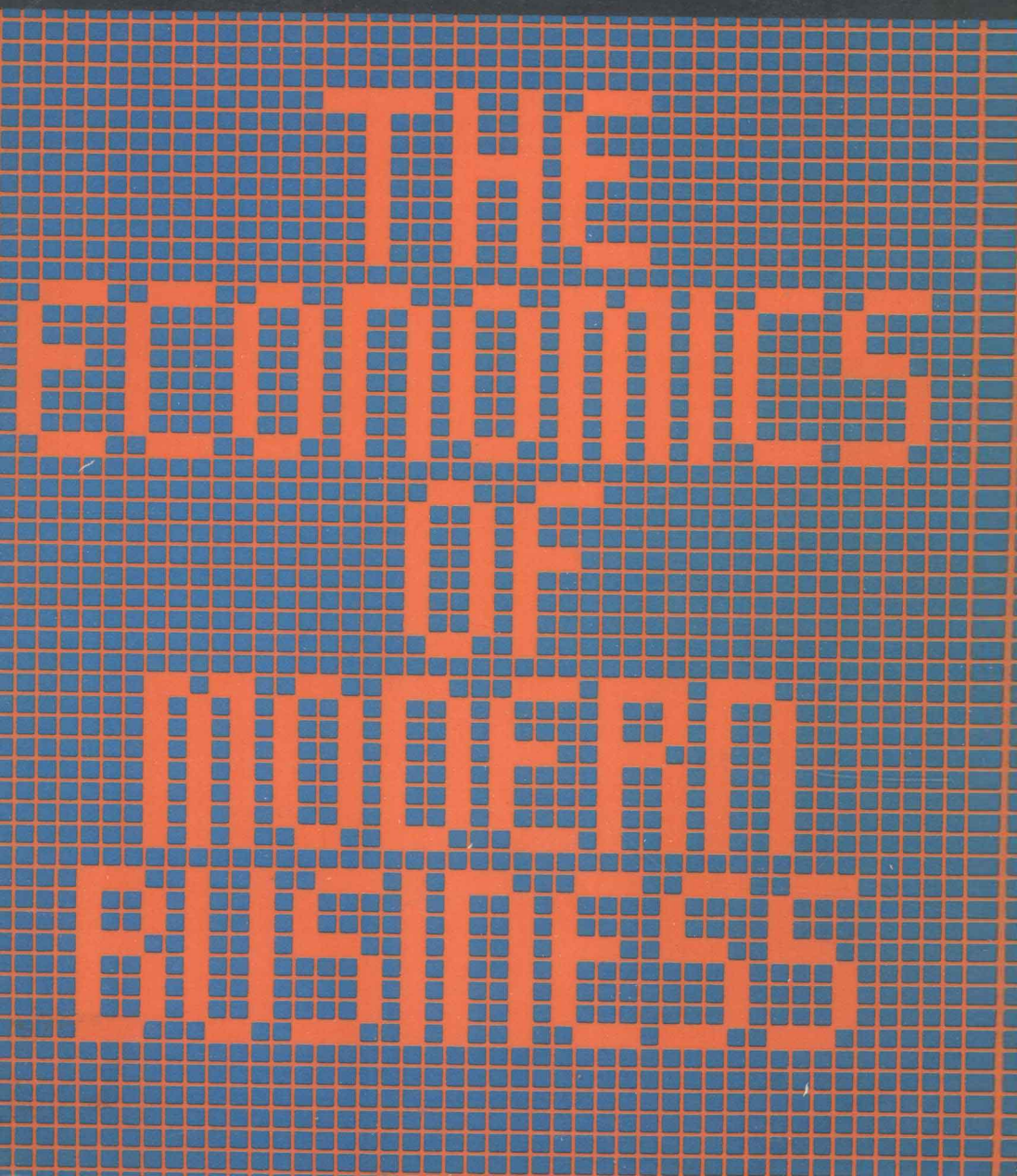


The Economics of Modern Business

W. DUNCAN REEKIE & D. E. ALLEN



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Modern Business

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and
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Basil Blackwell

