

Modern Economics

Study Guide and Self-Test Questions

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Chapter 1 What Economics is About

Study Guide

Economics is concerned with:

scarce resources → *alternative uses* → *choice to achieve given ends*.

It seeks to derive principles which will act as a guide when economic decisions have to be made. With the demise of Communism, we can concentrate on the price system (the market economy) as the means of organising economic decision-making. By studying how this system works, we can see how it can be improved, understand current economic problems and suggest the consequences of a particular economic decision. It is this application of economic principles to his professional work which should provide a major interest in the subject to the student.

The economist adopts scientific methods. This means that he must accept ends as given – he is concerned only with what *is*, not with what *ought* to be. The politician chooses between competing ends.

Since resources are scarce, employing them in one use means that the opportunity of using them in some other use is lost. Thus we speak of *opportunity cost* – the cost of something in terms of alternatives (strictly the *best* alternative) forgone. As we shall see, this is *the* cost which lies at the root of economic decision making; it need not be identical to money cost or even to the cost to an individual. There may be additional 'spin-off' costs (e.g. environmental pollution) or benefits (e.g. a reduction in unemployment).

CHAPTER 1 Questions

1. What is the opportunity cost of a free good?
2. Could the government solve the UK's economic problem by simply printing more money and distributing it to the population?
3. Which of the following are non-economic goods and why?
 - a) beer
 - b) hedge-trimmings
 - c) a second-hand car
 - d) a derelict car

- e) sand in the Sahara
 - f) sand in a builders' merchant's yard
 - g) a GCE A-level certificate
4. What, in the last resort, has an incredibly rich person to economise in?
5. My income in 1990 was £10,000, today it is £40,000. Over the same period the goods on which I spend my income have doubled in price. Use these facts to distinguish between 'money income' and 'real income' and to explain why my standard of living has not quadrupled over this period.
6. A girl has an income of £240 per week. Assume she spends all her income buying two goods, X and Y which cost £12 and £30 respectively per unit.

- a) Complete the following table, which shows some of the possible combinations of X and Y that she can purchase:

Units of X	0	5	?	15	?
Units of Y	?	?	4	?	0

- b) Plot the points on a graph, units of X along the horizontal axis and units of Y up the vertical axis. What do you notice about the points?
- c) How much does a unit of Y cost in terms of X?
- d) What is the term for the cost in c)?
- e) What would happen to the graph if the girl's income doubled, while the prices of X and Y also doubled?
- f) In e) above what can you say about the girl's money income and real income?
- g) What happens to the graph if the girl's money income doubles and the prices of X and Y remain the same?
- h) In the original situation, where the girl has £240 per week, the price of Y doubles – what has happened to her real income?
7. In a production possibilities diagram, what is shown by:
- a) The production possibilities curve
 - b) A point inside the production possibilities curve?
 - c) The curve being concave to the origin?

8. Which of the following statements are factual (positive) and which are value judgements (normative)?
- i) The national income of the UK in 2006 was £1.4 billion
 - ii) The UK's national income in 2006 should have been much higher than it was
 - iii) The national income of the UK in 2006 was unfairly distributed
 - iv) The UK population should work harder to increase national income
9. The following headings form the stages of the usual scientific approach to a problem. Rearrange them in the correct order:
- a. Form a hypothesis about the relationship of x to y.
 - b. Make observations about two variables, x and y, including any simplifying assumptions.
 - c. Use the hypothetical relationship to make predictions about the effect on y of a particular change in x.
 - d. Alter the hypothesis, if necessary, according to the results of the experiment.
 - e. Carry out experiments if possible, or collect more observations to verify or refute the prediction
 - f. If the hypothesis appears to be correct, continue to make observations in case these prove the hypothesis incorrect or imprecise.
10. True or false?
- a. The economic problem arises because resources are scarce relative to our wants.
 - b. An economic good is one which can only be obtained by giving something in exchange for it.
 - c. All goods which are useful are economic goods.
 - d. There is an economic problem in India, but not in the USA.
 - e. Scarcity in the UK is due to inequality of incomes.
 - f. The opportunity cost of having one good is the best alternative which has to be forgone.
 - g. The nature of economic phenomena is such that economists cannot pursue their studies by scientific methods.
 - h. As a scientist, the economist is concerned solely with what is, not what ought to be.

Multiple Choice Questions

11. Choice is the fundamental problem of economics because:
- a) resources are scarce relative to wants;
 - b) the world is over-populated;
 - c) opportunity costs are zero;
 - d) factors of production are plentiful;
 - e) specialisation and exchange are vital activities.
12. Opportunity cost is related to:
- a) total revenue;
 - b) the cost of a substitute;
 - c) forgone alternatives;
 - d) marginal cost;
 - e) average cost.
13. A county council has the choice of building a by-pass for £12 million or two hospitals at £6 million each. If they decide to build the by-pass, the opportunity cost of this decision is:
- a) the hospitals;
 - b) £12 million;
 - c) £6 million;
 - d) nil;
 - e) it is not possible to tell.
14. A firm employs 20 previously unemployed builders at £100 per week. The opportunity cost of employing them is:
- a) £100;
 - b) £2000;
 - c) nil;
 - d) it is not possible to tell;
 - e) the materials they will use;
15. A production possibility curve illustrates:
- a) the labour and capital available to a producer;
 - b) factors available from a given cost outlay;
 - c) maximum possible economic growth;
 - d) combinations of factors required to produce a given output;
 - e) maximum production of two outputs (or types of output) from a given resource input.

