in foreign countries was kept abroad to finance foreign direct investment, because, if it returned home, it was likely to be kept there by government controls.

(c) Encouragement by Developing Countries

The developing countries in Africa, Asia and South America offered growing markets for a wide range of goods, and many encouraged the entry of foreign manufacturing companies as a means of speeding up national industrial development and of earning much needed foreign currency from industrial exports.

(d) Rising Costs and Production Difficulties in the Industrial Nations

Growing state intervention, the rise of trade union power and rapidly-increasing wage, land and other production costs in the USA and Europe encouraged many companies to look to investment opportunities in developing countries where costs were lower and there was much less resistance to the introduction of new machines and working methods.

Japanese companies have also been influenced by increasing production, especially wage, costs within Japan to establish production divisions in other countries in both Asia and Europe.

(e) Product Life-cycle

If a company builds up a large export trade for a product, and if that trade is directed towards countries the development of which is a little behind that of the home country, the time is likely to come when the export market in the developing countries is larger than the domestic market in the country of manufacture. By this time in the life of the product, it is probable that competition is developing from firms situated inside, or closer to, the export market, and the home market may also be starting to decline. It may well be that the production facilities will need replacing.

At this stage, the manufacturer is likely to consider setting up new production facilities (factories and machines) in the developing countries, where markets are growing. The remaining market at home can be fed from imports out of the new factories.

In practice, some or all of these influences may be operating at the same time. The more influences that do bear on an industry, then, of course, the greater the likelihood that it will become multinational in character.

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(f) Trade Barriers

Some countries and groups of countries discourage imports by tariffs and other trade barriers. The European Community may be moving towards free trade between members but it has many barriers to trade with non-members. It has been particularly restrictive against imports from Japan so that to trade within the EC Japan has had to set up production units within the Community. To avoid hostility against these units Japanese companies have built up partnerships with European companies and have consented to use agreed proportions of Community produced materials and components in their goods.

Consequences of Multinational Enterprise

Multinational enterprise involves a transfer of production capacity from one country to another. It has consequences for the home country of the multinational company, the host countries where new enterprises are established, and for the whole pattern of international trade and production.

(a) Consequences for the Home Country

If a British manufacturing company decides to locate a new factory in Brazil rather than in England, then England loses the investment to Brazil. From the British point of view, this is called "divestment" – i.e. the loss of productive investment. The decision may mean a loss of some capital – though research indicates that much foreign investment takes place with the help of locally-raised capital, and that the amount of finance exported, even to developing countries, is relatively small.

In the home country, however, there is a loss of production work. Jobs are lost. Most of these jobs are likely to be in the routine work of manufacturing – the unskilled and semi-skilled jobs and the work of supervision. The more highly-skilled work of research, planning, marketing, etc. is still likely to be controlled by the home headquarters of the multinational company. Home-country nationals are also likely to be asked to fill managerial and skilled technical jobs in the overseas country. It is possible that there are now more British people working overseas than there were in the days of the British Empire. The American and Japanese multinational companies are even more likely than the British to ensure that managerial and technical posts are filled by their own nationals.

Another consequence of divestment for the home country is that visible exports fall and visible imports rise. Invisible earnings rise, as the overseas sections of multinationals pay fees and royalties for patents and services, and remit profits to the home country. Profits, however, go to the owners of capital – insurance offices and funds – and do little to make good the loss of jobs suffered by industrial workers. There is also a good chance that the profits will be re-invested in further foreign production, and not used to develop business at home.

(b) Consequences for the Host Country

The host country gains jobs and some capital investment. If local capital is raised, then this is denied to the country's own domestic industry and commerce. The country also gains export earnings and saves some import payments by having producers of products for world markets within its own economy. There is some doubt, however, whether it gains the full value of production, because the home part of the multinational company will require heavy payments for technical and managerial services, as well as a substantial share of profits. It is notable that the group of what are now called the "newly-industrialised countries" – Korea; Greece; Hong Kong; Mexico; and others – in spite of gaining a substantial share of world production of a growing number of industries (textiles, shoe manufacture, electronic equipment), nevertheless still have a balance of payments deficit with the advanced industrial countries.

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It is frequently claimed that host countries gain benefits from importing managerial skills and technical know-how. There is certainly some transfer of managerial skill and technology but this can be exaggerated, especially where the majority of skilled functions are kept for nationals of the home country, and where the home country retains full control over all research and development.

It will be in the interests of the multinationals to keep factor costs low, and for labour to be non-unionised, so they will not encourage the development of domestic industries which may prove to be competitors, both in selling products and as employers of production factors. If factors, especially wage-costs, do start to rise, then the multinational may be able to transfer production to another country, leaving the original host country worse off than before.

(c) Consequences for International Trade

There is no doubt that the growth of multinational enterprise has changed the pattern of international trade. Visible trade is no longer a matter of a flow of basic materials to the western industrialised countries and a counter flow from them of manufactured goods. Manufacturing is now carried out in a very wide range of countries, though much of it is still controlled by, and relies on, technology supplied by the advanced industrial nations.

Even more important, perhaps, is that the multinational companies have shown the importance of factor transfer between countries. If you refer to the example of specialisation based on comparative advantage given earlier in this study unit, you will see that the whole process is transformed if we allow for the possibility that A's superiority in the production of both products is the result of superior managerial skill, and that this skill could be transferred from country A to country B. We cannot, then, predict the result of the transfer, because this will depend on which industries are affected, and on which terms the transfer takes place.

What we can say, however, is that multinational enterprise on a large scale further undermines the theory of comparative cost advantage as the basis for international trade and exchange. Multinationals will locate in those areas where costs will be lowest for themselves in absolute terms. They are not concerned with the domestic comparative or opportunity costs of local factors they employ. They will seek that combination of local and "transported" factors (managerial skill and technology) which will give the production levels required at minimum cost. This is likely to mean that some parts of the production process will take place in one country and some in others. We can now see the association between the growth of multinational enterprise and the trade in semi-manufactures, much of which is intra-company trade – i.e. transfer between sections of the multinational companies.

C. FREE TRADE AND PROTECTION

Advantages of Free Trade

The principle of comparative advantage shows that free trade and specialisation brings gains to the participating countries. So long as a country has a comparative advantage in producing something, it can benefit from specialising in its production and trading the surplus over home consumption for other materials and products from abroad.

The advantages of free trade can be summarised as being that:

- countries can specialise and increase production safe in the knowledge that they can export their surplus

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- resources are allocated efficiently
- countries can export surpluses and import what they need
- countries gain economies of scale from access to the world market
- competition from imports increases efficiency and limits the creation of monopolies
- free movement of capital allows countries to develop their industries
- trade develops Cupertino and political links between countries.

The factors of production are immobile. Land, most labour and invested capital cannot move between countries. Only enterprise, uncommitted capital and some labour can move to where the other factors are abundant and production can be organised. Free trade overcomes the immobility of factors: it permits the free movement of the product of immobile factors so that countries worldwide can benefit from an abundant factor endowment in any place.

Access to the global market is essential for the 138 developing countries if they are to achieve economic growth. Trade with the other 23 developed economies would give the developing nations a large market for their goods and the opportunity to import new technology. Firms could gain economies of scale and new techniques; competition would increase efficiency; monopolies are avoided. Production for export helps to diversify the economy: it reduces dependence on what is often a single crop subject to disasters, like sudden frosts which halve the output of coffee.

Protection

All trading nations engage in some form of trade protection as governments have to face political pressures from powerful domestic interest groups. At the same time they are often reluctant to admit that they are imposing barriers so they may avoid the formal measures that would invite retaliation and invite censure from the World Trade Organisation. Instead they make use of a variety of devices to delay imports or make them more expensive. These include cumbersome import procedures with complicated documentation or "safety measures" with a dubious safety value.

At the same time the more formal measures still survive and are employed by individual countries and regional groups such as the European Union (EU). The main such measures are:

- **import tariffs**, also known as customs duties, which are taxes imposed on goods when they enter a country or one of a group of countries such as the EU; whereas
- **quotas**, which are quantitative restrictions on the import of goods

We examine these and other forms of protection in the next section of this study unit.