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Contents

| | |
|---|-----|
| Acknowledgements | vii |
| 1 <i>Plan and Purpose</i> | 1 |
| 2 <i>Setting the Scene</i> | 3 |
| Markets and the role of business, the mixed economy, business in Britain, production, exchange, business objectives | |
| 3 <i>Prices and Demand</i> | 20 |
| The determinants of demand, the first law of demand, utility and the theory of demand, price elasticity of demand, the second law of demand, changes in the prices of substitutes and complements, changes in consumer incomes, changes in tastes, conclusion | |
| 4 <i>Production and Costs</i> | 39 |
| Production and the concept of value added, the use of production functions, the law of diminishing returns, short-run costs, linear programming | |
| 5 <i>Market Structure and Business Conduct</i> | 53 |
| The theory of the firm, firm types and market structure, product differentiation and research and development | |
| 6 <i>Scale and Firm Growth</i> | 78 |
| Economies of scale, sources of firms' scale economies: the static view, sources of firms' scale economies: dynamic economies, sources of scale diseconomies, reasons for and methods of growth, vertical integration, diversification | |
| 7 <i>Forecasting</i> | 94 |
| Forecasting, uncertainty and demand curves | |
| 8 <i>Pricing Policies</i> | 111 |
| Cost-plus pricing, pricing and scale, pricing and the product life cycle, sealed bid pricing, alternative business objectives | |

| | | |
|-----------|--|------------|
| 9 | <i>Financial Decision-taking and Control</i> | 124 |
| | The role of the accountant, accounting rules and conventions, accounting problems in the absence of inflation, the accountant's and the economists's definition of profits, accounting for inflation, the role of management accounting, the tax system, financial management decisions, the investment decision, capital structure and the cost of capital, financial management—the puzzles remain | |
| 10 | <i>Financing British Industry</i> | 182 |
| | Business forms and financing alternatives, setting up a private limited company, types of company security, the bond market, quoted company financing, the Stock Exchange, the supply of funds, the financial institutions, controversies and conclusions | |
| 11 | <i>British Industry and its Changing Pattern</i> | 229 |
| | Industrial structure and morphology, concentration in manufacturing industry, industrial structure: its measurement and meaning | |
| 12 | <i>The Public Sector</i> | 249 |
| | The public sector, natural monopoly and pricing policy, efficiency in the nationalized industries | |
| 13 | <i>Markets and Distribution Channels</i> | 262 |
| | The development of the mass market, the development of the marketing concept, marketing channels and middlemen, evolution of marketing channels, the role of advertising | |
| 14 | <i>Industrial Relations and the Market for Labour</i> | 281 |
| | Economic analysis and the labour market, the labour force, unemployment and the regional problem, pay differentials, the role of trade unions, theories of bargaining, UK industrial relations in practice, strikes, counter-inflation policies | |
| 15 | <i>Government Policies towards Industry</i> | 319 |
| | American policy and the structural approach, British policy and the conduct approach, regional policy, other policy areas, public goods and externalities, environmental pollution, resource depletion | |
| 16 | <i>Concluding Thoughts</i> | 353 |
| | <i>Index</i> | 355 |

Plan and Purpose

Economics, perhaps correctly, is not at present held in the highest esteem. This situation contrasts sharply with the halcyon years of 1965–75. In that period economists were seen (and often saw themselves) as possessing the philosopher's stone. Proponents of economics pointed to the unparalleled material welfare enjoyed by the inhabitants of our planet since World War II. Certainly some unattractive pockets of poverty persisted within nations and some countries were poorer than others. But the doctrines of economic growth provided the wherewithal to remedy this. Had not economics pulled us out of the Great Depression? Had not the application of the relevant economic theories provided us with a standard of living we healthily and happily enjoyed? Recent reappraisals of the economic cycle suggest not. Indeed they even suggest the opposite.

So what has been responsible for giving us our present quality of life? The answer is, of course, the one and only wealth-creating section of society: business enterprise. Businessmen, not economists, are responsible for our material welfare. The role of the economist is minor. He can illuminate economic and business activity. He can help us to understand the allocation of resources between firms, within firms and between producers and consumers. In this way he can help, but not guarantee, to make us more effective participants in the business world.