CHAPTER 2 Methods of Allocating Economic Resources

Study guide

Scarcity of resources means:

- (1) Not all the goods we want can be produced; we therefore have to decide *what goods?*
- (2) We have to use our limited resources as efficiently as possible; we therefore have to decide *how?*
- (3) There will be a limited amount of goods to go round amongst everybody who wants them; we therefore have to decide how they shall be distributed – *for whom?*

Broadly speaking, there are two methods by which these questions can be answered – through the command economy or the market economy. Although our study is largely concerned with the latter, it will show that on occasions interference by the state can improve efficiency. For example, private decision-making only takes into account private costs, but private costs may differ from opportunity cost because public costs should also be taken into account. For example, street-parking may be costless to the individual but incur a public cost in traffic congestion, accidents, etc. The state can allow for this by charging for parking, thereby bringing money costs into line with opportunity cost.

For these and other reasons, all systems contain some state interference, but the actual degree to which private persons are allowed to make decisions is a political rather than an economic issue. The reasons for state interference are developed later.

You can treat the section on micro- and macro-economics similarly. The distinction between the two - which is basically one of method - will be much clearer at the end of the course. Remember, however, that micro- and macro-economics are inter-related. For instance, spending as a whole consists of all the various items of spending by individuals in the different markets.

Above all, note that economic theory is concerned with developing two basic models:

- (1) demand, supply and price in individual markets;
- (2) the circular flow of income.

If you keep this in mind, it will be easier for you to appreciate how all the different bits of theory fit together.

This chapter introduces the concept of a *flow*- a *rate* of movement over time. In contrast to this, we can have a *stock*- the quantity in existence at a *particular moment* of time. In economic analysis we work chiefly in flows. Consider a micro-economic example such as the market for potatoes. There

are two flows – the quantity demanded per week and the quantity supplied per week. These two flows are brought into equilibrium by the price mechanism. If, for instance, consumers decided to buy more potatoes each week, the increase in the rate of flow of potatoes off the market would have the immediate effect of reducing stocks held by potato merchants. The result - a rise in price, as merchants react to prevent their stocks running out too fast.

CHAPTER 2 Questions

1. Classify the following concepts as stocks or flows:
 - a. a person's income
 - b. a person's wealth
 - c. the UK's gold and foreign currency reserves
 - d. the national income of the UK
 - e. the UK's population
 - f. immigration into the UK
2. Which of the following are micro-concepts and which macro-?
 - a. The rent of an acre of land in Yorkshire
 - b. The total income of landowners in the UK
 - c. The quantity of money in the UK
 - d. The quantity of money in your pocket
 - e. The National Debt
 - f. The dividend paid by Powergen to its shareholders
3. What are the two basic constituent parts of any economic system?
4. True or false?
 - a. Centralised decision-making is a feature of a market economy
 - b. Community goods, such as defence can not be adequately provided by the market
 - c. Excessive bureaucracy is a feature of a market economy
 - d. Reduction of personal incentives is a feature of a market economy
 - e. Wasteful competitive advertising is a feature of a market economy
 - f. The UK has a command (or planned) economy
5. Why can a market economy not provide vital community goods such as law and order?
6. Why might competition in a market economy lead to inefficiency?
7. What provides the 'signals' to indicate what to produce in a market economy?
8. What are the two sectors of a mixed economy?

9. How are economic decisions made in a command economy?
10. In which type of economy are shortages of certain goods most likely?

Multiple Choice Questions

11. In a market economy, the most significant force in the distribution of goods and services is:
- a) government;
 - b) the public sector;
 - c) barter;
 - d) the price system;
 - e) planners.
13. Which one of the following statements can be applied to a mixed economy?
- a) the public and private sectors co-exist;
 - b) only the private sector has an economic role;
 - c) only the public sector has an economic role;
 - d) the population has a balanced age-distribution;
 - e) there are both large and small firms.
14. Which one of these statements is a valid criticism of the price-system?
- a) it cannot secure the allocation of goods and services;
 - b) it will often lead to shortages and surpluses;
 - c) it cannot provide luxury goods;
 - d) long queues for necessities are likely;
 - e) it may lead to great inequality of income and wealth.
15. In a market economy:
- a) prices are controlled by legislation;
 - b) the price mechanism dictates which consumer wants shall be satisfied;
 - c) there will be no advertising;
 - d) there will be no monopolies;
 - e) the government allocates resources.

CHAPTER 3 How Price is Formed in the Free Market

Study Guide

This is one of the most important chapters in the book. Those sections dealing with demand, supply and price provide the basic tools for analysing all problems concerned with the allocation of resources between different uses. Look upon diagrams as an aid to analysis and a means of expressing ideas. Not until you use demand and supply diagrams instinctively when appropriate can you regard yourself as being fully competent in this branch of theory.

There are many different factors influencing the price of a good – price, income, tastes, the prices and productivity of factors producing it, etc. But they can all be aggregated under two headings: demand and supply. Curves are then drawn illustrating how demand and supply vary as *price* changes, all the other factors remaining unchanged. Taken separately, neither demand nor supply curves can tell you what the price will be in the market. They simply say: *if* the price is so much, *then* so much will be demanded or supplied.

Changes in factors other than price can be shown only by drawing a new demand or supply curve. You must then decide:

- (1) Is it a change in demand or a change in supply?
- (2) Does demand/supply decrease or increase at any given price? In the first case, the curve moves to the left; in the second, it moves to the right.