The belief that free trade (trade free from imposed restrictions) should be encouraged as much as possible is linked closely to the theory of comparative cost advantage. However, the benefits of comparative advantage have been shown to depend on the existence of competitive markets, absence of monopoly power, full employment, and ready factor transfer within countries and no factor transfer between countries. We have, instead, a world economy dominated by the monopoly or oligopolistic power of the large multinational enterprises, where few industries approach anywhere near the conditions of perfect competition, where domestic economies are highly specialised, where there is large-scale unemployment and little factor transfer within countries but important transfers between countries. In these conditions, we have to ask whether the case for free trade should be questioned and that for import controls looked at more seriously.

If a country does decide that, in its own case, the possible benefits of controls outweigh the dangers, the following arguments can be advanced in favour of the use of protectionist measures.

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(a) Protection of "Infant" Industries

"Infant" industries need protection from foreign competition until they become strong enough to stand on their own feet. They are those industries which are being introduced to a country where the industry has not previously been present. The absence of external economies makes the costs of production high for new industries. In other countries, which are in competition with the country imposing the duties, the industries are already in existence and are, therefore, enjoying external economies of scale. As the infant industry grows, skills and productivity, as well as external economies, will grow – so increasing the industry's relative competitive advantage.

Domestic pressures for protecting home industries are always greatest in periods of economic recession and high unemployment as in the early years of the 1990s. There are also many people within the European Union who would like to try and avoid the challenge of the emerging industrial nations of Asia by erecting high barriers against the entry of goods from non-EU countries. On the whole, the opponents of increased trade protection have managed to contain the protectionist pressures while the establishment of the World Trade Organisation should ensure that these temptations will continue to be resisted and that further progress will be made towards reducing the present barriers.

(b) Protection Against Dumping

It is sometimes suggested that measures are needed to protect a country against the dumping of foreign goods. "Dumping" means the application to international trade of the methods of a discriminating monopoly. Goods are sold abroad at a lower price than at home, partly in order to avoid swamping the home market with a surfeit of goods which would bring down home prices, and partly in order to kill off foreign competition by undercutting it on its own markets. The alternative is "stockpiling", which means the goods may be released in times of need, or sold over a number of years under a controlled agreement. Dumping is generally looked upon as an unfair trading practice and, for that reason, industries fearing competition from dumped goods ask for tariff protection.

Here again, however, some objections may be raised. The main objection is that many industrialists begin to complain if they have to face competition from foreign goods which are cheaper than their own – but this does not represent dumping if the exported goods are sold at the same prices at which they are available in their home markets. The home producers may simply be inefficient. Also, when dumping takes place, the imposition of protective duties may be too slow a weapon, since, by the time the new duties have been introduced, the dumped goods may already be in the country. The European Economic Community member countries and the USA came to a special agreement in 1970, for example, to prevent the dumping of grain surpluses.

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(c) Increase in Employment

Controls cut imports and, therefore, there may be an increased demand for home-produced goods, and a resulting increase in employment. Income is directed away from foreign exports and towards domestic producers. On the other hand, if there is already full employment at home, such measures will tend to be inflationary in their effects.

(d) Improvement of the Terms of Trade

The imposition of import duties may lead to an improvement in the terms of trade, particularly where the goods taxed are in inelastic supply and elastic demand.

(e) National Security

"Key industries", such as agriculture and those producing goods which are important for the defence of the country, must be maintained for security reasons. A wide diversity of industries is important to a country, as it renders her independent of foreign supplies which may be jeopardised in the event of war.

(f) Improvement of the Balance of Payments

This point has also been discussed already but you should remember that the balance of payments is not only concerned with imports but also with exports, and the government will have to consider what effect the imposition of protectionist measures by a country will have on that country's exports.

(g) Possibility of Shifting the Burden

This is a hope which concerns any tax – i.e. that someone else will pay it. We have shown that this is likely to happen only if the foreigner's need to supply us is much greater than our own need to acquire his goods. This will be the case where foreign supply is inelastic – i.e. does not respond readily to price changes – while our demand for imported goods is elastic. If the higher price resulting from the imposition of import duties were to be passed on to the home consumer, his purchases would drop substantially and the tendency would be to make up for the higher duty by reducing the import price of the commodity. If the price to the consumer in the importing country rises by less than the full amount of duty, the balance of the duty has, in effect, been borne by the exporter, in the form of a lower price which he has received for his goods.

(h) Equalising the Costs of Production

It is sometimes suggested that competition from foreign producers who enjoy lower production costs is unfair, and that import duties should be levied at rates which would equalise costs, so that foreign and home producers would then compete on equal terms. This argument is quite nonsensical. International trade takes place just because there are comparative cost differences between different countries. If every country were to impose duties equal to existing cost differences, international trade would practically disappear.

There is also a practical argument against the theory outlined above. Cost differences may mean one of two things, they may refer to basic costs – i.e. differences in wage rates, or in rents, or interest rates – or they may refer to total costs.

The fact that, for instance, wages in a certain country are lower than in the United Kingdom does not necessarily mean that either wage costs or total costs in that country are lower than in the UK, since labour may be less efficient than UK labour, or it may be wastefully employed. Moreover labour is only one factor of production and its productivity usually depends on both managerial skill and the availability of modern capital equipment. Countries with low wage

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costs are often short of capital so that finance and equipment are frequently scarce and expensive. Countries with high wage costs but with high levels of labour and managerial skills and ready access to capital need to adopt different production methods from those applied in low wage cost countries.

Dangers of Trade Protection

The case against import controls is based on the following factors.

(a) Continued Faith in the Benefits of Free Trade Based on Comparative Cost Advantage

It can be argued that multinational enterprise, unemployment and specialised production represent modifications and imperfections only, and do not change the fundamental truth and importance of the benefits to be derived from international specialisation and trade. According to this view, efforts should be made to reduce the harmful effects of these – including efforts to reduce the monopoly power of large multinationals – and to increase trade, not to interfere with it.

(b) The Fear of International Retaliation

If all countries sought to reduce, and impose barriers against, imports total trade and production would fall, and unemployment would increase in all countries. Far from being a cure for unemployment, the spread of protectionism would increase it.

(c) Reduction in Industrial Efficiency

Those who believe that competition is the main incentive to business efficiency fear that protecting domestic industry against foreign competition would make firms less able to compete in world markets. The longer controls lasted, the more they would be needed, and the country would lose the variety of products provided by imported goods. Its standard of living would fall with this loss of choice and as increasingly inefficient firms required more and more resources to produce less and less.

Those who favour import controls argue that the case for free trade based on comparative advantage has been weakened, as already explained. They also argue that controls are no more harmful to world trade than the other measures which have been used in the past to correct balance of payments deficits, and much less harmful to domestic production. They may even be less harmful than deflation and devaluation, because they can be more discriminating. Deflation harms all forms of production. Deflation also damages domestic industry by reducing total demand, and this tends to harm some industries more than others. When demand rises again, these industries may not be able to recover, with the result that imports rise to an even greater extent than before. Successive deflations produce ever-increasing imports.

Import controls can be applied more heavily in those industries where the home firms are weakest and, it is argued, help them to recover their lost markets. Where home industries have been completely lost or very seriously weakened by past policies, it is suggested that state aid may be necessary to bring about recovery and, in these cases, continued protection would be needed until they were strong enough to compete again in world markets.

Supporters of import controls argue that, as the total effect is no worse than other measures to reduce balance of payments deficits, there is no reason why the danger of retaliation would be any greater. They also suggest that controls have the effect of reducing the propensity to import rather than the absolute level of imports, and so allow the economy to expand more readily. Any reduction in the marginal propensity to import will increase the value of the national income multiplier. An

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expanding economy could actually permit more total imports – rather than less – as a part of increased total consumption.

D. METHODS OF PROTECTION

A country which has nevertheless decided to restrict the freedom of international trade can use many methods. The main methods of protection are:

- tariffs (customs duties)
- import quotas
- embargoes
- voluntary export restraint (VER)
- export subsidies and bounties
- non-tariff barriers applied through safety rules and administrative controls
- exchange control.

