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Competition policy and economics

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1. Introduction

As a general proposition competition law consists of rules that are intended to protect the process of competition in order to maximise consumer welfare. Competition law has grown at a phenomenal rate in recent years in response to the enormous changes in political thinking and economic behaviour that have taken place around the world. There are now more than 120 systems of competition law in the world[1]. In recent years competition laws have entered into force in both China and in India, potentially bringing the benefits of competitive markets to an additional two and a half billion citizens of the world; a competition law will come into effect in Malaysia in 2012. There are several other new competition laws in contemplation, for example in Hong Kong and the Philippines. Competition laws will be found in all continents and in all types of economies – large, small, continental, island, advanced, developing, industrial, trading, agricultural, liberal and post-communist. Quite apart from its geographical growth, competition law is now applied to many economic activities that once were regarded as natural monopolies or the preserve of the state: telecommunications, energy, transport, broadcasting and postal services, to name a few obvious examples, have become the subject of competition law scrutiny. Other sectors, such as the liberal professions, sport and the media, are also within the scope of the subject.

The global reach of competition laws is reflected in the creation of the International Competition Network, a virtual organisation which brings together more than 100 of the world's competition authorities. It has enormous influence in building consensus and convergence towards sound competition policy principles. Its work is considered in chapter 12[2].

A central concern of competition policy is that a firm or firms with market power are able, in various ways, to harm consumer welfare, for example by reducing output, raising prices, degrading the quality of products on the market, suppressing innovation and

[1] A helpful way of accessing the competition laws of the world is through the website of the International Bar Association's Global Competition Forum, at www.globalcompetitionforum.org; other useful sources are the websites of the International Competition Network, www.internationalcompetitionnetwork.org; the OECD, www.oecd.org; and UNCTAD, www.unctad.org.

[2] See ch 12, 'International competition network', p 508.

depriving consumers of choice. These concerns cannot be expressed in a codified table of rules capable of precise application in the way, for example, that laws on taxation or the relationship of landlord and tenant can. The analysis of competition issues invariably requires an assessment of market power, and such an assessment cannot be conducted without an understanding of the economic concepts involved. The same is true of the types of behaviour – for example cartelisation, predatory pricing, discrimination, mergers – with which competition law is concerned. Competition lawyers must understand economic concepts, and competition economists must understand legal processes. It is common practice today – and much to be welcomed – that competition lawyers attend courses on economics and vice versa. Complex cases require both legal and economic input. A (possibly apocryphal) story is that a competition lawyer once remarked at a competition law conference that, in his view, in any competition law case the lawyer should be in the driving seat; and that a competition economist readily agreed, since he always preferred to have a chauffeur. To the extent that this suggests that there is inevitably a conflict between lawyers and economists is, hopefully, outdated: it is better to think of the two as co-pilots of an aeroplane, each understanding the contribution to be made by the other[3].

In the early days of competition law in the European Union the role of economics was not particularly strongly emphasised; the same was true in the US in the early years of antitrust law there. Competition law developed in a fairly formalistic manner, and there were many more 'rules' of a legalistic nature than is the case today. The position – from the middle of the 1990s onwards – has changed dramatically, not least as a result of eminent economists being appointed to some of the most influential positions in institutions entrusted with the application of competition law[4]. An attempt will be made throughout this book to place the competition law of the EU and the UK in its economic context.

This chapter will begin with a brief description of the types of behaviour that competition law is concerned with. It will then attempt to explain why competition policy is considered to be so important to modern economies based on the market mechanism: first it will explore the theory of competition itself and then the various functions that a system of competition law might be expected to fulfil. The chapter will then introduce two key economic concepts – market definition and, more importantly, market power – that are of fundamental importance to understanding competition policy, and that are central to all competition analysis in practice. The chapter will conclude with a table of market share figures that have significance in the application of EU and UK competition law, while reminding the reader that market shares are only ever a proxy for market power and can never be determinative of market power in themselves.

2. Overview of the Practices Controlled by Competition Law

Systems of competition law are concerned with practices that are harmful to the competitive process. In particular competition law is concerned with:

- **anti-competitive agreements**: agreements that have as their object or effect the restriction of competition are unlawful, unless they have some redeeming virtue

[3] For discussion see Kovacic and Shapiro 'Antitrust Policy: A Century of Economic and Legal Thinking' (2000) 14(1) Journal of Economic Perspectives 43.

[4] Obvious examples are the appointment of Mario Monti as European Commissioner for Competition, Sir Derek Morris as Chairman of the UK Competition Commission and Sir John Vickers as Chairman and Chief Executive of the UK Office of Fair Trading.

such as the enhancement of economic efficiency. In particular agreements between competitors, for example to fix prices, to share markets or to restrict output – often referred to as horizontal agreements – are severely punished, and in some systems of law can even lead to the imprisonment of the individuals responsible for them. Agreements between firms at different levels of the market – known as vertical agreements – may also be struck down when they could be harmful to competition: an example would be where a supplier of goods instructs its retailers not to resell them at less than a certain price, a practice often referred to as resale price maintenance. As a general proposition, vertical agreements are much less likely to harm competition than horizontal ones