The importance of demand and supply analysis is in its application. Study carefully, therefore, the examples in this and the next chapter and think up some more from your own experience.

CHAPTER 3 Questions

1. Wheat and bread are both widely demanded. Give three reasons why wheat has a world market, while bread has only a local market.
2. Classify the following markets as imperfect or approximating to perfect:
 - a. The Stock Exchange
 - b. The second-hand book market
 - c. The foreign exchange market
 - d. The labour market
 - e. The retail paint market
 - f. The Discount Market
 - g. The commodity markets (wool, wheat, rubber, cotton, etc.)
3. Suggest three reasons why markets might be imperfect.
4. Why do improved communications help to remove market imperfections?

5. Why is it that a fall in the price of beef will have little effect on the demand for fish, but a far greater effect on the demand for lamb?
6. What financial event often affects the demand for goods some time beforehand? Why?
7. What conditions are necessary for a world market to be established in a commodity?
8. How do technical improvements affect costs of production?
9. Why might supply take longer to adjust to a change in price than demand does?
10. What is the main benefit of a 'futures' market in a commodity?

Multiple Choice Questions

11. 'Demand':
 - a) is everything that people need;
 - b) is everything that people want;
 - c) is downward sloping;
 - d) is the quantity people need for period of time;
 - e) is the quantity buyers wish to purchase per time period at each price.

12. A market price:
 - a) is the result of interaction between consumers demand and producers supply;
 - b) is what consumers are willing to pay;
 - c) can leave some goods unsold;
 - d) can lead to shortages of certain goods;
 - e) has been set by the government;

13. A 'demand schedule':
 - a) is a particularly difficult itinerary;
 - b) sets out amounts demanded at various prices;
 - c) is always a straight line;
 - d) shows diagrammatically how demand changes with income;
 - e) none of the above.

14. 'Effective demand':
- a) is total demand in the economy;
 - b) is the demand of a single individual;
 - c) shows how quantity demanded varies with price;
 - d) shows how quantity demanded varies with income;
 - e) is the desire to buy a good backed by the ability to do so.
15. A demand function:
- a) is a particularly difficult occasion;
 - b) sets out amounts demanded at various prices;
 - c) is always a straight line;
 - d) is a mathematical expression to show the determinants of demand in a simple formula;
 - e) is none of the above.

CHAPTER 4 Applications of Demand and Supply Analysis

Study guide

If you have understood the analysis of the previous chapter, you should have no difficulty in following these simple applications. But there are two important points that you should bear in mind:

- (1) The demand and supply curves shown are merely diagrams to explain the basic principles of how the price mechanism works. This means that we can go no further than drawing *implications* as regards policy. Until we know the *actual* position and shape of the curves, we can make no precise forecast of how much price will change for a given change in demand or supply, how much demand will exceed supply at a controlled price, etc. Usually such precision is difficult, indeed impossible, to achieve.
- (2) The extent to which the laws of price are effective in practice depends upon how far our original assumptions, chiefly keen competition and perfect market, apply.

The functions of price in the free market follow from the model developed in Chapter 3. It is important to note that a change in price does not merely indicate market changes in demand or supply; it motivates a response to these changes by an extension or contraction of demand or supply, as the case may be.

CHAPTER 4 Questions

1. Use demand and supply analysis to explain why councils have long waiting lists for their flats.
2. Account for the 'black market' in Wimbledon tickets.

3. Suppose real incomes in the UK rise appreciably. What would you expect to happen to the demand for a) cars b) food c) DVD recorders d) books, newspapers and magazines.
4. If the price of apples falls, what is likely to happen to the price of pears?
5. In Central London, houses are used either as residences or offices. What will happen to rents if the demand for offices increases?
6. If the demand for houses increases what is likely to happen to the price of bricks?
7. Complete:
 - a. A and B are substitutes. If the supply of A increases, the price of B will tend to.....
 - b. A and B are complements. If the supply of A decreases, the price of B will tend to.....
8. Why do prices of agricultural goods fluctuate more than the prices of manufactured goods?
9. What will happen in a market where price is controlled below the market Price?
10. How could the government use the price mechanism to encourage goods to travel by rail rather than road?

Multiple Choice Questions

11. 'Substitutes' are:
 - a) goods which are bought as alternatives to the good in question;
 - b) goods which are bought in conjunction with the good in question;
 - c) goods which are surplus to requirements;
 - d) goods which you buy more of as their price rises;
 - e) none of the above.
12. Which of the following will not cause a shift in the demand curve for new houses?
 - a) a rise in incomes of potential buyers;
 - b) a discount of £10,000 on the price of new houses;
 - c) a fall in private sector rents;
 - d) a rise in council rents;
 - e) a fall in the popularity of home ownership.

13. The desire to buy a good backed by the ability to do so, is:
- a) perverse demand;
 - b) a demand schedule;
 - c) a demand curve;
 - d) total demand;
 - e) effective demand.
14. Normally, as the price of a commodity is lowered, :
- a) a greater quantity will be supplied;
 - b) the same quantity will be supplied;
 - c) its utility increases;
 - d) the same quantity will be demanded;
 - e) a greater quantity will be demanded.
15. A shift of a demand curve could be caused by:
- a) a rise in the price of factors of production;
 - b) a rise in price;
 - c) a fall in price;
 - d) a change in a factor affecting supply;
 - e) a change in a factor affecting demand.