Tariffs

Tariffs – or customs duties – are taxes on imported goods and so, of course, they raise money for the government. The object is to raise the cost of the imported goods so that importers have to raise prices or accept reduced profits. The imports thus suffer a competitive disadvantage compared with home produced substitutes. The tariff raises the price paid for the imported good by the domestic consumer and reduces the quantity purchased – thus, domestic producers supply more to the market, and foreign suppliers provide less, than if there were no tariff.

Customs duties may be imposed by a specific duty of so much per item or per tonne or *ad valorem*, which is by value. Specific duties work best for goods of low value and high weight like iron. Ad valorem duties obviously have more impact as goods increase in value, so they are best applied to items like jewellery and those whose prices change often.

The amount received by foreign exporters may be the same or less than before the tariff depending on the elasticity of demand. The more price-elastic the demand for the product, the more the producers have to absorb the effect of the tax to prevent a loss of sales which would cause them a loss. The effects of a tariff are shown in Figure 17.1.

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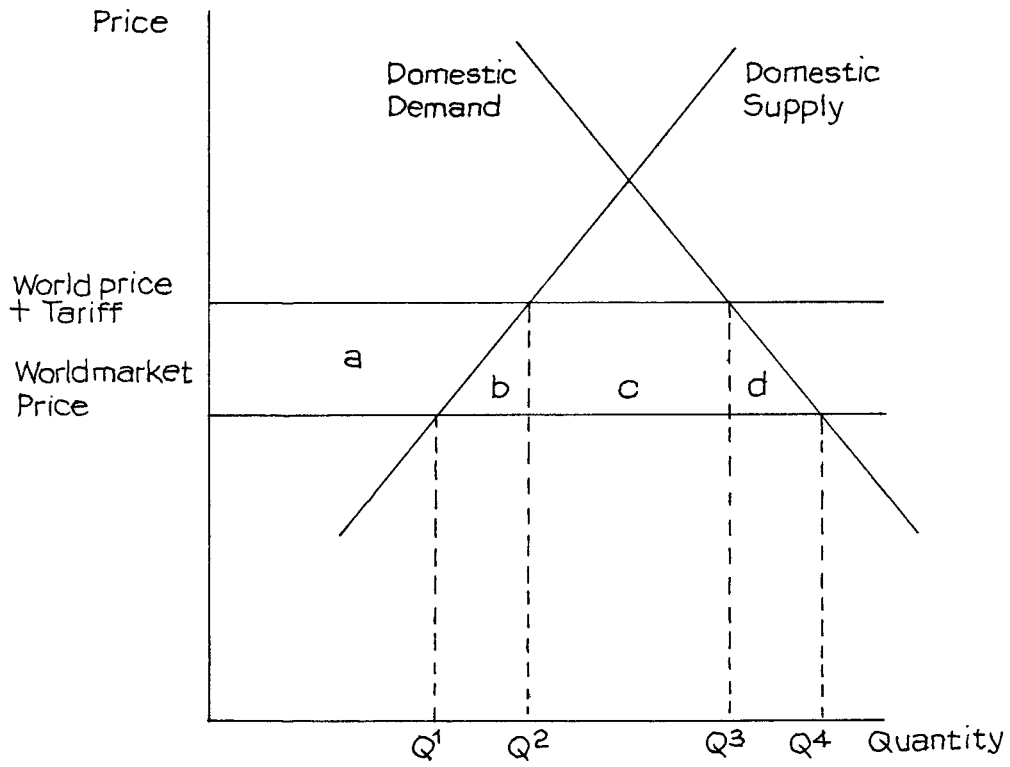

Figure 17.1: The Effects of a Tariff

The gross cost to consumers of the rise in price caused by a tariff is the sum of the areas a + b + c + d, where:

- a represents a redistribution of income from consumers to producers
- b is the production cost arising for the misallocation of domestic resources
- c is the tariff revenue paid by consumers to the government, and
- d is the loss of consumption in the country imposing the tariff.

Areas b and d added together give the net costs of tariff protection to the economy. Tax and the additional domestic supply remain in the economy.

Not only do consumers pay a higher price and buy less but there is also some loss of economic welfare because they are forced to buy the domestic product, which restricts their choice.

Quotas

Quotas are restrictions on the quantity of a product which can be imported.

While the purpose of protective customs duties is to restrict the import of goods by making them more expensive to the home consumer in order to persuade him not to buy them, the purpose of import quotas is to lay down the exact quantity of a commodity which may be imported in a given period of time. Import quotas may, but need not, be accompanied by customs duties. If they are, it means that the limited amount of goods which may be imported is subject to the duty as well. Quotas first came into prominence during the 1920s and 1930s but they have also been widely used since the Second World War.

The reasons why some countries prefer to substitute quotas for customs duties or to strengthen protective duties by quotas are as follows:

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(a) Protective duties were sometimes considered to be insufficiently protective. This was particularly the case where the duty was a specific one rather than one related to the value of the imported goods. A specific duty is one which is imposed at so many pence (or pounds) per unit of commodity. At a time of quickly-rising prices, the specific duty becomes a declining proportion of the price of the commodity and it, thus, loses much of its protective value. Frequent changes in the rate of duty may be difficult to administer, and would also lead to strong protests from the countries importing the goods. Thus, a quota appears to provide the simplest solution to the problem.

(b) Quotas may generally be altered by administrative means – e.g. by an order by the Department of Trade and Industry. Customs duties are taxes and, as such, they are subject to parliamentary control. If it is desired to strengthen or to relax protection, a change in customs duties might be hotly contested in Parliament, while a change in quotas could be brought into effect without much ado.

(c) Many pre-war international trade agreements expressly prohibited the participating countries from changing their existing customs duties, and the imposition of quotas was one way of getting round this restriction.

(d) Quotas also lend themselves admirably to a policy of discrimination. With customs duties, the same rate of duty will, normally, be payable on goods of a certain kind, irrespective of the country from which they come. A country wishing to reduce the volume of her imports, however, may wish to cut down imports from a particular source – e.g. because the country concerned has a so-called "hard currency", i.e. a currency which is in short supply. This end may be achieved by a quota scheme under which different countries are allocated different quotas, the quotas for goods from countries with "soft currencies" being rather more generous than those for countries with "hard currencies".

(e) A mistaken argument in favour of quotas, which is occasionally heard, is that quotas, unlike customs duties, will not lead to higher prices. This argument is wrong because, if a quota is effective in the sense that it lowers the supply of certain imported goods, these goods will be in scarce supply in relation to the demand for them, and this situation will, inevitably, lead to higher prices.

Embargoes

An embargo is a total ban on imports or exports, usually applied for political reasons. A recent example is the United Nations embargo on exports of armaments to Iraq and on oil exports from Iraq.

Voluntary Export Restraints

VERs are quotas operated by exporting countries. They are usually applied to avoid the more severe effects of government-imposed tariffs and quotas, thus Japanese car manufacturers operate a VER on car exports to the UK and the EC. A VER tends to prevent new firms from entering the export market. The permitted exports tend to be the more expensive versions as this earns the most profit from a restricted quantity.

Export Subsidies and Bounties

These can be of the "visible" type, where a bounty is paid to exporters by the government according to how much they send abroad; but GATT rules generally forbid bounties, so "hidden" subsidies tend to be provided instead. For example, exporters get government insurance against political and commercial risks at very low rates, tax concessions on equipment used for making exports and help with borrowing to finance export production.

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Non-tariff Barriers

This is a term used to cover a multitude of measures applied to restrict imports, especially where countries cannot use tariffs and quotas because they belong to GATT or a free trade area. They include oppressive safety measures like the USA requirement for destructive car tests which would require the whole annual output of a small specialist manufacturer to be crashed. France attempted to keep out Far Eastern video recorders by insisting they went through one small, remote customs post where there were bound to be very long delays in clearing them. In the 1970s Britain required importers to pay an advance deposit on all goods: this imposed an extra borrowing cost and pushed up the price of imports. Around the same time the UK had two rates of VAT, the higher rate applied to goods like motor bikes which were mostly imported.

The term is also applied when discussing trade liberalisation, to all restrictive measures except tariffs. This is because tariffs are the only measure to be visible and measurable with accuracy. Agreements to reduce tariffs are pointless if duties are replaced by other measures which are difficult to police.