Economists are yesterday's heroes. They have in the past assumed a role they should never have had the arrogance to attempt. They did not and could not deliver what was expected of them. Their true role is to show that businessmen cannot deliver either. We live in a world of scarcity. This requires us to make choices between more and less valued ends. All we can hope to do is make the least bad choices. No course of action will return us to the Garden of Eden. The economist's role is to emphasize this eternal truth and to assist the businessman, the consumer and others to understand the possible outcomes of the relevant choices facing them.

It will be enough if in this book we achieve the modest aim of bringing home the ideas that resources are limited, that nirvana cannot be attained this side of the grave, but that trading and commercial activity can, at least

potentially improve our lot. The unsung heroes responsible for our wealth are consumers and producers operating freely in the market-place. It is to promote appreciation of this fact that we have written the book.

The imperfect engine of wealth creation which is Western industry is our main subject of study. In particular we deal with British business. Chapters 2–7 provide a basic economic tool-kit with which to tackle the rest of the book. The kit includes discussion of why firms are the size they are and why they are members of any given industry. Business decisions and the ways in which they are monitored are covered in chapters 8 and 9. Chapter 10 examines how business is owned by the members of society, either directly, or indirectly, through individual savings. Chapters 11 and 12 discuss the nature and evolution of modern British industry; the emphasis there is on manufacturing industry. In chapter 13 the thrust of the examination returns to the market-place and the consumer; marketing, distribution, trading and exchange again take the centre of the stage. Chapter 14 goes on to consider the relationship between employer and employee. This subject aptly follows chapter 13 since, as emphasized there, both employer and employee are the servants of the consumer. Yet, whenever the topic is treated on its own, this truth is often forgotten. The juxtaposition of these chapters ameliorates but does not excise this conceptual problem. Chapter 15 examines the role of the government: does it hamper or hinder the workings of business for the good of the consumer? We do not attempt a definitive answer, but topics covered include conventional ones, such as monopolies legislation, and less conventional but highly topical issues, such as pollution and resource depletion. In that chapter the Coase Theorem (notably absent from other elementary textbooks) is introduced. This theorem goes some way towards removing the authors' ambivalent attitude towards state interference in the workings of the economy.

Wherever possible we avoid abstruse theorizing; we illustrate models with highly relevant practical examples, provide plenty of statistical information, and describe how firms actually take decisions. Business emerges as exciting, interesting and the best (though still imperfect) way of meeting human wants.

Setting the Scene

Markets and the Role of Business

Many people believe, as did the mercantilist thinkers in the seventeenth century, that only the seller of a good or service benefits from trade. The buyer pays out money which presumably makes him poorer; the seller receives money, which presumably enriches him. Consequently, business is frequently viewed as an avaricious and less than desirable component of society.

There are two fallacies in this reasoning. The first is the claim that one party to a voluntary trade gains while the other loses. This is not so: barring fraud and miscalculations, both parties gain. Individual valuations differ, and trade occurs if, and only if, both parties anticipate receiving in exchange something of greater perceived value than whatever they give up. Voluntary trading is always carried out in the expectation of improving one's lot, be one the buyer or the seller. In short, buyers and sellers have a common interest; they co-operate, not compete, in trade. Buyers may compete against buyers, and sellers against sellers, but sellers and buyers co-operate for the enrichment of both.

The second error is a direct consequence of the mercantilist view that only the person who receives money in exchange for goods becomes richer. Money has no intrinsic value but only value as a medium of exchange and a store of value. It is something which may be traded later for other things, to use or consume. The ultimate purpose of voluntary trade is to obtain goods and services to consume. Adam Smith put it succinctly: 'Consumption is the sole end and purpose of all production.'¹

This sounds very fine, but it draws on arguments of 200–300 years ago. Today economists are very fond of saying, 'there is no such thing as a free lunch.' All this means is that all goods (or most) are scarce. If someone gets more of a good then something must be given up (not necessarily by the same person). At its most prosaic, some children get school meals free of charge, but someone (probably the taxpayer) has to forfeit something to make the zero-priced lunches available. Very few goods are genuinely free. Even air is scarce if you are a diver or an astronaut, and clean air is scarce to city dwellers.

Given scarcity, three fundamental economic questions arise. What goods should be produced and in what proportions? How should they be produced and with what technologies? For whom should they be produced and how much of each should members of society get?