CHAPTER 5 A Further Look at Demand

Study guide

Economic choice, whether by consumers or producers, takes place at the *margin*. This is the basis of both the theory of demand and the theory of supply. Indeed this is simply an aspect of 'opportunity cost' for, in allocating resources, both the consumer and the producer will be asking: 'If I have an *extra* bit of this or an *additional* unit of that, will it be worth what I have to give up for it?'

The explanation of why the demand curve slopes downwards is largely abstract, and you may find it difficult. (If so, don't worry; the mileage you obtain from it from the point of view of examination papers is very small!) Be careful to build it up logically.

- (1) The consumer has his individual preferences or tastes for different goods. He has to relate these tastes to the market terms – relative prices – upon which they can be obtained.
- (2) The common-sense objective is to allocate limited income so that no extra utility can be obtained by switching a penny from one purchase to another. That is, the *last penny* spent in each direction

yields the same utility. (*Note*: this is different from saying that the utility from the last unit of each good – marginal utility – must be equal; this is *WRONG*).

- (3) The position of equilibrium can be achieved because of the law of diminishing utility – an increase or decrease in one's stock of good relative to other goods affects utility at the margin.
- (4) A change in price affects the utility derived from the last penny spent on the good. It is therefore necessary to bring the law of diminishing marginal utility into play by buying more or less of the good in order to achieve a new equilibrium position.

'*Exceptional*' or '*perverse*' demand curves have been explained mainly because examination questions are asked on them. In practice, they are relatively unimportant.

On the other hand, *elasticity of demand* has been treated fully. It is a simple concept, but one with which you must be absolutely familiar. Although it is measured by comparing proportional changes, in its practical application it is more usually considered with reference to changes in total revenue as a result of a change in price. You must be sure that you understand the examples of its application to demand and supply analysis. Other examples of its use will be given in subsequent chapters.

CHAPTER 5 Questions

1. A consumer purchases successive units of a homogeneous good. Explain how total utility from these purchases can be increasing although the law of diminishing returns applies.
2. Can the condition of increasing marginal utility exist? Can you give an Example?
3. Explain why it is possible that, for some individuals, the demand for margarine may fall when the price of margarine falls. Is it likely that the market demand curve for margarine slopes upwards from left to right?
4. Complete the following:
 - a. If the total outlay on a good increases when price falls, demand is.....
 - b. If the total outlay on a good increases when price rises, demand is....
5. Fifty units of a commodity sell at a price of 25p. If price falls to 20p, how many will be demanded if the own price elasticity of demand is equal to -4?
6. If the demand for agricultural products is inelastic, what effect will a fall in their price have on farmers' incomes?
7. Britain's demand for imports is inelastic. If their prices rise because of inflation in the producing country, will more or less foreign currency be

required to pay for them?

8. Britain exports most manufacturing goods in competition with other manufacturing countries. In these circumstances is demand for such exports likely to be elastic or inelastic? In these circumstances would Britain earn more or less foreign currency if prices of exports fell?
9. Why is the concept of price elasticity of demand likely to be useful to a supermarket?
10. Why would it be a mistake for the Chancellor of the Exchequer to increase the tax on a good with elastic demand?

Multiple Choice Questions

11. As more and more units of a commodity are consumed the extra satisfaction or utility derived from each successive unit will:
 - a) decrease;
 - b) increase;
 - c) stay the same;
 - d) increase but then decrease;
 - e) decrease but then increase.
12. A marginal utility curve:
 - a) is convex to the origin;
 - b) is concave to the origin;
 - c) is a horizontal straight line;
 - d) slopes downwards from left to right;
 - e) slopes upwards from left to right.
13. 'Utility':
 - a) is a measure of value;
 - b) is a measure of demand;
 - c) is the usefulness of an economic good;
 - d) is the satisfaction which people derive from consuming goods and services
 - e) is none of the above.

14. A total utility curve:
- a) shows cumulative satisfaction from consumption of successive units of a good;
 - b) shows marginal satisfaction from consumption of successive units of a good;
 - c) is concave to the origin;
 - d) is always a straight line;
 - e) shows the extra satisfaction from consumption of one more unit of a good.
15. A marginal utility curve:
- a) shows cumulative satisfaction from consumption of successive units of a good;
 - b) shows how quantity demanded varies with changes in price;
 - c) shows the extra satisfaction from consumption of one more unit of a good;
 - d) is concave to the origin;
 - e) is always a straight line.

CHAPTER 6 The Firm

Study guide

Most of this chapter is descriptive but do not be content with just learning the facts. Continually ask yourself: Why do these institutions exist? Why do they take different forms? What are the advantages of each? Why do they raise so much capital by the issue of shares, and so much by debentures?

Illustrate too, from your *own* examples, particularly those derived from your work. Thus you should ask: Do I know any firms which are a sole proprietor, a partnership, a private company or a public company? Why does each take its particular form? Have any raised finance recently? If so, which methods were used, and why?

Remember that money capital is required because costs of producing do not coincide with receipts. This is obvious with 'fixed capital', but it is also true of 'working capital'. Thus an expanding firm requires more of both types of capital than one that is static – because it takes time for receipts to come in, the 'cash flow' is insufficient to cover current expenditure.

CHAPTER 6 Questions

1. Goods can be classified as either consumer goods or producer goods. Which of the following are producer goods:
 - a. a yacht;
 - b. an oil tanker;
 - c. a tractor;
 - d. a house;
 - e. a factory;
 - f. a salesman's car;
 - g. a family car;
 - h. a newspaper;
 - i. a guard dog.