Exchange Control

Control is enforced in many countries by requiring all buying and selling of foreign exchange to be done through the central bank; the currency is not convertible into other currencies of the holder's choice. The government can then allocate foreign exchange to whichever activities it considers should have priority. This is effectively the same as a quota and is subject to the same dangers.

Governments can avoid some of the problems by auctioning off foreign exchange, as was done in Nigeria. The amount released to auction is determined by the state of the balance of payments. Governments have also set multiple exchange rates – for example the South African rand had a commercial and a financial rate until 1995 – and they can alter the value of the currency to make exports cheaper and imports dearer. The majority of countries have retained some form of exchange control; very few have followed Britain's 1979 example of abolishing all exchange controls and all restrictions on the movement of capital.

E. INTERNATIONAL AGREEMENTS

Trading Blocs

Countries can join together in several different ways to obtain the benefits of free trade among themselves while keeping others out. What is included in the agreement depends on the political will of the members; they may be unwilling to expose agriculture to competition, or to accept the full degree of international specialisation which goes with completely free trade. Giving up some control of their national economies makes it difficult for countries to enter into these agreements.

There are effects on the direction of trade – some countries benefit and others lose. These blocs all have tariff walls which discriminate against imports from non-members. Trade may be diverted by the tariff from a low-cost producer country which is a non-member to a high-cost member state. The effects of trading blocs have to be carefully evaluated to see if they really do benefit the citizens of the member countries and not just protect inefficient producers.

(a) Types of Bloc

The types of international integration are as follows.

- In **preference areas** countries agree to levy reduced, or preferential, tariffs on imports from qualifying countries. The European Community operates a system of preferences through its Association Convention, covering the former colonies of member countries.

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- **Free trade areas** are where the members abolish tariffs on trade between themselves, but each country keeps its own tariff on imports from outside the area. This makes it necessary to have *rules of origin* to prevent imports being brought in through the lowest external tariff country. The North American Free Trade Area and the Association of South East Asian Nation are examples.
- **Customs unions** have free trade within the area with a common external tariff.
- **Common markets** are customs unions with additional measures to encourage the mobility of the factors of production and capital. The EC opened its common internal market on 1 January 1993. Citizens of the member countries can live and work anywhere in the EC, capital can move freely and there is a continuing programme of harmonisation of standards and regulations to permit the free flow of goods and services. The 1991 Maastricht Treaty agreed to a programme to move to economic and monetary union and to take the first steps towards political union by agreeing common foreign policies.

(b) Effects of a Bloc

Creating a trade bloc has two major effects:

- **Trade creation –** when a country which previously placed tariffs on imports from another member and produced the goods itself, switches to buying such goods from another member country, this creates trade (although it may cause structural unemployment).
- **Trade diversion**, when the removal of barriers inside the bloc results in trade being switched from a more efficient producer outside the union to a less efficient one inside.

In addition to the benefits of trade creation, there are other benefits from setting up a free trade area.

- **Economies of scale** develop because the member countries now have a much larger "home" market.
- **Specialisation** in products having a comparative advantage creates greater opportunities of economies of scale.
- **Greater efficiency** is enforced because the members' industries are exposed to more competition.
- **Consumer welfare** is increased as people have more, better-quality and cheaper goods, with more variety, to choose from.
- There is more **political co-operation** as the member countries develop common policies and become more dependent on each other.

Against this must be set loss of political and economic independence, because the countries must take into account the policies and rules of the union when deciding their own policies.

The larger the trading bloc, the greater the potential benefits because of the better chance of including the lowest-cost producer and the bigger opportunities for economies of scale. There will be more opportunities for trade creation whereas there will have been a lot of duplication, and large cost differences between the production of the members, before the union. There will be more to be gained from specialisation. This is especially the case when there were high tariffs before the union; there would then have been a lot of domestic production for relatively

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small markets. The lower the external tariffs imposed by the union, the better, as this reduces the possibilities of trade diversion.

The European Community

In 1952 Belgium, France, Germany (West), Holland, Italy and Luxembourg joined in the European Coal and Steel Community (ECSC). A major aim was to integrate Germany both politically and economically, so as to prevent further conflicts. All countries hoped to benefit from expanded trade and faster industrialisation. In 1958 the six countries went on to establish the European Atomic Community (Euratom). There are still certain initiatives which operate under these treaties, for co-operation in research, retraining, and other regional development measures to assist former coal and steel areas.

It was recognised that there would be rationalisation of industry as free trade permitted comparative advantage to work. The Belgian coal industry duly disappeared; steel rationalisation is still being discussed in the European Community; Germany keeps its coal industry going only through massive subsidies. Unless the political will is present to accept structural economic change, free trade agreements will never secure the potential benefits.

The six countries realised that greater benefits could be obtained from closer economic integration, and in 1958 they formed the European Economic Community. Shortly before that, Britain and the other West European countries had tried to get the six to join in a large free trade area. In this each member would be free to trade with non-members as it wished, while getting the benefits of free trade within the area; there would be no loss of political sovereignty. This plan broke down because France would not agree.

The result was that Austria, Denmark, Iceland, Norway, Portugal, Sweden, Switzerland, the UK and Finland as an associate member, formed the **European Free Trade Area (EFTA)**, with Liechtenstein joining later. Their neutral status, and Russian opposition in the cases of Austria and Finland, prevented most of these countries from wishing to join in a political association. The objectives of EFTA were purely economic; the treaty excluded agriculture. Each country could pursue its own economic policies and impose its own restrictions on trade with non-members. Rules of origin were devised and enforced to cover the movement of goods from outside the free trade area. The countries soon found that free trade benefited their industries, but some also wanted access to a bigger market and free trade in agriculture with the EC countries.

There were attempts by Britain, Denmark, Norway and Ireland to join the EC but these were blocked by France until 1973 when these countries, except Norway, where the move was rejected in a referendum, joined the original six in an expanded common market. The remaining EFTA countries continued their association and signed a free trade agreement with the EC.

The EC continued its development with Greece joining in 1981, and Portugal and Spain in 1986, after they had returned to democracy. Greenland, which had joined the EC as part of Denmark, left on becoming independent in 1985 and became an associated territory. (The Treaties do not contain any provisions for withdrawal.)

In 1993 the EC and the EFTA joined in the European Economic Area (EEA), though Switzerland voted in a referendum to stay out. This followed on the establishment of the Single European Market (SEM) which created an area without internal frontiers in which there is free movement of goods, people and capital. The EFTA countries could join in most of the aspects of the SEM, creating the largest single market in the world with 19 countries and 380 million people.

During 1993 Denmark and Britain ratified the Maastricht Treaty of 1991, which had set out a timetable for political and economic union, although both countries retained opt-out rights. This

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cleared the way for Austria, Finland, Norway and Sweden to apply to join the EC. A referendum in Norway voted to stay out, but the others joined the community in 1995, making the membership 15 countries. Also in 1995, Liechtenstein voted to join the EEA.

Turkey, which signed an association agreement in 1964, is still awaiting a decision on membership, and Cyprus and Malta also have long-standing applications. In addition, several East European countries have applied for full membership, and the EC is gearing up for considerable expansion in the future.

The EC has association agreements with countries having former colonial ties with member states: these provide for exemption from the common external tariff, and for financial and technical assistance from the European Development Fund. The Lomé Conventions have expanded duty- and quota-free access to 66 African, Caribbean and Pacific countries. Co-operation agreements are less comprehensive than association agreements, as they provide merely for intensive economic co-operation; they have been signed with Mediterranean countries.

The original aims of the ECSC, Euratom and EEC treaties were:

- to preserve and strengthen peace
- to achieve economic integration through the creation of a large economic area
- to work towards political union
- to strengthen and promote social cohesion in the Community.

Since then, a numbers of measures have been taken to develop these aims and give form to the concept of a common market.

(a) The Single Market

The **Single European Act** of 1986 built on the dismantling of internal barriers, the common external tariff, freedom of movement within the Community and a system to ensure that competition was not distorted. The Act came into force on 1 January 1993, by which time many of the proposals in the Act had been achieved. The Act covered the following.