- **abusive behaviour**: abusive behaviour by a monopolist, or by a dominant firm with substantial market power which enables it to behave as if it were a monopolist, can also be condemned by competition law. An example would be where a dominant firm reduces its prices to less than cost in order to drive a competitor out of the market or to deter a competitor from entering the market so that it can subsequently charge higher prices, a phenomenon known as predatory pricing
- **mergers**: many systems of competition law enable a competition authority to investigate mergers between firms that could be harmful to the competitive process: clearly if one competitor were to acquire its main competitor the possibility exists that consumers would be deprived of choice and may have to pay higher prices as a result. Many systems of competition law provide that certain mergers cannot be completed until the approval of the relevant competition authority has been obtained
- **public restrictions of competition**: the State is often responsible for restrictions and distortions of competition, for example as a result of legislative measures, regulations, licensing rules or the provision of subsidies. Some systems of competition law give a role to competition authorities to scrutinise 'public' restrictions of competition and to play a 'competition advocacy' role by commenting on, and even recommending the removal of, such restrictions.

3. The Theory of Competition

Competition means a struggle or contention for superiority, and in the commercial world this means a striving for the custom and business of people in the market place: competition has been described as 'a process of rivalry between firms . . . seeking to win customers' business over time'[5]. The ideological struggle between capitalism and communism was a dominant feature of the twentieth century. Many countries had the greatest suspicion of competitive markets and saw, instead, benefits in state planning and management of the economy. However enormous changes took place as the millennium approached, leading to widespread demonopolisation, liberalisation and privatisation. These phenomena, coupled with rapid technological changes and the opening up of international trade, unleashed unprecedentedly powerful economic forces. These changes impact upon individuals and societies in different ways, and sometimes the effects can be uncomfortable. Underlying them, however, is a growing consensus that, on the whole, markets deliver

[5] See para 4.1.2 of the *Merger Assessment Guidelines* of the UK Office of Fair Trading and Competition Commission, CC2 revised and OFT 1254, September 2010, available at www.competition-commission.org.uk.

better outcomes than state planning; and central to the idea of a market is the process of competition.

The important issue therefore is to determine the effect which competition can have on economic performance. To understand this one must first turn to economic theory and consider what would happen in conditions of perfect competition and compare the outcome with what happens under monopoly, recognising as one does so that a theoretical analysis of perfect competition does not adequately explain business behaviour in the 'real' world.

(A) **The benefits of perfect competition**

At its simplest – and it is sensible in considering competition law and policy not to lose sight of the simple propositions – the benefits of competition are lower prices, better products, wider choice and greater efficiency than would be obtained under conditions of monopoly. According to neo-classical economic theory, social welfare is maximised in conditions of perfect competition[6]. For this purpose 'social welfare' is not a vague generalised concept, but instead has a more specific meaning: that allocative and productive efficiency will be achieved; the combined effect of allocative and productive efficiency is that society's wealth overall is maximised. Consumer welfare, which is specifically concerned with gains to consumers as opposed to society at large, is also maximised in perfect competition[7]. A related benefit of competition is that it may have the dynamic effect of stimulating innovation as competitors strive to produce new and better products for consumers: this is a particularly important feature of high technology markets.

(i) **Allocative efficiency**

Under perfect competition economic resources are allocated between different goods and services in such a way that it is not possible to make anyone better off without making someone else worse off; consumer surplus – the net gain to a consumer when buying a product – is at its largest. Goods and services are allocated between consumers according

[6] See Asch *Industrial Organization and Antitrust Policy* (Wiley, revised ed, 1983), ch 1; Scherer and Ross *Industrial Market Structure and Economic Performance* (Houghton Mifflin, 3rd ed, 1990), chs 1 and 2; Lipsey and Chrystal *Economics* (Oxford University Press, 12th ed, 2011), ch 7; on industrial economics and competition generally see Tirole *The Theory of Industrial Organization* (MIT Press, 1988); Hay and Morris *Industrial Economics: Theory and Evidence* (Oxford University Press, 1991); Peeperkorn and Mehta 'The Economics of Competition', ch 1 in Faull and Nikpay *The EC Law of Competition* (Oxford University Press, 2nd ed, 2007); Sullivan and Harrison *Understanding Antitrust and Its Economic Implications* (LexisNexis, 4th ed, 2003); Hylton *Antitrust Law: Economic Theory and Common Law Evolution* (Cambridge University Press, 2003); Motta *Competition Policy: Theory and Practice* (Cambridge University Press, 2004); Carlton and Perloff *Modern Industrial Organisation* (Addison Wesley, 4th ed, 2005); Van den Bergh and Camesasca *European Competition Law and Economics: A Comparative Perspective* (Sweet & Maxwell, 2nd ed, 2006); Bishop and Walker *The Economics of EC Competition Law* (Sweet & Maxwell, 3rd ed, 2010), ch 2; Niels, Jenkins and Kavanagh *Economics for Competition Lawyers* (Oxford University Press, 2011); on the psychology of competition from the business manager's perspective, see Porter *Competitive Strategy: Techniques for Analyzing Industries and Competitors* (Macmillan, 1998). Readers may find helpful, in coping with the terminology of the economics of competition law, the *Glossary of Industrial Organisation, Economics and Competition Law* (OECD, 1993); Black *Oxford Dictionary of Economics* (Oxford University Press, 3rd ed, 2003); and the European Commission's *Glossary of Terms used in Competition related matters*, available at www.ec.europa.eu/competition/publications/glossary_en.pdf.