2. Why are stocks of consumer goods held by the manufacturer considered as capital?

3. Why is the publisher of a book an entrepreneur? Is the author an entrepreneur?

4. Adam Smith stated that the labour of churchmen, lawyers, physicians, etc. was 'unproductive' because their 'services generally perish in the very instant of their performance, and seldom leave any trace of value behind them'. By defining production in modern terms, show why these types of labour are now regarded as productive.

5. The capital structure of a company is as follows:
£500,000 of 9% debentures
£100,000 of ordinary shares
 - a. Is the company low- or high- geared?
 - b. After allowing for all costs of production, depreciation and taxation, the company has £50,000 in 2006 and £60,000 in 2007 for paying debenture-holders and shareholders. Assuming that it allocates nothing to reserves, what dividend can it pay its shareholders in i. 2006 and ii. 2007?

The following choices refer to the policy of a public company and apply to questions 6-9:

- a. Building a new factory
 - b. Holding increased stocks
 - c. Maintaining sales in a credit squeeze
 - d. Increasing the rate of dividend to shareholders
-
6. Which one of the above would most likely be financed by current profits?

 7. Which one of the above would most likely be financed by an overdraft from a commercial bank?

8. Which one of the above would most likely be financed by an issue of debentures?
9. Which one of the above would most likely be financed by increased trade credit?
10. Is the principal objective of the firm always to maximise profits?

Multiple Choice Questions

11. Normally, firms aim to:
- a) maximise profits;
 - b) produce as cheaply as possible;
 - c) satisfy their workers;
 - d) produce as much as possible;
 - e) none of the above.
12. If a firm is 'unincorporated with unlimited liability' this means that:
- a) the liability of the owners is restricted to their shares in the company;
 - b) the owners personal possessions would be liable to be sold to cover business debts;
 - c) its shares are sold on the Stock Exchange;
 - d) the company has a separate legal identity to its owners;
 - e) none of the above.
13. Profit is equal to:
- a) total sales revenue;
 - b) total sales x price;
 - c) revenue - costs;
 - d) total revenue divided by quantity sold;
 - e) average revenue.
14. A firm will produce those goods which:
- a) people need
 - b) enable it to make the greatest return on capital
 - c) sell most
 - d) can be produced quickly
 - e) increase turnover

15. 'Working capital' is:

- a) for purchasing factories
- b) for purchasing factory machinery
- c) for purchasing 'single-use' factors
- d) for replacing worn out machinery
- e) a big city in a booming economy

CHAPTER 7 The Organisation and Scale of Production

Study guide

This chapter too, is largely descriptive but the same type of question should be asked as previously: Why is division of labour not carried out further? Why do firms expand? What limits their expansion? Why do some firms remain small? Why do firms combine? How can the state provide 'external economies'? Again you should illustrate with your own examples.

CHAPTER 7 Questions

1. How does money assist in the division of labour?
2. How does transport assist in the division of labour?
3. Assume that one table exchanges for one chair. Smith can make 10 tables or 8 chairs in a day's work. Jones can make 4 tables or 10 chairs in a day's work. Show how production can be increased by specialisation.
4. Now assume that Smith can make 10 tables or 8 chairs in a day's work; Jones can make 4 tables or 10 chairs in a day's work. Show how total production can be increased by specialisation.
5. State whether the following are examples of internal or external economies to the firms concerned:
 - a. BBC weather warning to the fishing industry
 - b. Harrods has customer lifts to all floors
 - c. A haulage company benefits from improved motorway access
 - d. London Transport bears its own insurance risk
 - e. Selfridges employs store detectives which small stores cannot afford

6. State whether the following are examples of horizontal, vertical or lateral integration:

- a. Ford take over Jaguar
- b. British Petroleum acquires the oil exploration company, Britoil
- c. Nestle take over Rowntree
- d. National Westminster Bank acquires a stockbroking firm
- e. Coca-Cola acquires a freight haulage company

7. Give two examples of firms remaining small because demand is limited because:

- a. the market is limited to local demand
- b. transport costs are high relative to value
- c. demand is very individual

8. Give two examples of firms remaining small because of the following supply conditions:

- a. institutional limitations
- b. vertical disintegration
- c. managerial diseconomies as the firm grows
- d. independence

9. Name four industries in which small firms are numerous.

10. Identify these types of scale economy:

- a. advertising costs are spread across high sales volume
- b. greater specialisation of machines
- c. technical schools providing courses for local industry
- d. more division of labour
- e. bulk-buying reducing costs
- f. cheaper borrowing because the firm is large
- g. self-insurance or covering own risks

Multiple Choice Questions

11. Which of the following is an example of an external economy of scale?:

- a) bulk-buying;
- b) administrative savings made by having only one office;
- c) courses relevant to your business at local colleges;
- d) costs fall for technical reasons as production rises;
- e) cheaper borrowing because your company is large.

12. If administration and/or communication becomes more difficult and costly in a large company, this is an example of:
- a) internal economies of scale;
 - b) external economies of scale;
 - c) diseconomies of scale;
 - d) increasing returns;
 - e) over-capacity.
13. If an industry is characterised by very large firms then it is likely to have:
- a) economies of scale and decreasing costs;
 - b) diseconomies of scale and increasing costs;
 - c) constant costs;
 - d) perfect competition;
 - e) none of the above.
14. If a new motorway is built near to a company, thus reducing its costs, this is an example of:
- a) commercial economies of scale;
 - b) financial economies of scale;
 - c) managerial economies of scale;
 - d) technical economies of scale;
 - e) external economies of scale.
15. Which of the following is not a reason for the existence of economies of large scale production:
- a) bulk buying;
 - b) small markets;
 - c) specialised workers;
 - d) costs not increasing in proportion to volume or output;
 - e) financial economies such as cheaper borrowing.