- Removal of physical barriers to trade – internal customs controls, immigration and passport controls and speedier transit of goods. Internal customs duties were abolished in 1968.
- Removal of technical barriers to trade – agreement on basic quality and safety standards, general acceptance of national testing procedures, opening up of public procurement to EC-wide tendering, and dismantling of any remaining barriers to the free movement of workers, services and capital, including mutual recognition of educational qualifications.
- Removal of fiscal barriers to trade – removal of fiscal checks at frontiers (there is one VAT documentation system EC-wide), approximation of indirect taxation rates.
- Consumer protection – harmonisation of public health standards and of consumer protection.
- Lessening barriers to competitiveness – the creation of an improved EC system for vetting mergers and takeovers and government subsidies.

It was estimated that economies of scale, job creation and stabilised prices arising from the creation of the Single European Market would add 5% to Europe's industrial output; further benefits would come from scrapping frontier formalities.

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There is still a lot to be done to free the market from restrictions. Air traffic is subject to rules which prevent airlines from picking up passengers at intermediate stops. Freedom of entry to the telecommunications market is impossible in most countries where it is a state monopoly. However, the Act did remove 300 restraints and provided for further freeing of trade. Countries can retain border checks for criminals and illegal immigrants.

(b) The Treaty on European Union (Maastricht) 1991

The Maastricht Treaty, which adds to and amends the three original treaties ECSC, Euratom and EEC Treaties (which remain in force), gives a collective political identity to the Community. The main provisions are:

- A common European currency by 1999 (which we have already touched on and will come back to again shortly)
- Special rules on social policy because the UK exercised its right to opt out of the relevant chapter of the Treaty
- Provisions for a common security and foreign policy
- Rights to citizenship of the European Union (EU) (also, for example, EU citizens not living in their home countries can vote in local elections in the country in which they live)
- Provisions on co-operation in the fields of justice and home affairs – for example, there is a move to set up a police force co-ordinating body which the French stopped at the last minute in 1995.

The last three are additions to the existing treaties.

Germany and France particularly wanted the Social Chapter on workers' rights to be passed, but the UK originally opposed it on the grounds that it would reduce Britain's competitiveness (although the new Labour Government signed up to its provisions in 1998). The Chapter covers minimum standards for health and safety, working conditions, sex equality, information and consultation of workers; it does not cover pay, rights to form worker or employer associations, or rights to strike or lock out labour.

One slightly confusing aspect of the Treaty is that there are, strictly speaking, two names for the same group of countries – European Community when talking of the common market, and European Union when discussing the political union.

(c) Common Policies

In a number of areas the member states have transferred sovereignty to the Community and given it power to make and implement its own policies. These include the following.

- Almost 10% of the total EC workforce is employed in agriculture, the proportion ranging from 2% in the UK to 26% in Greece. It is a powerful political lobby. The **common agricultural policy** (CAP) guarantees a minimum price to farmers through intervention to buy surpluses when the market price drops below the target price. Threshold prices are set for imports, which are generally higher than world market prices. A levy is placed on imports to bring them up to the threshold. Agriculture takes 65% of the Community's budget.

  The CAP has created the notorious wine lakes and butter and beef mountains, as over-production was bought and placed into intervention stores, later to be sold off cheaply to the Soviet Union. Reform of the CAP has led to strict quotas for production and

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payments to farmers to leave land fallow; pricing of the reduced output is now more market-oriented. There is a continuing programme of reform, which was given an added impetus by the GATT agreement on reducing subsidies.

- **Competition policy** lays down rules for free competition. The European Commission and the European Court of Justice punish with heavy fines abuse of a dominant market position to fix prices, to limit output, or to restrict market access or technical development. The policy also bans or supervises national subsidies to firms or industries, to prevent them from gaining an unfair advantage. International mergers which would give a firm a dominant position are scrutinised by the Commission.
- **Social policy** carries out the aims of the Social Charter. It sets aims for use of the Social Fund, which gets about 8% of the budget. The main priority is job creation. The Fund provides basic vocational training and specialist training in other areas, for example in information technology and for the disabled. There is a regional dimension to the Social Fund spending.
- **Regional policy** controls the use of the Regional fund to target assistance towards national schemes, so as to stimulate investment and create jobs in less developed regions and reduce the disparities between rich and poor regions. Regional policy gets about 11% of the budget and targets regions with lagging development, areas affected by industrial decline, combating long-term and youth unemployment, and structural adjustment of agricultural areas.
- The **common commercial policy** is concerned with the Community's relations with the rest of the world and includes common customs tariffs, customs and trade agreements, liberalisation of trade with non-member countries, and export policy. The EU negotiated as a unit in the Uruguay Round of GATT talks on trade liberalisation.

(d) The Single Currency

As early as 1970 the EEC had a plan and a programme aimed at achieving economic and monetary union by 1980. By 1974, the attempt had failed, although the development of the European Monetary System (EMS) in 1979 gave a new impetus to monetary union and, until its breakdown after 1992, the monetary discipline it imposed appeared to bring the economies of the member states closer to convergence.

The Maastricht Treaty laid down rules and a timetable for monetary union through a series of stages, culminating in the establishment of a common currency and associated financial institutions and policies. The key stage was reached in 1998 with confirmation of the countries meeting the convergence criteria and EMU started on 1 January 1999. The convergence criteria were that:

- planned or actual government budget deficits should not exceed 3% of GDP at market prices
- the ratio of total government debt should not exceed 60% of GDP at market prices
- one-year inflation rates must be within 1.5% of the three best performing economies
- one-year long-term interest rates must be within 2% of the three best performing economies
- the currency must have remained within the narrow ERM band for the two previous years without devaluation.

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Some softening of the requirements in the Treaty, allowing for the debt ratio to be reducing and for the annual deficit to be ignored if it is temporary, enabled more countries to meet the criteria. (Ironically, Britain – which has reserved the right to opt out and will hold a referendum on future membership – is one of the few nations able to meet all the criteria.)

The European Central Bank, located in Germany, took over from the European Monetary Institute and became responsible for monetary policy as part of the European System of Central Banks (ESCB), the other members being the national central banks. The European Central Bank has to ensure that the ESCB carries out the tasks imposed on it by Maastricht, namely:

- to define and implement the monetary policy of the EC
- to conduct foreign exchange operations
- to hold and manage the foreign exchange reserves of the member countries of the EC
- to promote the smooth operation of the payments system for cross-border monetary transfers
- to contribute to the smooth conduct of policies concerning prudential supervision of credit institutions
- to ensure the stability of the financial system.

There will be a four year interim period before the European Central Bank authorises the issue of bank-notes and coins which would be the sole legal tender (the Euro) in the member states.

The jury is still out on the success of European Monetary Union. There should be benefits to industry and commerce of all countries in the EC using the same currency, with the problems and costs of doing business in two currencies disappearing. This should provide an incentive to trade.

The main debate has been over the implication of a single currency that there would have to be an integrated fiscal policy to develop and maintain the economic convergence necessary. This implies that countries would have to give up control of their economic policies. The policy stance will be likely to be anti-inflationary and may mean high levels of unemployment – with strong economies being obliged to pay for unemployment in the weak, so there would be a transfer of resources from high-employment countries to the others.

The role and status of the Euro on the world's money markets is also unclear. It has not fared well over the first year of its existence, although its loss of value against other currencies has made "Euroland" highly competitive against other countries.

Further, by the time that EMU is fully implemented in 2003, there may well have been an enlargement of the community, and it is unclear how the concept will fare when there are over 20 member states.

GATT/WTO and the Liberalisation of Trade

In 1944 the countries which established the United Nations met at Bretton Woods to set up three new bodies with the objective of improving the workings of the international economy after the war. These were the International Bank for Reconstruction and Development (The World Bank), the International Monetary Fund (IMF) and the International Trade Organisation. The first two of these were approved:

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- The World Bank has funded major projects, social development and private enterprises in developing countries by using the capital subscribed by the member countries as collateral for its borrowing.
- The IMF holds substantial resources, paid in members subscriptions, which can be used to help countries with balance of payments difficulties. Its establishment represented an amazing transfer of sovereign powers by countries to an international body – during the period of fixed exchange rates up to 1972, it was given control of exchange rates.

The International Trade Organisation, however, was too much for the 23 countries to accept – they would not give up sovereign power over their trade. The result was the General Agreement on Tariffs and Trade (GATT), which has no controlling powers but has attempted to get countries to agree to liberalise trade through a series of conferences.