[7] See *Bishop and Walker*, paras 2.17–2.19; *Van den Bergh and Camesasca*, pp 62–69; Cseres 'The Controversies of the Consumer Welfare Standard' (2007) 3(2) Competition Law Review 121; Orbach 'The Antitrust Consumer Welfare Paradox' (2011) 7(1) Journal of Competition Law and Economics 133.

to the price they are prepared to pay, and, in the long run, price equals the marginal cost[8] of production (cost for this purpose including a sufficient profit margin to have encouraged the producer to invest his capital in the industry in the first place, but no more).

The achievement of allocative efficiency, as this phenomenon is known[9], can be shown analytically on the economist's model[10]. Allocative efficiency is achieved under perfect competition because the producer, assuming he is acting rationally and has a desire to maximise his profits, will expand his production for as long as it is privately profitable to do so. As long as he can earn more by producing one extra unit of whatever he produces than it costs to make it, he will presumably do so. Only when the cost of producing a further unit (the 'marginal cost') exceeds the price he would obtain for it (the 'marginal revenue') will he cease to expand production. Where competition is perfect, a reduction in a producer's own output cannot affect the market price and so there is no reason to limit it; the producer will therefore increase output to the point at which marginal cost and marginal revenue (the net addition to revenue of selling the last unit) coincide. This means that allocative efficiency is achieved, as consumers can obtain the amounts of goods or services they require at the price they are prepared to pay: resources are allocated precisely according to their wishes. A monopolist however can restrict output and increase his own marginal revenue as a consequence of doing so[11].

(ii) **Productive efficiency**

Apart from allocative efficiency many economists consider that under perfect competition goods and services will be produced at the lowest cost possible, which means that as little of society's wealth is expended in the production process as necessary. Monopolists, free from the constraints of competition, may be high cost producers. Thus competition is said to be conducive to productive efficiency[12]. Productive efficiency is achieved because a producer is unable to sell above cost (if he did his customers would immediately desert him) and he will not of course sell below it (because then he would make no profit). In particular, if a producer were to charge above cost, other competitors would move into the market in the hope of profitable activity[13]. They would attempt to produce on a more efficient basis so that they could earn a greater profit. In the long run the tendency will be to force producers to incur the lowest cost possible in order to be able to earn any profit at all: an equilibrium will be reached where price and the average cost of producing goods necessarily coincide. This in turn means that price will never rise above cost. If on the other hand price were to fall below cost, there would be an exit of capital from the industry and, as output would therefore decrease, price would be restored to the competitive level.

(iii) **Dynamic efficiency**

A further benefit of competition, albeit one that cannot be proved scientifically and is not captured by the theory of perfect competition, is that producers will be more likely to innovate and develop new products as part of the continual battle of striving for consumers' business. Thus competition may have the desirable dynamic effect of stimulating important technological research and development. This assumption has been

[8] That is to say, the cost of producing an additional unit of output.

[9] Allocative efficiency is also sometimes referred to as 'Pareto efficiency'.

[10] *Scherer and Ross*, pp 19ff; *Lipsey and Chrystal*, pp 153–155.

[11] See 'The harmful effects of monopoly', pp 6–7 below.

[12] For discussion see Vickers 'Concepts of Competition' (1995) 47 Oxford Economic Papers 1.

[13] As will be seen, determining what is meant by 'cost' is, in itself, often a complex matter in competition law: see ch 18, 'Cost concepts', pp 716–718.

questioned. Some argue that only monopolists enjoy the wealth to innovate and carry out expensive research[14]. Schumpeter was a champion of the notion that the motivation to innovate was the prospect of monopoly profits and that, even if existing monopolists earned such profits in the short term, outsiders would in due course enter the market and displace them[15]. A 'perennial gale of creative destruction' would be sufficient to protect the public interest, so that short-term monopoly power need not cause concern. Empirical research tends to suggest that neither monopolists nor fierce competitors have a superior track record in this respect, but it would seem clear that the assertion that only monopolists can innovate is incorrect[16].

It is important to acknowledge that in certain industries, particularly where technology is sophisticated and expensive, one firm may, for a period of time, enjoy very high market shares; however, in due course, a competitor may be able to enter that market with superior technology and replace the incumbent firm. In cases such as this, high market shares over a period of time may exaggerate the market power of the firm that is currently the market leader, but vulnerable to dynamic entry.

(B) **The harmful effects of monopoly**

The theoretical model just outlined suggests that in perfect competition any producer will be able to sell his product only at the market price. The producer is a price-taker, with no capacity to affect the price by his own unilateral action. The consumer is sovereign. The reason why the producer cannot affect the price is that any change in his own individual output will have only a negligible effect on the aggregate output of the market as a whole, and it is aggregate output that determines price through the 'law' of supply and demand.

Under conditions of monopoly the position is very different[17]. The monopolist is in a position to affect the market price. Since he is responsible for all the output, and since it is aggregate output that determines price through the relationship of supply to demand, he will be able either to increase price by reducing the volume of his own production or to reduce sales by increasing price: the latter occurs in the case of highly branded products which are sold at a high price, such as luxury perfumes. Furthermore, again assuming a motive to maximise profits, the monopolist will see that he will be able to earn the largest profit if he refrains from expanding his production to the level that would be attained under perfect competition. The result will be that output is lower than would be the case under perfect competition and that therefore consumers will be deprived of goods and services that they would have been prepared to pay for at the competitive market price. There is therefore allocative inefficiency in this situation: society's resources are not distributed in the most efficient way possible. The inefficiency is accentuated by the fact that consumers, deprived of the monopolised product they would have bought, will spend their money on products which they wanted less. The economy to this extent is performing below its potential. The extent of this allocative inefficiency is sometimes referred to as the 'deadweight loss' attributable to monopoly.