These questions arise in every type of community—small or large, free enterprise, centrally controlled or ‘mixed’. The third question, ‘for whom’, logically implies that, given scarcity, there is competition for the limited output. Smith argued that the sole object of production is consumption: but if the goods produced are scarce, who is to consume?

In a centrally controlled (sometimes called *dirigiste*) economy the planners can allocate the output of business by various forms of competition or discrimination. In Hitler’s Germany Aryans were given preference over Jews. In the southern USA whites had preference over blacks in restaurant seating and in which parts of a bus they could legally occupy. Taken to the extreme case, if food is allocated by height, beauty, race or political clout, then only the tallest, most beautiful, ‘correct’ racial groups and politically approved people survive.

In Britain, the businessman who is more articulate and can present his case better to politicians and civil servants may obtain ‘selective financial assistance’ for investment from the government, while another firm with an identically attractive or even better product concept, but little political nous, will obtain nothing.

In a totally free enterprise economy (i.e. one which is not *dirigiste* but *laissez-faire*) goods are allocated to those who are willing and able to engage in voluntary trade. If in turn those who are willing and able are rewarded on the basis of their productivity, not their sex, colour or race, then the total volume of produced goods available to society to allocate will be increasing, not static. The most productive survive, the least productive do not. This, of course, is no less callous than allocation by decree. Only the favoured group differs. But if the total wealth of the community is increasing then the best of various (imperfect) worlds may be obtained. The handicapped and less well endowed can be aided with ever-increasing amounts of assistance. This can be provided by voluntary charity or by taxation, thus transferring income from one group in society to another. The more productive can earn ever-increasing net incomes for themselves (after tax or charitable donations) and so generate still further wealth for the community. This is the basic rationale for the market economy as against a more autocratic system of resource allocation.

The Mixed Economy

The United Kingdom is often called a ‘mixed economy’. It is neither wholly *dirigiste* and centrally planned, nor is it one of totally free enterprise. Actually the name is somewhat misleading since *all* countries are mixed economies;

only the degree of the mixture varies. Thus the USSR has a substantial private sector in taxi-cabs, market-places and agriculture. The USA has significant governmental interests in health, welfare and social security, as well as the more obvious expenditures on defence and policing and less obvious ones on particular industries such as long-distance passenger trains. In Britain, total government expenditure (as a percentage of the Gross National Product (GNP)) has risen irregularly over the century. The impact of world wars is obvious. Less so is the failure of the expenditure to decline in peacetime. And although various welfare measures over the century have been responsible for increasing social (e.g. pensions, sickness and unemployment benefits) and educational expenditures, the rise between 1960 and 1970 is less understandable. This is particularly so when one remembers that the percentages are growing shares of a generally increasing GNP (table 2.1).

Table 2.1 *Government (central and local) expenditure as a percentage of total Gross National Product*

| | | | |
|------|------|-------------------|------|
| 1900 | 14.3 | 1950 | 39.1 |
| 1910 | 12.2 | 1960 | 39.2 |
| 1920 | 26.2 | 1970 | 47.1 |
| 1930 | 25.0 | 1980 ^a | 50.1 |

^a Estimate

Source: *Barclays Bank Review*, 1980

Table 2.2 illustrates how government expenditure is broken down. Social security payments (plus, of course, their administration) account for over one-quarter. The National Health and associated services, together with education, account for a similar proportion. The national defence budget is the next largest recipient of money from government. The remainder are absolutely large but relatively small. The government sector is, of course, an important ultimate customer of business or industry, through one or other of its programmes (e.g. agriculture, fisheries and food; parts of the defence, housing, industry and roads budgets, etc.). Even government programmes such as health and education pay not insignificant sums to (for example) the construction, medicine instrumentation and publishing industries.

The mixed economy, that hybrid of paternalism and free enterprise which exists in Britain, is neither ruthless (as autocratic economies can and have been) nor devoid of concern for others (as totally free enterprise economies theoretically could be). Rather it combines some of the best of both worlds. However, debate can and does exist as to whether the 'mixture' is correct. Is a 'caring bureaucracy' not a contradiction in terms? Would not voluntary charity be more effective? Is government participation too weak? Or too strong? These are legitimate matters of debate, but they will be left to later chapters.