Trade liberalisation has been carried forward in a series of GATT Rounds (of talks) which started in 1947 and reached the eighth, the Uruguay Round in 1986. By that time, the average level of tariffs had been reduced from 40% to 7%. GATT had also had considerable success in ending trade discrimination, but several problems remained where major countries and groups had entrenched positions.

There are now over 100 members who agree to abide by the "most favoured nation" rule, which means that one member which grants trade concessions to another agrees to extend them to all members of GATT.

The Uruguay Round was carried on in a series of meetings since it started in 1986, but by 1993 had failed to make progress on certain vital areas like agricultural subsidies and protection for textiles, which are of interest to developing countries, and intellectual property (patents, etc.) and trade in services where the developed countries wanted protection.

However there was a last-minute agreement in December 1993 which went far beyond anything which could have been expected in 1986. The new deal came into force in 1995, eliminating tariffs on 40% of manufactured goods and reducing others substantially. Non-tariff barriers were also reduced and a new transparency in international protection established, as easy-to-hide non-tariff barriers were replaced by published tariffs. A new framework of rules on subsidies, trade restrictions and public purchases was agreed, agriculture was brought fully into GATT for the first time, and trade in intellectual property was also be covered for the first time, giving protection to patents, copyright and trademarks. The French managed to exclude audio-visual services from the deal and the USA was unwilling to permit the inclusion of maritime services. Financial services were only partly liberated, with a reciprocity rule applying between countries so that any liberalisation by one partner has to be matched by the other.

Despite these limitations, the agreement represents the largest-ever liberalisation of trade and is expected to make the world $6 trillion wealthier – developed countries benefit from the removal of barriers to services, and developing countries from freeing trade in agriculture and textiles. More optimistic analysts predict that the agreement could create over 400,000 jobs in the EC by the year 2005.

For the longer term, the most significant development may have been the transformation of GATT into the new World Trade Organisation in 1993, with real powers to police protective practices. The WTO was, though, immediately faced with a trade dispute between America and Japan over trading practices and another between America and China over intellectual property, and has been dogged by

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disputes about the influence of developed countries and multinational companies, and under-representation of the interests of developing countries. This has meant that further trade liberalisation has been limited, although a major agreement was concluded on telecommunications in 1997.

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Study Unit 18

Foreign Exchange

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A. INTERNATIONAL MONEY

The Need for International Money

We have seen earlier in the course that anything can serve as money, **as long as it is accepted as money**. It will be accepted only as long as it can be readily used to purchase real goods and services. Money, therefore, ceases to have any value as money when it cannot be easily traded for real goods.

The area of acceptability, thus, becomes extremely important for the value of any form of money, and this is a point of very great concern for matters of international finance and trade.

Therefore, when one country sells goods to another, it wishes to be paid in a form of money (currency) which it can readily use to purchase its own goods elsewhere, or which it can change into its own currency to pay its own workers and suppliers at home.

You might think that it would all be a lot simpler if every country in the world used exactly the same currency, which would then be universal, and which would not be identified with any one nation.

Gold – its Use and Limitations

In a sense, there is such a form of money which is universally acceptable and which is not associated with any one nation. This is gold, which has been used as money in almost every part of the world since the dawn of civilisation. It has all the qualities required of money, and it is noticeable that, whenever a country's financial or political system seems to be in a state of collapse, those able to do so in that country abandon "paper money" in favour of gold which, if they can take it with them to another country, is readily acceptable there. Some international trading contracts are also arranged in terms of gold, and most countries keep at least part of their reserves in gold, the world price of which is a fairly good indicator of the general state of political tension in the world.

However, there is just not enough gold to meet all the world's trading needs, and the natural supply of gold is very unevenly distributed between countries. If gold were the only international form of money, those countries where gold is found would have a degree of political power that other countries would find unacceptable. Moreover, because gold, as a physical good, is in fixed supply in any given period, any of the metal that is held in reserve is withdrawn from circulation – and, thus, it cannot be used in exchange. Some countries, such as the USA, have such a large share of total world supplies in their reserves that they can influence its price (value in exchange for goods) by their sales in world markets.

Gold – and, indeed, any other precious metal – does not provide an easy solution to the problems of international currency.

Uses of National Currencies

An attempt has been made to produce a form of "paper gold", to serve as a genuinely international currency. This resulted in the "Special Drawing Rights" (SDRs) produced by the International Monetary Fund, but it has been found difficult to reach agreement on the issue and control of SDRs and they have only a limited use in exchange and as a reserve.

The problem with any form of international currency is that there must also be some system of international control which all countries will accept. This immediately introduces political implications which, so far, have proved impossible to reconcile.

Consequently, the great mass of world trade has to be conducted in the normal national currencies of the world. Some of these are more acceptable than others, chiefly because some countries have

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stronger economies than others, and some governments have firmer control over their national economic and financial systems than others. For simplicity, we can identify four classes of currency used in international trade.

(a) The United States Dollar

The US dollar is the most-widely-acceptable currency, and it is used throughout the world. Many of the world's commodities and services are valued in dollars. They include oil and hotel charges. Dollars are also widely used in the internal trade of many countries, whose own currencies are very weak because of severe domestic inflation.

(b) Other Major Trading Currencies

The currencies of many of the other leading trading nations of the world have a wide acceptability, though not as universal and general as the US dollar. When the dollar itself is under pressure and losing some of its exchange value, one or more of these currencies becomes a refuge for international finance but no other country shows any inclination to encourage the use of its national money as a genuine substitute for the dollar. Among the main trading and reserve currencies in this group would be included the British pound sterling, the Japanese yen and the Swiss franc. We could also include here the Euro – the single currency of the European Monetary Union which, although not yet available as notes and coins, is used for the purposes of trade.

(c) Currencies with Limited Acceptability

Some currencies may be acceptable within a particular region. Most of the western European currencies are used in general European trade, for example, but there are also many that have almost no circulation or acceptability outside the national boundaries – and, often, are not too popular within the country either! Sometimes, a national government discourages international exchange involving the currency, as a means of keeping greater control and preventing the export of wealth. In other cases, the currency is too weak to support any external trade, or the official value in exchange for other currencies maintained by the national government is so unrealistic that no one who can possibly avoid it is willing to exchange foreign money at that rate.

(d) The "Basket" Currencies

These are currencies which are not the currencies of any nation but whose exchange value is based on a weighted basket of those currencies with which they are associated. The weights relate to the relative use of the various currencies for purposes of trade and international finance.

The main basket currency now is SDRs issued by the International Monetary Fund, although previously, the ECU (European Currency Unit) was the basis for certain transactions within the (old) European Monetary System

One of the advantages of using such a currency as a basis for valuing trading transactions even if actual payments are made in a national currency, is that the basket currency fluctuates much less than any one of the individual national currencies. This is because changes in its value are simply the weighted average of all changes among the underlying currencies and some of these are likely to cancel each other out – a falling currency could be balanced by a rising one. At present use of a basket currency for business trade and settlement purposes is restricted by lack of general availability and also by lack of any widespread awareness of the position – people generally feel happier to stay with a currency they know and understand.

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Trade may often be conducted by barter arrangements with some countries with weak currencies. For these agreements, some form of acceptable valuation is necessary – and, again, the basis of this tends to be the United States dollar, either directly or indirectly (e.g. through oil).

B. EXCHANGE RATES AND EXCHANGE RATE SYSTEMS

What Are Exchange Rates?

We have seen that various national currencies are used in international trade, and we must now examine a little more closely what is involved when one currency is exchanged for another. The exchange rate is the rate at which the national currency can be exchanged for the currencies of other countries. There is not one rate, therefore, but many, relating to all the different countries in the world. Some of the leading rates are shown in those banks which have a "bureau de change" – i.e. which can provide an over-the-counter service for changing currencies. However, the principal rate which is of interest to most countries is the one relating to the main currency in use in international trade – the $US. For simplicity, then, it is convenient to concentrate on the US dollar/pound relationship. If, for example, the rate is $1.20 = £1, then each £ can be exchanged for $1.20 (ignoring dealing and other costs of exchange). Thus, £100 = $120. If, however, the rate changes to $1.10, then £100 becomes worth only $110.