The objection to monopoly does not stop there. There is also the problem that productive efficiency may be lower because the monopolist is not constrained by competitive forces to reduce costs to the lowest possible level. Instead the firm becomes 'X-inefficient'. This term, first used by Liebenstein[18], refers to a situation in which resources are used to

[14] Galbraith *American Capitalism: The Concept of Countervailing Power* (Houghton Mifflin, 1952).
[15] *Capitalism, Socialism and Democracy* (Taylor & Francis Books, 1976).
[16] *Scherer and Ross*, ch 17. [17] See *Scherer and Ross*, ch 2; *Lipsey and Chrystal*, ch 8.
[18] 'Allocative Efficiency vs X-Efficiency' (1966) 56 Am Ec Rev 392–415.

make the right product, but less productively than they might be: management spends too much time on the golf course, outdated industrial processes are maintained and a general slackness pervades the organisation of the firm. Furthermore the monopolist may not feel the need to innovate, because he does not experience the constant pressure to go on attracting custom by offering better, more advanced, products. Thus it has been said that the greatest benefit of being a monopolist is the quiet life he is able to enjoy. However it is important to bear in mind that inefficient managers of a business may be affected by pressures other than those of competition. In particular their position may be undermined by uninvited takeover bids on stock exchanges from investors who consider that more efficient use could be made of the firm's assets[19]. Competition may be felt in capital as well as product markets: this is sometimes referred to as 'the market for corporate control'.

A final objection to the monopolist is that, since he can charge a higher price than in conditions of competition (he is a price-maker), wealth is transferred from the hapless consumer to him. This may be particularly true where he is able to discriminate between customers, charging some more than others: however it is important to recognise that price discrimination in some circumstances may be welfare-enhancing, or at least neutral in terms of social welfare, in particular where it allows firms to recover fixed expenditure that would otherwise not have been recovered[20]. While it is not the function of competition authorities themselves to determine how society's wealth should be distributed, it is manifestly a legitimate matter for Governments to take an interest in economic equity, and it may be that one of the ways in which policy is expressed on this issue is through competition law[21].

Thus runs the theory of perfect competition and monopoly. It indicates that there is much to be said for the 'invisible hand' of competition which magically and surreptitiously orders society's resources in an optimal way, as opposed to the lumbering inefficiency of monopoly. However, we must now turn from the models used in the economist's laboratory to the more haphazard ways of commercial life before rendering a final verdict on the desirability of competition.

(C) **Questioning the theory of perfect competition**

(i) **The model of perfect competition is based on assumptions unlikely to be observed in practice**

The first point which must be made about the theory of perfect competition is that it is only a theory; the conditions necessary for perfect competition are extremely unlikely to be observed in practice. Perfect competition requires that on any particular market there is an infinite number of buyers and sellers, all producing identical (or 'homogeneous') products; consumers have perfect information about market conditions; resources can flow freely from one area of economic activity to another: there are no 'barriers to entry' which might prevent the emergence of new competition, and there are no 'barriers to exit' which might hinder firms wishing to leave the industry[22]. Of course a market structure

[19] See eg Hall 'Control Type and the Market for Corporate Control in Large US Corporations' (1977) 25 J Ind Ec 259–273; this issue is discussed further in ch 20, 'Management efficiency and the market for corporate control', pp 814–815.

[20] See *Lipsey and Chrystal*, pp 289–291; on abusive pricing by dominant firms generally see ch 18.

[21] See 'Goals of competition law', pp 19–24 below on the various functions of competition law.

[22] See 'Potential competitors', pp 44–45 below for further discussion of barriers to entry and exit.

satisfying all these conditions is unlikely, if not impossible: we are simply at this stage considering theory, and the theory is based upon a number of assumptions.

Between the polar market structures, of perfect competition on the one hand and monopoly on the other, there are many intermediate positions. Many firms sell products which are slightly differentiated from those of their rivals or command some degree of consumer loyalty, so that there will not be the homogeneity required for perfect competition. This means that an increase in price will not necessarily result in a substantial loss of business. It is unlikely that a customer will have such complete information of the market that he will immediately know that a lower price is available elsewhere for the product he requires, yet the theory of perfect competition depends on perfect information being available to consumers. This is why legislation sometimes requires that adequate information must be made available to consumers about prices, terms and conditions[23]. There are often barriers to entry and exit to and from markets; this is particularly so where a firm that enters a market incurs 'sunk costs', that is to say costs that cannot be recovered when it ceases to operate in the future.