CHAPTER 8 The Distribution of Goods to the Consumer

Study guide

Few manufacturers themselves undertake the task of selling goods to the final consumer. Instead there is vertical disintegration of distribution, firms specialising in this stage of the productive process.

Where producers are small, e.g. farmers or where retailers are not large enough to order in bulk from manufacturers, the process of distribution is itself divided: a merchant or wholesaler serves as a link between the manufacturer and retailer. The essential point is that both the wholesaler and retailer will

continue to exist only so long as they are the most efficient means of organising distribution. When conditions of demand or supply change, e.g. through deep-freezers in the home, large supermarkets, or quicker transport, either the wholesaler or the retailer may be leapfrogged.

CHAPTER 8 Questions

1. Suppose a product X is made by 10 manufacturers, and sold to 2000 retailers. How many transactions would be involved a) without any wholesalers, b) with 2 wholesalers?
2. In what ways does a builders' merchant perform the functions of a wholesaler?
3. What functions of the retailer are performed by your local bookseller?
4. What factors determine the size of the stock carried by a retailer?
5. Why do antique shops tend to be found close together?
6. Why are supplies of fresh vegetables to London channelled through New Covent Garden market?
7. Why do small egg-farmers sell eggs at the farm door to consumers?
8. What advantages are enjoyed by the multiple shop over the small independent?
9. What is the main advantage of the small independent?
10. Why have wholesalers declined in importance?

Multiple Choice Questions

11. Wholesalers and retailers performing specialist functions is a form of:
 - a) horizontal integration;
 - b) vertical disintegration;
 - c) horizontal disintegration;
 - d) lateral integration;
 - e) diversification.
12. Builders merchants are:
 - a) wholesalers;
 - b) retailers;
 - c) manufacturers;
 - d) hypermarkets;
 - e) department stores.

13. Thornton's chocolate shops and Tetley's Inns are examples of:

- a) multiples;
- b) hypermarkets;
- c) direct selling by manufacturers;
- d) middlemen;
- e) co-operatives.

14. High street locations becoming more expensive, has encouraged the growth of:

- a) department stores;
- b) co-operatives;
- c) independents;
- d) wholesalers;
- e) hypermarkets.

15. Which of the following is *not* an advantage of supermarkets:

- a) low labour costs;
- b) bulk buying;
- c) competitive prices;
- d) personal service;
- e) economies of scale.

CHAPTER 9 The Location of Production

Study guide

This chapter looks at the advantages which industries enjoy by being situated in particular localities.

The land itself is allocated through competition in the market. Firms prefer a site where receipts less costs (other than rent) are at a maximum. The greater the difference, the higher rent they can offer to bid the land away from other firms. This arises because firms differ in the importance each attaches to certain benefits. One firm will want cheap labour; another, easy accessibility to management. To quote an extreme example, one factory was located at the south coast simply because the managing director enjoyed yachting! Even within towns the same factors influence location. Thus the supermarket ousts the cinema, houses are converted into offices, and Boots, Marks and Spencer and Woolworths occupy prime sites in the High Street.

Since all firms in a particular industry are likely to enjoy similar relative advantages, they tend to group themselves in areas where these advantages are to be found, e.g. cotton in south-east Lancashire, shipbuilding along the Clyde and the north-east coast. Difficulties arise, however, when there is a decrease in the demand for these products. Whole localities are then depressed and we have what is now referred to as 'the regional problem' (see Chapter 34).

A useful guide as to how a firm actually goes about choosing the site for a new factory is afforded by Copperad, manufacturers of heating and air-conditioning equipment. The existing factory at Colnbrook on the western outskirts of London could not be extended, and it had to find another site. The major considerations in order were: (1) economy of management by using the Colnbrook administrative staff; (2) the availability of suitable labour; (3) economy of distribution. The first requirement pointed to a site within an hour and a half drive of Colnbrook, although the possibility of going to an Assisted Area was considered on account of the financial attractions and the availability of labour. Apart the major factor of management, transport costs also had to be considered. On the previous year's sales, Glasgow, for instance, would have involved double the transport costs of Colnbrook because sales were mostly to the London and South Midlands regions where maximum building was taking place. Thus transport costs alone ruled out an Assisted Area. In the end, Copperad chose a site at Wolverton in Buckinghamshire, about 50 miles from Colnbrook. Labour was available because British Rail workshops were being run down and this also helped towards obtaining the then necessary industrial development certificate from the Department of Trade and Industry. Transport costs worked out slightly lower than Colnbrook and facilities were good, being within one mile of the M1 motorway, the main railway trunk line to the north-west, and main east-west trunk road.

You should link the discussion on the location of production with that on the mobility of labour (Chapter 20) and government policy (Chapter 35).

CHAPTER 9 Questions

1. Give two examples of industries which are concentrated to secure natural advantages.
2. Which of the following industries would incur relatively high costs of transport if they were not near their sources of materials:
ice-cream, steel, shipbuilding, printing, electronics, clothing
3. Which of the following products are more expensive to transport than the materials used in making them:
ice-cream, steel, furniture, beer, potato crisps, vegetable oil, plate glass
4. Identify two disadvantages of the concentration of industry.
5. What is the connection between the development of electricity and the growth during the twentieth century of industry in the London area?
6. Explain how land is allocated to particular uses.
7. What are 'government-sponsored' advantages of location?