Effect of Exchange Rate Changes

Suppose there is a fall in the value of the pound in terms of US dollars, so that, say, in the space of a few months, the rate falls from $1.30 to $1.10. There is, then, an immediate effect on the prices at which traders are prepared to trade in international markets. Suppose, for example, that a manufacturer has a motor vehicle which he is prepared to sell, provided he receives £5,000. At the rate of $1.30 – and, again, ignoring transactions costs – he could sell the car in the USA for $6,500 (5,000 × 1.30).

However, when the pound falls in value and is worth only $1.10, he will now accept $5,500 (5,000 × 1.10), if he still wishes to receive £5,000. Thus, a fall in the currency value makes exports cheaper in foreign prices. Cheaper goods are likely to be easier to sell and, provided the increase in sales is proportionately more than the change in dollar price, exporters can hope to receive more **revenue** for their exports – hence, the use of devaluation to help in correcting a balance of payments deficit.

On the other hand, imports become dearer, and this will affect the pound price of goods imported from other countries. Suppose the vehicle manufacturer buys his steel from abroad and pays for it in $US. Each $1,000 worth of steel, which used to cost £769.23 (1,000 ÷ 1.3) now costs £909.09 (1,000 ÷ 1.1). Most manufactured goods contain materials imported from other countries, so that manufacturing costs inevitably rise following a fall in the exchange rate.

There will also be other effects. A high proportion of British food and many consumer goods come from overseas – and so they rise in price. Living costs are pushed up and workers seek wage increases in order to try to maintain their living standards. If they succeed, then labour costs rise, and also manufacturing costs – and prices are also likely to rise. Under circumstances such as these, it is highly unlikely that manufacturers will reduce their foreign prices by as much as the full fall in currency value. In our example, the motor manufacturer will want more than £5,000. We can see that the effects of currency changes are far-reaching, and not always too certain.

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The Formation of Exchange Rates

The exchange rate represents the price of the national currency and, like any other price, it is formed, ultimately, by the forces of supply and demand. These, in turn, are the result of the trade flows of imports and exports. In order to pay for imports priced, say, in US dollars, the United Kingdom has to earn dollars by selling British goods and services to other countries. The more Britain can export, the more dollars the country earns.

However, British firms want to receive their payments in pounds, and to obtain pounds to pay for British goods and services, foreign firms have to sell their own currencies in the markets for foreign exchange, and buy pounds. Thus, the greater the demand for British products in world markets, the higher is the demand for pounds in the currency exchanges. Conversely, the higher the demand in Britain for foreign products, the more pounds have to be sold to obtain the foreign currencies needed to pay for them. It is evident that one immediate cause of a change in currency exchange rates is the way the balance of payments is changing. If the balance is in surplus, then revenue from exports is greater than that paid for imports, and the supply of foreign pounds is high. Thus, the pound is likely to rise in exchange value. A persistent balance of payments deficit has exactly the reverse result. The weaker the balance of payments the weaker the pound is likely to be.

The views of traders and bankers about future movements in trade flows and currency exchange rates will also have an effect. For example, traders often have to hold large sums of money for a few days, or weeks, in anticipation of having to make large payments. They cannot afford to have money lying idle, so they lend it out in return for interest. They do not want to see the interest earned being lost through a fall in the exchange value of their money, so that any suspicions that the pound is likely to fall will persuade the traders that their money is more safely kept in some other currency. This reduces the demand for pounds and increases the demand for foreign currencies – and so, it adds to the pressure resulting from a weak balance of payments unless, as did the UK in 1989-91, the government tries to maintain an artificially high exchange rate through forcing up interest rates in order to attract sufficient foreign capital into the country to counter-balance the outflow of funds paid for imports.

The Purchasing-power Parity Theory

If the immediate cause of exchange rate changes is a change in the flow of trade, then we are forced to ask whether it is possible to identify influences on these trade flows.

Various attempts have been made to explain these, and one such attempt is based on the view that they are directly linked to changes in inflation rates – i.e. in the relative purchasing power of the various national currencies. This is often referred to as the “purchasing-power parity theory”. This theory states that the percentage depreciation of the home currency against a particular foreign currency can be expected to be equal to the excess of the home rate of price inflation over the other country’s rate of price inflation. In other words, it is held that changes in currency values reflect changes in the purchasing power of the various national currencies. If country A has a higher rate of inflation than country B, then its currency buys fewer goods and will, consequently, fall in exchange value in terms of the currency of country B, until B’s currency returns to the position where it will purchase roughly the same quantity of goods, in A, when converted to A’s currency, as it did before the price inflation. The theory is attractive but it is not entirely supported by the available evidence. It fails to take into account elements other than price which affect the demand for exports and imports. The theory also assumes perfect markets in currencies but, in practice, governments tend to intervene to defend exchange rates. Governments can influence the rate of interest offered to investors or depositors of money. Traders may be persuaded to leave funds in London in pounds, in order to earn high interest rates likely to more than compensate for any change in exchange value.

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In the long term, currency movements are most probably influenced by relative rates of inflation; in the short term this consideration can be outweighed by other influences such as interest rates, trade flows and political stability. You should also remember that, as in other markets, buyers and sellers are as much concerned with the future as with the present and the past. If the market thinks that a currency is likely to fall in the future it will anticipate that belief by selling now so that expectations can be self-fulfilling. This does not mean that the market is always right. Anticipations about future movements are based on past experience so that the market may not recognise that a fundamental shift has taken place until this becomes completely clear and then it may over-react. For example, between 1962 and 1992 Britain had a generally poor record in controlling inflation so that by 1995 currency markets remained sceptical about future inflation rates in Britain in spite of the declared intentions of the British Government and its relative successes between 1992 and 1995. Over a similar period Japan's economic record had been one of spectacular success so that the market continued to believe that its economic problems of the first half of the 1990s were likely to be temporary. It is quite feasible that the judgement of the currency markets was wrong in the mid-1990s for both countries. The currency traders risked losing a great deal of money if their beliefs were wrong and only future events will show whether or not they were correct.

Exchange Rate Structures

There are basically two types of exchange rate system – **fixed** and **floating** exchange rates. There may be variants on these, but the basic principles remain the same.

(a) Fixed Exchange Rates

It is very rare to have an exchange rate structure that is rigidly fixed. Some movement within a band either side of a central rate is normal. The more confident governments are that they can maintain the agreed rates, the narrower the band within which floating is permitted. A movement towards either the floor or the ceiling of the band requires action to correct the rate. The usual short term action is to change interest rates to attract – or discourage – capital movements but longer term action through taxation or a fundamental shift in government spending or policy priorities is likely to be needed. If the government is unable or unwilling to take action to restore the agreed exchange rate or if its action is unsuccessful then the rate will have to be changed. If member countries cannot agree on a satisfactory change the whole structure becomes unstable.

The problem with any "fixed" exchange rate structure is reconciling the desired level of stability with sufficient flexibility to allow changes to take place as economic conditions change. National economies are dynamic. They are subject to constant change. A system designed to prevent short-term fluctuations can easily block desirable long-term developments until the currency values get so out of touch with reality that a structural upheaval becomes inevitable.

Nevertheless there have been a number of important attempts to create exchange rate structures to provide the stability that business firms desire.

The longest, most comprehensive and for many years the most successful attempt was the Bretton Woods system which linked the main currencies to the United States dollar throughout the 1950s and 1960s – a period of generally rising world living standards and of considerable prosperity for the Western world. The European Community's Exchange Rate Mechanism sought to reproduce the Bretton Woods conditions with a roughly similar system of limited currency movements within defined bands, during the 1980s and 1990s in the lead up to the establishment of the single European currency. Supporters of such systems usually claim that:

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- they provide the stability and reduction in currency risks that traders need if they are to expand trade and production
- they oblige governments to pursue financially responsible economic policies designed to control inflation and curb the tendencies of communities to live beyond the means provided by their production and trading systems.

Opponents of fixed rate structures point out that periods of apparent exchange rate stability tend to be punctuated with intense speculative crises and periods of serious and damaging instability when finance markets realise that a major currency (usually sterling!) has become overvalued and they suspect that the government does not have the power to prevent a devaluation. A series of crises led to the abandonment of the Bretton Woods system in the early 1970s and a similar crisis led to the withdrawal of sterling from the ERM in 1992.