Just as perfect competition is unlikely to be experienced in practice, monopoly in its purest form is also rare. There are few products where one firm is responsible for the entire output: normally this happens only where a state confers a monopoly, for example to deliver letters. Most economic operators have some competitors; and even a true monopolist may hoist prices so high that customers cease to buy: demand is not infinitely inelastic[24]. In practice, most cases involve not a monopolist, in the etymological sense of one firm selling all the products on a particular market. Rather, competition law concerns itself with firms that have a dominant position, which in competition law terms is equated with significant market power. The economic concept of market power is key to understanding and applying competition law. When assessing whether a firm or firms have market power it is normal to begin by defining the relevant product and geographical markets; then the competitive constraints upon firms both from within and from outside those markets are considered, as well as countervailing buyer power. These issues are considered further in section 5 of this chapter.

(ii) **Other problems with the theory of perfect competition**

Apart from the fact that perfect competition and pure monopoly are inherently unlikely, there are other problems with the theory itself. It depends on the notion that all businessmen are rational and that they always attempt to maximise profits, but this is not necessarily the case. Directors of a company may not think that earning large profits for their shareholders is the most important consideration they face: they may be more interested to see the size of their business empire grow or to indulge themselves in the quiet life that monopolists may enjoy[25].

A further problem with the theory of perfect competition is that its assertion that costs are kept to an absolute minimum is not necessarily correct. It is true that the private costs of the producer will be kept low, but that says nothing about the social costs or 'externalities' which arise for society at large from, for example, the air pollution that a factory

[23] This is a possible remedy under UK law following a market or merger investigation: see Enterprise Act 2002, Sch 8, paras 15–19; the CC has imposed remedies requiring the provision of clearer information to consumers on a number of occasions: see ch 11, 'The Market Investigations Provisions in Practice', pp 479–485.

[24] Demand is inelastic when a 1 per cent change in price leads to a fall in quantity of less than 1 per cent; it is elastic when a 1 per cent change in price leads to a reduction in quantity of a greater percentage.

[25] *Scherer and Ross*, pp 44–46; see also *Bishop and Walker*, p 21, n 17.

causes, or the severed limbs that must be paid for because cheap machinery is used which does not include satisfactory safeguards against injury. It has been argued that competition law should not concern itself with these social costs[26], and perhaps it is true that this is a matter best left to specific legislation on issues such as conservation, the environment and health and safety at work; also it would be wrong to suppose that monopolists do not themselves produce social costs. However it is reasonable to be at least sceptical of the argument that in perfect competition the costs of society overall will inevitably be kept at a minimal level. Lastly, there is the difficulty with the theory of perfect competition that it is based on a static model of economic behaviour which may fail to account for the dynamic nature of markets and the way in which they operate over a period of time[27]. Firms such as Xerox and IBM, that may have dominated their industries at a particular time in history, nevertheless have found themselves to be engulfed subsequently by competitive forces in the market; it is possible that the same fate might befall Microsoft as cloud technology diminishes the importance of personal computers as a place to store data. Schumpeter's gale of perennial destruction may affect even the most powerful economic operators.

Given these doubts it might be wondered whether pursuit of an unattainable ideal of perfect competition is worthwhile at all. Indeed some theoreticians have asserted that it might be positively harmful to aspire to a 'second-best solution' in which something similar to, but falling short of, perfect competition is achieved[28]. A second-best solution may actually compound allocative inefficiency and harm consumer welfare, as one distortion in the market inevitably affects performance in other parts of the economy. Where competition is imperfect and monopoly exists, attacking individual vulnerable monopolies while leaving other ones intact might simply exacerbate the pre-existing allocative inefficiency. One should guard against the assumption that tinkering with individual sectors of the economy will necessarily improve performance in the economy as a whole.

Apart from the issue of 'second-best', there is the further problem that if perfect competition cannot be attained, some alternative model is needed to explain how imperfect markets work or should work. In particular it will be necessary to decide how monopolists or dominant firms should be treated, and an adequate theory will be needed to deal with oligopoly, a common industrial phenomenon which exists where a few firms between them supply most of the products within the relevant market without any of them having a clear ascendancy over the others. Some economists would argue that, as the most common market form is oligopoly, competition policy ought to be designed around an analytical model of this phenomenon rather than the theory of perfect competition[29].

(D) **Questioning competition itself**

The comments just made question various aspects of the theory of perfect competition. A second line of inquiry considers whether competition is so obviously beneficial anyway. There are some arguments that suggest that competition may not yield the best outcome for society.

[26] Bork *The Antitrust Paradox* (The Free Press, 1993), pp 114–115.

[27] See eg Evans and Hylton 'The Lawful Acquisition and Exercise of Monopoly Power and Its Implications for the Objectives of Antitrust' (2008) 4(2) Competition Policy International 203.

[28] Lipsey and Lancaster 'The General Theory of Second Best' (1956–57) 24 Rev Ec Stud 11–32; see also *Scherer and Ross*, pp 33–38 and *Asch*, pp 97–100.

[29] On tacit collusion, oligopoly and parallel behaviour see ch 14.