Table 2.2 *Central and local government expenditure (£m)*

| Major headings | 1980-81 (actual) | 1984-85 (forecast) |
|---|---------------------|-----------------------|
| Defence | 11.2 | 16.4 |
| Overseas aid and other overseas services | 1.8 | 2.5 |
| Agriculture, fisheries, food and forestry | 1.4 | 1.5 |
| Industry, energy, trade and employment | 4.2 | 5.0 |
| Government lending to nationalized industries | 2.3 | 1.1 |
| Roads and transport | 3.5 | 4.5 |
| Housing | 4.7 | 2.9 |
| Other environmental services | 3.4 | 4.0 |
| Law, order and protective services | 3.2 | 4.7 |
| Education and science, arts and libraries | 11.4 | 13.4 |
| Health and personal social services | 11.4 | 15.3 |
| Social security | 23.4 | 35.4 |
| Total | 93.5 | 128.4 |

Source: *The Government's Expenditure Plans, 1982-83 to 1984-85*, Cmnd 8494, HMSO, 1982

Business in Britain

For the purposes of this book, the degree to which the economy is or is not 'mixed' is not of primary importance. Rather we are interested in modern British business *per se*, which is to a greater or lesser extent influenced by the state (from ownership and nationalization at one extreme, to taxation of profits or even occasional subsidizing of losses at the other). State influence on industry will be examined in detail later. Here we simply take a snapshot view of industry in the United Kingdom.

Table 2.3 gives some indication of the nature of British industries and their changes in employment, output and share of Gross Domestic Product (GDP) in 1970 and 1980. The table is ranked by number in the British Standard Industrial Classification (SIC) system. There are 27 orders in the SIC and these are further subdivided into 181 minimum list headings (MLHs). Thus food, drink and tobacco (order III) is subdivided into 15 MLHs such as grain milling, biscuits, sugar, brewing and malting, and tobacco; vehicles (order XI) is subdivided into six, including aerospace equipment manufacturing and repairing, and railway carriages and wagons and trains.

It is quite clear from table 2.3 that the *primary* sector of British industry

Table 2.3 Changes in British industry, 1970–80

| Order (1968, SIC) | | % Change | | Total employment (000) | | % GDP | |
|----------------------|---|------------|--------|---------------------------|--------|-------|------|
| | | Employment | Output | 1970 | 1980 | 1970 | 1980 |
| I | Agriculture, forestry & fisheries | -20.6 | +24.1 | 466 | 370 | 2.9 | 2.2 |
| II | Mining & quarrying | -16.1 | +273.3 | 410 | 344 | 1.5 | 5.6 |
| III–XIX | Manufacturing | -18.4 | -24.4 | 8342 | 6808 | 32.8 | 24.8 |
| III | Food, drink & tobacco ^a | -14.0 | -13.5 | 792 | 681 | 3.7 | 3.2 |
| IV | Coal & petroleum products ^a | -18.7 | +133.3 | 48 | 39 | 0.3 | 0.7 |
| V | Chemicals & allied industries ^a | -2.5 | -14.8 | 442 | 431 | 2.7 | 2.3 |
| VI | Metal manufacture ^a | -32.4 | -48.0 | 593 | 401 | 2.5 | 1.3 |
| VII | Mechanical engineering ^a | -21.7 | -22.2 | 1106 | 866 | 4.5 | 3.5 |
| VIII | Instrument engineering ^a | -12.9 | -16.6 | 163 | 142 | 0.6 | 0.5 |
| IX | Electrical engineering ^a | -12.1 | -13.8 | 828 | 728 | 2.9 | 2.5 |
| X | Shipbuilding, marine engineering ^a | -18.3 | -14.3 | 191 | 156 | 0.7 | 0.6 |
| XI | Vehicles ^a | -14.4 | -3.2 | 842 | 711 | 3.1 | 3.0 |
| XII | Other metal goods ^a | -14.6 | -19.0 | 595 | 508 | 2.1 | 1.7 |
| XIII | Textiles ^a | -35.5 | -38.1 | 727 | 459 | 2.1 | 1.3 |
| XIV | Leather and fur ^a | | 0.0 | | | 0.1 | 0.1 |
| XV | Clothing and footwear ^a | -22.2 | -20.0 | 455 | 354 | 1.0 | 0.8 |
| XVI | Bricks, pottery, etc. ^a | -22.0 | -8.3 | 318 | 248 | 1.2 | 1.1 |
| XVII | Timber, furniture, etc. ^a | -9.6 | -10.0 | 271 | 245 | 1.0 | 0.9 |
| XVIII | Paper, printing, etc. ^a | -15.3 | -21.7 | 626 | 530 | 2.8 | 2.3 |
| XIX | Other manufacturing ^a | -13.3 | -14.3 | 345 | 299 | 1.4 | 1.2 |
| XX | Construction | -5.5 | -4.3 | 1339 | 1263 | 7.0 | 6.7 |
| XXI | Gas, electricity and water | -11.2 | -6.2 | 391 | 347 | 3.2 | 3.0 |
| XXII | Transport | -4.6 | -7.0 | 1572 | 1500 | 8.6 | 8.0 |
| XXIII | Distribution | +4.3 | -5.7 | 2675 | 2790 | 10.6 | 10.0 |
| XXIV | Insurance, banking & finance | | +33.8 | | | 7.1 | 9.5 |
| XXV | Professional & scientific services | +29.1 | +28.2 | 3854 | 4975 | 10.3 | 13.2 |
| XXVI | Miscellaneous services | +32.1 | +15.5 | 698 | 922 | 8.4 | 9.7 |
| XXVII | Public administration & defence | +13.3 | +10.6 | 3103 | 3516 | 6.6 | 7.3 |
| Total | | -0.001 | — | 24,753 | 24,720 | 100 | 100 |