8. Suggest four 'man-made' or acquired advantages of an industrial location.
9. The electrical components industry can be described as 'footloose'. Why is this?
10. When a number of firms in a particular industry locate in one area (because of its advantages) what problems may arise?

Multiple Choice Questions

11. Where weight is gained in the course of production, a firm will tend:

- a) to produce near its market;
- b) to produce near its sources of raw materials;
- c) to be indifferent to where it produces;
- d) to be 'footloose'
- e) to need government grants.

12. Where weight is lost in the course of production, a firm will tend:

- a) to produce near its market;
- b) to produce near its sources of raw materials;
- c) to be indifferent to where it produces;
- d) to be 'footloose'
- e) to need government grants.

13. A firm not bound by considerations of transport costs will tend:

- a) to produce near its market;
- b) to produce near its sources of raw materials;
- c) to be indifferent to where it produces;
- d) to be 'footloose'
- e) to need government grants.

14. Iron and steel production on a coalfield, is an example of:

- a) natural advantage of location;
- b) acquired advantage of location;
- c) government-sponsored advantage of location;
- d) industrial inertia;
- e) none of the above.

15. Nearby ancillary industries providing a market for by-products, is an example of:

- a) natural advantage of location;
- b) acquired advantage of location;
- c) government-sponsored advantage of location;

- d) industrial inertia;
- e) none of the above.

CHAPTER 10 Combining the Factors of Production

Study guide

Although the 'law of diminishing returns' is basic to economic theory, it is *not* a law of economics. It merely states a technical relationship. Economic decisions arise only when the relative prices of factors are considered in conjunction with the technical data concerning the productivity of different units of a variable factor.

Note, too, the rigid assumptions of the law and that it is only the product of the *variable* factor which is considered. It is unusual to state the law in terms of the *marginal product* – the return to a given addition to the variable factor. The *average product* of the variable factor can, of course, be calculated from this.

The law of diminishing returns has three main applications:

- (1) It explains why the short-period marginal cost curve eventually slopes upwards (see Chapter 11)
- (2) It accounts for the low average standard of living in countries such as India and China (see Chapter 42)
- (3) It fulfils a similar role to the law of diminishing utility in that it shows how the marginal product of a factor can be varied by varying the proportion in which the factor is combined with other factors. The law is therefore often referred to as the law of variable proportions,

The firm's equilibrium position for purchasing factors of production is similar to the consumer's equilibrium position in spending his income – not a penny would be transferred from one use to another. But the explanation is more obvious, for we can measure marginal product (either in money or physical terms) whereas we cannot measure marginal utility. The last pound spent on any factor should yield the same amount of product as the last pound spent on any other factor. If it does not, then it would pay to spend the last pound on the factor where the product yield was highest.

CHAPTER 10 Questions

1. a) Complete for marginal physical product (MPP):

Units of variable factor	1	2	3	4	5
Total product (tons)	10	22	32	40	45
MPP (tons)					

b) With what unit of the variable factor do diminishing returns begin to operate?

2. a) Complete for total product:

b) Complete for MPP:

Units of variable factor	1	2	3	4	5
Average product (tons)	15	18	18	17	15
Total product (tons)					
MPP (tons)					

3. Complete for total product:

Units of variable factor	1	2	3	4	5
MPP (tons)	6	10	15	12	5
Total product (tons)					

4. Can marginal product be falling while average product is still rising?

5. You are given the following information about the output of a good X as successive workers are added to a fixed amount of land and capital equipment:

Number of workers	10	11	12	13	14	15	16
Total output of X	100	121	144	169	189	195	200

- a) At what level of employment does MPP become a maximum?
- b) At what level of employment does APP become a maximum?
- c) At what level of employment do diminishing returns set in?
- d) Can you determine from this information how many workers the firm will employ? Explain your answer.

6. Write down in terms of total product an expression for the marginal physical product of the nth unit of a variable factor employed.

7. As marginal product falls, average product is dragged down – how is this relevant to the problem of population increase?

8. Why does falling marginal product ‘drag down’ average product?

9. What is the ‘Law’ of Diminishing Returns also known as?

10. How many factors of production are needed for any form of production?

Multiple Choice Questions

11. ‘Diminishing returns’ refers to an eventual fall in:

- a) the average product of the variable factor
- b) the marginal product of the fixed factor
- c) the total product
- d) the marginal physical product of the variable factor
- e) revenue

12. The law of diminishing returns states that, given fixed techniques, a fixed factor and a homogeneous variable factor:

- a) as the fixed and variable factors are combined together in different proportions, marginal productivity will eventually diminish;
- b) as variable factors are added to the fixed factor, total product will at first increase, but will eventually diminish;
- c) as successive units of the variable factor are added to the fixed factor, the marginal product will eventually decrease;

- d) as the variable factor is added to the fixed factor, the returns to the fixed factor eventually diminish;
- e) fixed and variable factors cannot be combined.

13. When marginal product is equal to average product:

- a) average product is rising;
- b) marginal product is rising;
- c) average product is at a maximum;
- d) marginal product is at a maximum;
- e) total revenue is maximised.