(i) Economies of scale and scope and natural monopolies

The first relates to economies of scale, scope and the phenomenon of 'natural monopoly'[30]. In some markets there may be significant economies of scale, meaning that the average cost per unit of output decreases with the increase in the scale of the outputs produced; economies of scope occur where it is cheaper to produce two products together than to produce them separately. In some markets a profit can be made only by a firm supplying at least one quarter or one third of total output; it may even be that the 'minimum efficient scale' of operation is achieved only by a firm with a market share exceeding 50 per cent, so that monopoly may be seen to be a natural market condition[31]. Similarly, economies of scope may be essential to profitable behaviour. Natural monopoly means a situation in which scale economies are so great that having two or more competing producers would not be viable and so efficiency dictates that a single firm serves the entire market. Natural monopoly is an economic phenomenon, to be contrasted with statutory monopoly, where the right to exclude rivals from the market is derived from law. Where natural monopoly exists, it is inappropriate to attempt to achieve a level of competition which would destroy the efficiency that this entails. This problem may be exacerbated where the 'natural monopolist' is also required to perform a 'universal service obligation', such as the daily delivery of letters to all postal addresses at a uniform price; performance of such an obligation may not be profitable in normal market conditions, so that the state may confer a statutory monopoly on the undertaking entrusted with the task in question. The lawfulness under EU and UK competition law of 'special or exclusive rights' conferred by the state is one of the more complex issues to be considered in this book[32].

Where the minimum efficient scale is very large in relation to total output, a separate question arises as to how that industry can be made to operate in a way that is beneficial to society as a whole. It may be that public ownership is a solution, or that a system of regulation should be introduced while leaving the producer or producers in the private sector[33]. A further possibility is that firms should be allowed to bid for a franchise to run the industry in question for a set period of time, at the end of which there will be a further round of bidding. In other words there will be periodic competition to run the industry, although no actual competition within it during the period of the franchise[34]: this happens in the UK, for example, when companies bid for television or rail franchises or to run the national lottery. The 100 per cent share of the market that a firm might have after it has won the bid does not accurately reflect its market power if it was subject to effective competition when making its bid[35].

[30] *Lipsey and Chrystal*, pp 291–293; *Scherer and Ross*, pp 97–141.

[31] See Schmalensee *The Control of Natural Monopolies* (Lexington, 1979); Sharkey *The Theory of Natural Monopoly* (Cambridge University Press, 1982).

[32] See ch 6, 'Article 106', pp 222–224 and ch 9, 'Services of general economic interest', pp 352–353.

[33] See ch 23, 'Regulated Industries', pp 977–980.

[34] See Demsetz 'Why Regulate Utilities?' (1968) 11 J L Ec 55–66; for criticism of the idea of franchise bidding see Williamson 'Franchise Bidding for Natural Monopolies in General and with respect to CATV' (1976) 7 Bell J Ec 73–104.

[35] For further discussion of so-called 'bidding markets' see 'Market shares', p 43 below.

(ii) Network effects and two-sided markets[36]

(A) Network effects

Certain markets are characterised by 'network effects'. A direct network effect arises where the value of a product increases with the number of other customers consuming the same product. A simple example of a direct network effect is a telecommunications network. Suppose that Telcom has 100 subscribers to its network; suppose further that it is impossible for the users of Telcom's network to communicate with subscribers to competing networks. If a new consumer subscribes to the Telcom system the 100 original subscribers can now make contact with an additional person, without having incurred any additional cost themselves: for this reason the benefit to those subscribers is sometimes described as a network externality. In the same way users of a particular computer software system will benefit as more people use the same system, since it becomes possible to share documents, images and music with more people. Where this occurs computer programmers will increasingly write new software that is compatible with the system, so that the system becomes even more valuable to the consumers that use it (an indirect network effect).

(B) Two-sided markets[37]

In the simple example given above of subscribers joining a telecommunications network, the value of the network increased because of the number of consumers joining it. However there are some markets, often referred to as 'two-sided markets', where two or more groups of customers are catered for, and where a network effect arises as more consumers join one or the other side of the market. A simple example is a newspaper. A newspaper publisher sells advertising space; it also supplies newspapers to citizens, sometimes at a cover price and sometimes free of charge. The publisher's ability to sell advertising space increases according to the number of citizens expected to read the newspaper. Exactly the same is true of commercial television stations: advertising slots during the football World Cup final will be hugely expensive because of the opportunity that exists to advertise products to a large number of people. The same phenomenon can be seen at play in the case of credit cards: the more merchants that accept a particular card, the more consumers will use that card; and the more consumers that use that card, the more merchants will accept it.

(C) Network effects and competition policy

Network effects may have positive effects on competition, since consumers become better off as a product becomes more popular. The increased utility of a telecommunications network is of value both to the operator and to the subscribers. In the case of a successful credit card system, merchants, the card issuer and consumers benefit. However network

[36] See OFT Economic Discussion Paper 3 (OFT 377) *Innovation and Competition Policy* (Charles River Associates, March 2002), paras 1.6–1.8; *Merger Assessment Guidelines* of the UK Office of Fair Trading and Competition Commission (CC2 revised and OFT 1254, September 2010), paras 5.2.20, 5.7.16 and 5.8.6; see further Salop and Romaine 'Preserving Monopoly: Economic Analysis, Legal Standards, and Microsoft' (1999) 7 George Mason Law Review 617; Cass and Hylton 'Preserving Competition: Economic Analysis, Legal Standards and Microsoft' (1999) 8 George Mason Law Review 1; Posner 'Antitrust in the New Economy' (2001) 68 Antitrust Law Journal 925.