^a 1979

Sources: Annual Abstracts of Statistics, National Income and Expenditure Accounts

(orders I and II) has suffered a decline in employment over the period. Agriculture's share of GDP has fallen but owing to improved agricultural labour productivity output has increased almost inversely with employment decrease. Mining and quarrying has increased its share of GDP, mainly (although this would only be shown by going down to MLH level) owing to the advent of North Sea oil and gas, which have offset the decline in the coal industry.

Secondary industries other than the manufacturing industries, that is, construction (XX) and gas, electricity and water (XXI), have, on average, remained fairly steady in their contribution to GDP but not in their provision of employment. Manufacturing (III–XIX) as a whole has seen a fall in both output and employment. Within the SIC orders themselves, however, considerable differences are evident. Annual output growth rates have been high in coal and petroleum products, while textiles' share of GDP has fallen (the much more dramatic drop in the case of woollen and cotton goods being only

partially compensated for by the growth of the man-made fibre sub-industries). Overall, employment in orders III–XXI inclusive fell by 16.4 per cent.

Conversely, employment in the *tertiary* industries (broadly the government and the distributive and service industries) has risen (by 15 per cent) and their contribution to the GDP by 6.1 per cent.

The reasons for these changes, and a finer analysis of British industry, will be deferred until chapters 4, 5, 8, 9 and 10.

Table 2.3, however, does emphasize one point. All employees are employed in some ‘industry’. Sometimes that industry is state-owned, sometimes not. According to some economists this is not of prime importance to an examination of the ‘mixed economy’. Rather than the size of the state-owned or controlled sector *per se*, ‘it is the public sector activities which do not provide marketed outputs that put particular pressure on the resources of the remainder of the economy. . . . (As these rose) from 41.4 per cent of market output in 1961 to 60.3 per cent in 1974 . . . (they reduced) by nearly one-third the proportion of output that market-sector producers (state or privately owned) could themselves invest and consume.’² In the remainder of this book we will be concerned with markets and buyers and sellers, whether state, government, private firms, co-operatives or individuals. We will not be examining the effect of state activities outside the market-place except as they impinge directly on voluntary trading behaviour.

Production

The *product transformation curve* (which shows a firm’s potential output combinations) highlights the problem of scarcity. The curve is also applicable to a society and is then usually called a *production possibility frontier*.

We will explain the concept of the product transformation curve by an example (see figure 2.1). Consider a vehicle manufacturing firm which, if operating at full capacity, can only produce at points *A*, *B*, *C*, *D* or *E* in a given period. At *A* it could produce 1000 of the 1.5 litre cars but no 1 litre vehicles in the period. Its manpower and machinery would be fully utilized. At *E*, full utilization results in 1250 of the 1 litre cars being produced but no 1.5 litre cars. At points *B*, *C* and *D* different output combinations of the two types of car are possible. But, because of technological ‘lumpiness’ in the equipment available to the firm it cannot move smoothly from *A* to any point before *B*. It must switch an entire group of machines over from 1.5 litre to 1.0 litre vehicles in order to operate efficiently. (A moment of thought will establish the intuitive truth of this. It would be extremely costly to switch frequently the programming of metal cutting, boring, stamping and die-casting machines from one size of car component to another.)