14. The last pound spent on any factor should yield:

- a) the same amount of product as the last pound spent on any other factor;
- b) more product than the last pound spent on any other factor;
- c) less product than the last pound spent on any other factor;
- d) maximum average product;
- e) maximum marginal product.

15. How much of each factor is employed by an entrepreneur is determined by:

- a) its price;
- b) its productivity;
- c) its productivity relative to its price;
- d) his/her personal preference;
- e) his/her budget.

CHAPTER 11 Deciding on the Most Profitable Output

Study guide

The economist's view of the *costs of production* differs from the accountant's. This is because the economist includes all opportunity costs – the returns forgone by not using a factor in its best alternative. Thus what the owner of a firm could earn from his capital and labour in the best alternative (implicit costs) plus normal profit have to be included in costs. Any profit made additional to normal profit is termed 'supernormal' profit.

The distinction between *fixed and variable costs* is important as regards the short-period equilibrium of the firm. Most firms have to start off with some fixed factors – fixed in the sense that they are 'lumpy', that is, they have to be employed in given units, e.g. buildings, machinery, vehicles. Their cost has to be met whether the firm is producing just one or many units of output. They

are *fixed costs*. Other factors can be engaged according to the size of output, e.g. raw materials, labour (especially piece-work labour). The cost of such factors varies directly and proportionately with the size of output. We call these *variable costs*.

Here again the economist concentrates on opportunity costs. The opportunity cost of producing in the short period is only the cost of the variable factors. This is because there is no opportunity cost of using the fixed factors for they cannot be transferred to any other use (by definition) in the short period.

When you draw cost curves, see that they correctly express relationships, especially:

- (a) $AFC = AVC = ATC$
- (b) MC cuts AVC and ATC when they are at a minimum.

Note too, that MC is independent of the size of FC. MC is simply the increase in VC of producing an extra unit. Proof:

$$\begin{aligned} MC &= TC \text{ of } n \text{ units} - TC \text{ of } n-1 \text{ units} \\ &= (TC - FC) \text{ of } n \text{ units} - (TC - FC) \text{ of } n-1 \text{ units} \\ &= VC \text{ of } n \text{ units} - VC \text{ of } n-1 \text{ units} \end{aligned}$$

In dealing with the short-period equilibrium of the firm, only the first three assumptions of perfect competition are necessary to make the firm a 'price-taker'. This means that each firm is faced with a horizontal demand curve for its product; it can sell an infinite quantity at the market price. In such circumstances, $MR = P$. The conditions of equilibrium under perfect competition are:

- (1) $P = MC$
- (2) MC is rising
- (3) $P > AVC$

You should be able to explain why each of these conditions is necessary.

CHAPTER 11 Questions

1. The following are some of the costs of a clothing manufacturer. State whether you consider each to be a fixed or a variable cost over a three month period.
 1. Mortgage repayments on a factory
 2. Cost of cloth
 3. Piece wages paid to operatives
 4. Depreciation of machines owing to time factor
 5. Cost of electricity for running machines
 6. Wear and tear on machines through running

7. Salary of designer on three year contract
8. Rates of factory
9. National Insurance contributions for operatives
10. Laundry charges for washing operatives' overalls

2. a. Complete the table:

Output	Total cost (£)	Average cost (£)	Marginal cost (£)
0	55		
1	70		
2	82		
3	87		
4	92		
5	120		
6	180		

b. What are the fixed costs?

3. a. Complete the table:

Price (£)	Quantity demanded	Total revenue (£)	Marginal revenue (£)	Average revenue (£)
6	10			
5	20			
4	30			
3	40			
2	50			
1	60			

c. Marginal revenue is always less than average revenue. Why is this?

Questions 4 – 10 relate to the following costs and receipts of a taxi driver who owns his own taxi:

Depreciation is such that the taxi must be written off at £90 per week. He could earn £216 a week as a driver working for someone else. Ignore interest charges or allowances for capital employed.

Taxi – original cost £27000, depreciating at £90 per week

Tax and insurance - £36 per week

Garage - £18 per week

Petrol and oil - £90 per week

Wear and tear - £18 per week

Necessary minimum compensation for uncertainty - £18 per week

Receipts from fares - £540 per week

4. What are the taxi drivers' fixed costs?

5. What are his variable costs?

6. What is his 'total' profit?
7. What is his 'normal' profit?
8. What is his 'supernormal' profit?
9. What is the minimum he must take each week for him to remain driving his own taxi in the short period?
10. What is the minimum he must take each week for him to remain driving his own taxi in the long period?

Multiple Choice Questions

11. The opportunity cost of employing a factor of production is:

- a) what it is earning in its present use;
- b) what it can earn in the long period;
- c) what it can earn in some other use;
- d) what has to be paid to retain it in its present use;
- e) none of the above.

12. Fixed costs:

- a) vary with output;
- b) are fixed by the government;
- c) do not vary in direct proportion to output;
- d) include variable costs;
- e) must be greater than revenue.

13. Variable costs:

- a) vary with output;
- b) are fixed by the government;
- c) do not vary in direct proportion to output;
- d) include variable costs;
- e) must be greater than revenue.

14. Average total cost (ATC) is:

- a) MC plus AC;
- b) total cost divided by marginal cost;
- c) total cost minus marginal cost;
- d) total cost divided by output;
- e) none of the above.

15. To continue in operation in the short-run, a firm must cover its:

- a) total costs

- b) average costs
- c) variable costs
- d) fixed costs
- e) fixed plus variable costs