[37] For discussion of two-sided markets see the contributions at a symposium on two-sided markets, specifically concerned with payment cards, at (2006) 73 Antitrust Law Journal 571ff and the series of essays in (2007) 3(1) Competition Policy International 147ff; see also *Bishop and Walker*, paras 3.042–3.045; and the OECD Roundtable on *Two-sided markets* of December 2009, available at www.oecd.org.

effects also give rise to the possibility of one firm dominating a market, in particular because there may be 'tipping effects' where all the customers in a particular market decide to opt for the product of one firm or for one particular technology. Many years ago, when video cassettes and video recorders were first introduced to the market, there were two competing technologies, Betamax and VHS; many people considered that the Betamax technology was superior, and yet the market tipped in favour of VHS. In the same way the market can be seen to have tipped in favour of Microsoft's Windows operating system[38]. If tipping does take place, or if it is a likely consequence of a merger, a question for competition policy is to determine how the issue should be addressed. Various possibilities exist, including remedies in merger cases[39] and the possibility that third parties should be allowed to have access to the product of the successful firm in whose favour the tipping has occurred: however, mandatory access to the successful products of innovative firms risks chilling the investment that created the product in the first place[40].

A specific point about two-sided markets is that pricing practices that, at first sight, appear to be anti-competitive might have an objective justification in their specific context. For example in the case of free-to-air television the broadcaster, in one sense, could be seen to be acting in a predatory manner by supplying a service at below the cost of production, which would be abusive if it was in a dominant position; but in a two-sided market this analysis may be wrong if the free-to-air broadcasting is paid for by the sale of advertising; the same is true of the 'free' newspapers that are now so prevalent, for example, in London and other major cities.

(iii) **Particular sectors**

As well as the complexity of introducing competition into markets that might be regarded as natural monopolies, it is possible that social or political value-judgments may lead to the conclusion that competition is inappropriate in particular economic sectors. Agriculture is an obvious example. Legislatures have tended to the view that agriculture possesses special features entitling it to protection from the potentially ruthless effects of the competitive system. An obvious illustration of this is the Common Agricultural Policy of the EU[41]. Similarly it might be thought inappropriate (or politically impossible) to expose the labour market to the full discipline of the competitive process; this point is demonstrated by the judgment of the European Court of Justice in *Albany International BV v Stichting Begrijfspensioenfonds Textielindustrie*[42] which concluded that collective bargaining between organisations representing employers and employees is outside Article 101 TFEU. Defence industries may be excluded from competition law scrutiny[43]. Systems of competition law have often shown a tendency to refrain from insisting that the liberal professions should have to sully their hands with anything as offensive as price competition or advertising, although the European Commission has taken a stricter line

[38] The Commission discussed tipping effects in *Microsoft*, Commission decision of 24 March 2004, paras 448–472.

[39] See eg Case M 1069 *WorldCom/MCI*, decision of 8 July 1998; the Commission subsequently prohibited the merger in Case M 1741 *MCIWorldCom/Sprint*, decision of 28 June 2000 where it had network concerns, but this decision was annulled on appeal for procedural reasons, Case T-310/00 *MCI Inc v Commission* [2004] ECR II-3253, [2004] 5 CMLR 1274.

[40] See in particular ch 17, 'Refusal to Supply', pp 697–711 on the law of refusal to supply and the so-called 'essential facilities' doctrine.

[41] On the (non-)application of EU competition law to the agricultural sector see ch 23, 'Agriculture', pp 963–967; leading texts on the common agricultural policy are cited at ch 23 n 7, p 963.

[42] Case C-67/96 [1999] ECR I-5751, [2000] 4 CMLR 446; see ch 3, 'Employees and trades unions', pp 90–91.

[43] See ch 23, 'Military Equipment', p 963 for the position in EU law.

in recent years[44]; however the Court of Justice has held that restrictive professional rules that are proportionate and ancillary to a regulatory system that protects a legitimate public interest fall outside Article 101(1) TFEU[45]. The Court of Justice in 2006 established that the competition rules are capable of application to sport[46], overturning a judgment of the General Court to the contrary[47].

(iv) Beneficial restrictions of competition

Another line of argument is that in some circumstances restrictions of competition can have beneficial results. This may manifest itself in various ways. One example is the suggestion that firms which are forced to pare costs to the minimum because of the pressures of competition will skimp on safety checks. This argument is particularly pertinent in the transport sector, where fears are sometimes expressed that safety considerations may be subordinated to the profit motive: an example would be where airlines compete fiercely on price. It may be that specific safety legislation can be used to overcome this anxiety; and monopolists seeking to enlarge their profits may show the same disregard for safety considerations as competing firms, a charge levelled against Railtrack (since replaced by Network Rail) in the UK following a series of serious rail accidents in the late 1990s and 2000. Safety was an important issue in the debate in the UK as to whether National Traffic Control Services (now known as National Air Traffic Services), responsible for the control of air navigation, should be privatised, provision for which was made in sections 41 to 65 of the Transport Act 2000. A related argument is that higher alcohol prices – and a restriction of price competition between suppliers of alcohol – might save drinkers, and the rest of society, from the harmful effects of excess drinking; the same argument can be applied to smoking.

Another possibly beneficial restriction of competition could arise where two or more firms, by acting in concert and restricting competition between themselves, are able to develop new products or to produce goods or services on a more efficient scale: the benefit to the public at large may be considerable; both Article 101(3) TFEU and section 9 of the UK Competition Act 1998 recognise that, in some cases, agreements may be tolerated which, though restrictive of competition, produce beneficial effects[48]. A further example of the same point is that a producer might impose restrictions on his distributors in order to ensure that they promote his products in the most effective way possible; although this might diminish competition in his own goods (intra-brand competition), the net effect may be to enhance the competitive edge of them as against those produced by his competitors (inter-brand competition)[49]. These examples suggest that a blanket prohibition of agreements that restrict competition would deprive the public of substantial advantages.