The curve is concave to the origin because of the *law of increasing cost* (strictly, we refer here to ‘opportunity’ cost, which will be discussed on p. 15 below). This law operates in the presence of heterogeneous inputs. This

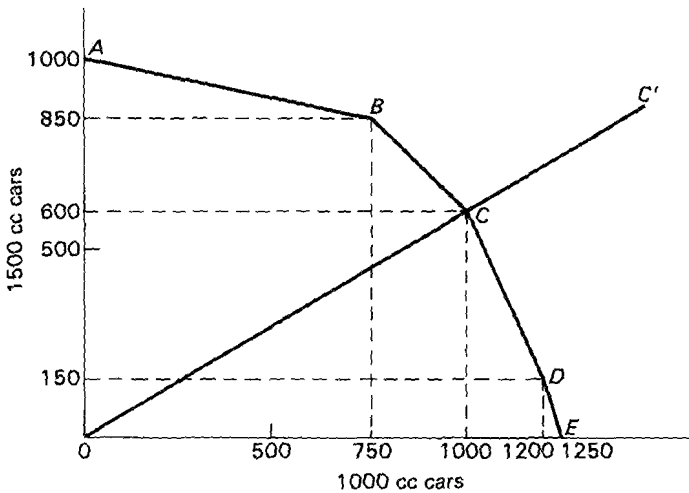


Figure 2.1 *A product transformation curve for a vehicle manufacturer*

simply means that some machinery and men are better equipped or skilled to produce larger cars and vice versa. Thus to move from *A* to *B* the firm must forfeit the opportunity of producing 150 of the 1.5 litre cars in order to gain 750 of the 1.0 litre cars. Each 1 litre car 'costs' the firm $150/750 = 0.2$ of the 1.5 litre cars in forgone production. On the other hand, if the firm moves from *C* to *D* it reduces 1.5 litre production by 450 cars and increases 1 litre production by 200 vehicles. Each 1 litre car 'costs' 2.25 of the 1.5 litre cars; there is a substantial cost increase from 0.2 to 2.25. The reason, of course, is that those (differently skilled) men and (differently designed) machines which are best suited to small-car production are transferred first (the *A* to *B* shift) and the least suitable (but most suitable for large-car production) are transferred last (the *C* to *D* shift).

Where on the product transformation curve the firm will choose to produce depends not only on the curve itself, which illustrates costs, but also on the sales revenue the firm can expect to obtain, which determines profits. Later we will see it is also possible to produce combinations other than *A*, *B*, *C*, *D* or *E* *within* the curve. For the moment, we will restrict ourselves to noting that any point *outside* the curve is technologically impossible. *Within* the curve, given our current assumptions, any point on a ray such as *OC'* implies that the firm is working below full capacity, and doing so with a total car output mix in the ratio of 6 large to 10 small cars.

Exchange

Consumers and producers who enter into voluntary trades act in accordance with seven postulates:³

- 1 For each person some good is scarce.
- 2 Each person wants more than one good; so given scarcity, choice, competition and discrimination are necessary.
- 3 Each person is willing to give up some, not necessarily all, of one good to get more (provided that that 'more' is enough) of another. The smallest amount a person would insist on getting of, say, ale to induce him to give up one cake is called the *marginal utility* of that cake measured in ale. It is also the largest amount of ale the other party to the trade would be willing to forfeit to receive one cake.
- 4 The more a person has of any good, the less valuable is its marginal utility. One glass of ale will quench a thirst. A second will be simply enjoyable. A third may make the drinker feel uncomfortable, and so on. Marginal utility is said to diminish. The reductions in such marginal utility of the cakes and ale are not intrinsic or related to production costs in any way. It may take the same amount of labour to make any one mud cake as it does any one fruit cake. But this is irrelevant in fixing the price at which either type of cake is traded with another person (as under postulate 3). That depends on subjective and *marginal valuations* of the cake in terms of other goods such as ale. Note also that it is the marginal unit which matters to the consumer, not the totality of units.
- 5 People differ in their tastes and preferences.
- 6 People are innovative and rational and will try to improve their position by, for example, production and exchange.
- 7 Decisions taken on the basis of the above postulates may eventually be regretted, or the satisfaction gained may be more than anticipated. No one has perfect knowledge of the future.