Opponents also point out that the only measures that governments can take to uphold the exchange value of a currency in the short term are extremely damaging to their domestic economies and further undermine long term confidence in the currency. A monetarist government will rely on high interest rates to keep capital in the country but these high rates can have a devastating effect on consumer demand and business investment as shown in Britain in the period 1989-1992. A Keynesian government would raise taxation and curb wages and other incomes and this would have a similar deflationary effect to high interest rates. Clearly a government seeking to maintain an overvalued currency will damage its own domestic economy, create high unemployment and destroy business firms. Living standards fall in the interests of an artificial currency stability which cannot be sustained for more than a short period.

Currency exchange rates represent the market price of a nation's currency. They are the international traders' valuation of the nation's production system. Stable exchange rates can only be achieved when economies are themselves stable, prosperous and competitive in world markets. A falling exchange rate is the symptom of an unhealthy economy. To prop it up artificially is like propping up a weak patient and pretending that the patient is fit and well. It is as dangerous to the economy as it is to a sick person and eventually all such pretences have to be abandoned.

(b) Floating Exchange Rates

When the price of the currency in terms of every other is set by demand and supply in the market, the country is said to have a freely floating exchange rate. If the demand increases and the supply remains the same, the exchange rate rises (appreciates); should the supply increase faster than demand, the rate falls (depreciates). There are no exchange controls and the government does not intervene in the market. Figure 18.1 shows how changes in demand and supply affect the exchange rate of a currency.

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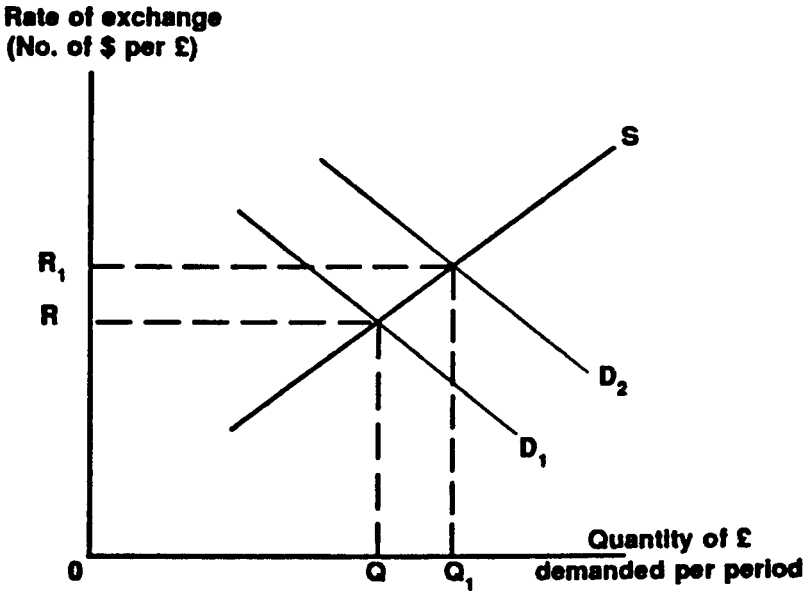

Figure 18.1a: The Effect of Increased UK Exports or More Investment in Britain

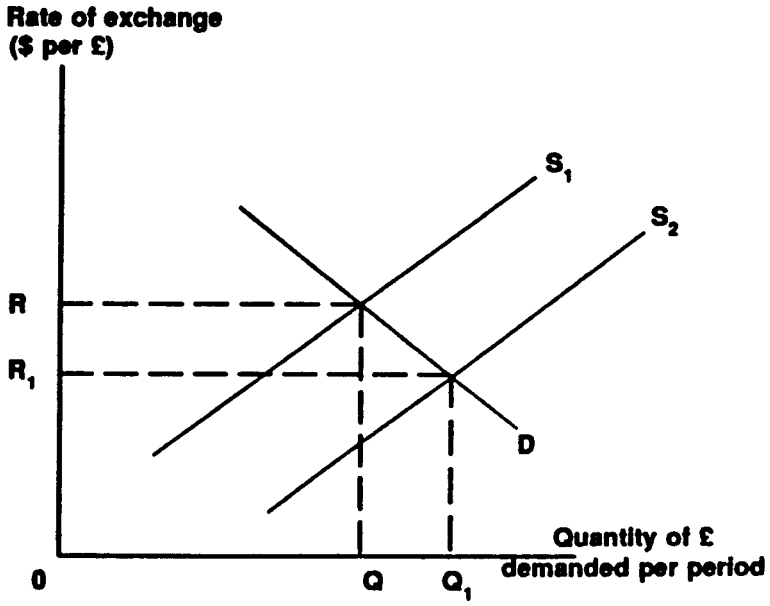

Figure 18.1b: The Effect of Increased UK Imports or More UK Investment Abroad

If Britain's exports increase there will be more demand from importers to exchange their currencies into sterling. The pound will also be in demand if people want to invest more in the UK, either in deposits and shares or in physical assets. More sterling will be supplied if importers in Britain are buying more from overseas and require more foreign currency. UK investment abroad increases the supply of pounds.

Just as in any other market, an increase in demand for pounds, with supply unchanged, will cause the price of sterling to rise, or "appreciate" – more francs have to be paid for each pound.

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Conversely an increase in supply, with demand remaining the same, would cause the currency to depreciate and each franc would buy more pounds – i.e. the price of a pound has fallen.

Governments have often attempted to manage floating exchange rates: this is called "**dirty floating"**. A government may intervene in the market to buy or sell its currency because it wants to hold down a rise in the rate, which would affect international competitiveness, or support a rate to keep foreign investments.

There have been attempts by the major industrial countries to influence the exchange rate of the US dollar. Many commodities and raw materials, especially oil, are priced worldwide in dollars; a rise in the value of the dollar for speculative reasons unconnected to trade could cause inflation. When, in 1991, the dollar rose by a quarter against the deutschmark, the G7 (the seven most industrialised nations) took concerted action to stem the rise by central bank intervention to sell dollars. In 1995 the dollar was falling against other currencies because of fears about the effect of the very large US government deficit and the political situation; this led to a flight into the deutschmark, a rise in its rate and a depreciation of other currencies. The effect is to make the exports of appreciating countries less competitive and those of depreciating ones more so – this is destabilising and has nothing to do with the trading position of the countries. Central banks intervened to buy dollars in an attempt to prevent further falls in the rate.

Even when all the major central banks act together, they cannot have a significant effect on the foreign exchange market. The sheer size of the market's daily dealings makes the reserves of the industrialised countries look small. The banks can try to influence the feeling in the market so that dealers change their attitude to the future of the currency.

The advantages of floating exchange rates are:

- There is an inbuilt adjustment mechanism. If imports exceed exports, the currency will depreciate and exports become relatively cheaper in foreign countries, thus helping to increase exports. There is no need for government intervention.
- There is continuous adjustment of the rate, in contrast to the infrequent, large and disruptive revaluations in fixed systems.
- Domestic economic policy can be managed independently of external constraints imposed by the need to maintain the exchange rate.
- There is no possibility of imported inflation, as the exchange rate adjusts relative prices.
- There is no need for large official reserves (unless there is managed floating).
- Adjustments to the exchange rate are made by the market: they are not delayed by political considerations.

The disadvantages of floating exchange rates are:

- They create uncertainty and raise the costs of international activities because of the need to cover risk.
- There are no restraints on inflationary domestic economic policies.
- Changes in the rate may be due to speculation or flight from weakening currencies and have nothing to do with the trading position of the country. This may make exports relatively dearer and imports cheaper and cause a payments deficit.

The impact of a change in a floating exchange rate depends on the price elasticities of demand for exports and imports. If both are elastic, a fall in the rate will reduce imports, which become

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dearer in the home market, and increase exports, which become cheaper in foreign markets. The opposite happens if the rate appreciates. If the demand for exports abroad is inelastic, the effect of a depreciation will be that the volume of exports does not increase but the lower price earns less foreign exchange. If imports are price-inelastic, the rise in their price does not reduce demand significantly and more foreign exchange is bought to pay for them: this worsens the balance of payments. Higher import prices for materials, components and finished goods may cause inflation.

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