Voluntary trade occurs according to these postulates not because people have surpluses to requirements but because people have differing marginal valuations for what they exchange. For example, in figure 2.2 Fred puts a higher marginal value on a pack of butter than does Joe (12 pints of beer against 6) at the initial endowment points of E_F and E_J (12 and 6 pints of beer respectively, and 20 packets of butter each). So mutually advantageous opportunities for trade exist.

Butter will be sold to Fred by Joe until Fred's marginal utility has declined to that of Joe's. Fred values a pack of butter at 12 pints of beer and will gladly buy an extra pack at any price below 12 pints. Joe values butter at 6 pints of beer and will gladly sell a pack for any price above 6 pints. Say Joe and Fred decide to trade at a price of 8 pints of beer. Fred will buy 4 extra packs of butter worth respectively 11, 10, 9 and 8 pints of beer to him, so increasing

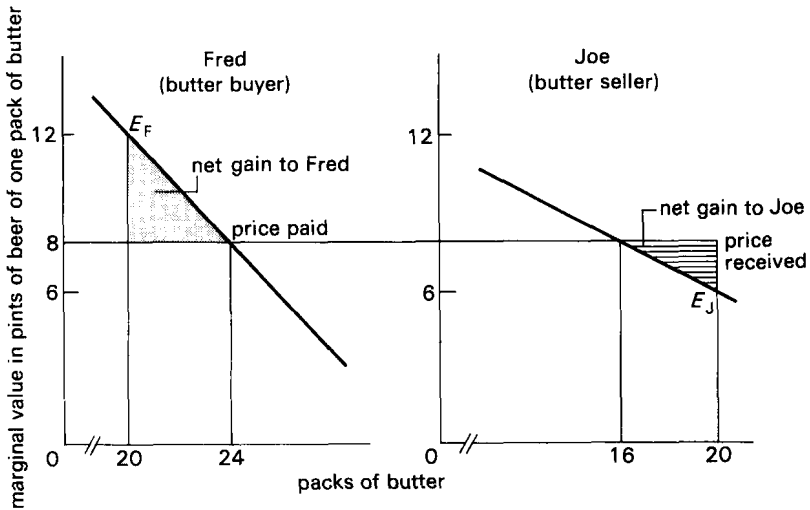


Figure 2.2 *Marginal personal value curves in mutually advantageous trading*

his stock of butter to 24 packs. Joe will sell 4 packs, reducing his stock to 16. He will receive 8 pints of beer for each pack, although they were worth respectively 6.5, 7, 7.5 and 8 pints to him.

In short, Joe will get more beer (as valued by him) than his butter is worth (to him) and Fred will get more butter (as valued by him) than his beer is worth (to him). Both will benefit by an amount equal to the shaded triangles of the diagram. Trade will have benefited both just as if there had been a magical increase in the quantity of beer. Trade is as 'productive' as is manufacture.

The trading continues until both have the same marginal utilities, when no further gains from exchange are possible. Both place the same marginal value on a pack of butter. This can be seen more clearly if Joe's diagram is flipped over 180° from right to left and superimposed on Fred's in such a way that the total length of the base is the total availability of butter (40 packs) (figure 2.3). It is now easy to see that originally Fred's marginal valuation of butter is higher than Joe's and trading continues until they are equal. The intersection point, at a price of 8 pints of beer, is obviously the *point of maximum benefit*. To the left, the gains from trade are not exhausted. To the right, both Joe and Fred are providing each other with commodities they value less than what they are acquiring. (Joe, for example, gives up a pack of butter for 8 pints of beer, but actually values his 15th pack of butter at 8.5 pints; Fred pays 8 pints for a pack of butter but only values his 25th pack at 7 pints).

These marginal value lines can be regarded as *demand curves* (i.e., lines connecting points which show how much beer Fred is willing to give up to