(v) Ethical and other objections

A more fundamental objection to competition might be that it is considered in some sense to be inherently objectionable. The very notion of a process of rivalry whereby firms strive for superiority may be considered ethically unsound. One argument (now largely

[44] See ch 13, 'Advertising Restrictions', pp 547–550.

[45] Case C-309/99 *Wouters v Algemene Raad van de Nederlandse Orde van Advocaten* [2002] ECR I-1577, [2002] 4 CMLR 913: see ch 3, 'Regulatory ancillarity: the judgment of the Court of Justice in *Wouters*', pp 130–133.

[46] Case C-519/04 P *David Meca-Medina v Commission* [2006] ECR I-6991, [2006] 5 CMLR 1023; see ch 3, 'The application of Article 101(1) to sporting rules', pp 133–134.

[47] Case T-313/02 *David Meca-Medina v Commission* [2004] ECR II-3291, [2004] 3 CMLR 1314.

[48] On horizontal cooperation agreements generally see ch 15.

[49] On vertical agreements generally see ch 16.

discredited) is that 'cut-throat' competition means that firms are forced to charge ever lower prices until in the end the vicious cycle leads them to charge below marginal cost in order to keep custom at all; the inevitable effect of this will be insolvency. The prevailing attitude in much of UK industry during the first half of the twentieth century was that competition was 'harmful' and even destructive and it was this entrenched feeling that led to the adoption of a pragmatic and non-doctrinaire system of control in 1948[50]. It was not until the Competition Act 1998 – 50 years later – that the UK finally adopted legislation that gave the Office of Fair Trading ('the OFT') effective powers to unearth and penalise pernicious cartels[51]. Economically the argument that competition is a cut-throat business that leads to insolvency is implausible, but industrialists do use it.

Another argument is that competition should be arrested where industries enter cyclical recessions – or even long-term decline – in order that they do not disappear altogether[52]. Again competition might be thought undesirable because of its wasteful effects. The consumer may be incapable of purchasing a tin of baked beans in one supermarket because of the agonising fear that at the other end of town a competitor is offering them more cheaply. He will waste his time (a social cost) and money 'shopping around': such an argument once commended itself to the (now abolished) Restrictive Practices Court in the UK[53]. Meanwhile competitors will be wasting their own money by paying advertising agencies to think up more expensive and elaborate campaigns to promote their products[54].

(vi) Industrial policy

One practical objection to promoting competition is that it may be considered to be inimical to the general thrust of industrial policy. Admittedly the suggestion has been made that, in conditions of perfect competition, firms will innovate in order to keep or attract new custom. However Governments often encourage firms to collaborate where this would lead to economies of scale or to more effective research and development; and they may adopt a policy of promoting 'national champions' which will be effective as competitors in international markets[55]. There are certainly circumstances in which the innovator, the entrepreneur and the risk-taker may require some immunity from competition if they are to indulge in expensive technological projects. This is recognised in the law of intellectual property rights which provides an incentive to firms to innovate by preventing the appropriation of commercial ideas which they have developed[56]. A patentee in the UK is given the exclusive right for 20 years to exploit the subject-matter of his patent[57]. A similar incentive and/or reward is given to the owners of copyright, registered designs and analogous rights[58]. This is a recognition of the fact that in some circumstances competition suppresses innovation and an indication of the vacuity of relentlessly pursuing the ideal of perfect competition. The relationship between competition law and the law of intellectual property is a fascinating one, in particular the

[50] See Allen *Monopoly and Restrictive Practices* (George Allen & Unwin, 1968).

[51] On these powers see ch 10, 'Inquiries and Investigations', pp 394–402 and 'Penalties', 410–414.

[52] *Scherer and Ross*, pp 294–306; see also ch 15, 'Restructuring agreements', pp 612–613 on restructuring agreements.

[53] See *Re Black Bolt and Nut Association of Great Britain's Agreement* (1960) LR 2 RP 50, [1960] 3 All ER 122.

[54] *Scherer and Ross*, pp 404–407.

[55] This can be an important issue in some merger cases: see ch 20, 'National champions', p 814.

[56] See generally Cornish, Llewellyn and Aplin *Intellectual Property Law* (Sweet & Maxwell, 7th ed, 2010); see also speech by Vickers 'Competition Policy and Innovation' 27 June 2001, available at www.oft.gov.uk.

[57] Patents Act 1977, s 25.

[58] Copyright, Designs and Patents Act 1988, ss 12–15, 191, 216, 269.

apparent tension between on the one hand the desire to keep markets open and free from monopoly and on the other the need to encourage innovation precisely by granting monopoly rights; in fact, however, this tension is more apparent than real[59]. These issues will be considered in chapter 19.

(vii) **The economic crisis and competition policy**

The global economic crisis that commenced in the late 2000s led to loud calls in some quarters for a relaxation, or even the abandonment, of competition law in order to provide relief to firms facing an uncertain financial future. Competition authorities globally resisted such calls, arguing that competition remained as important in harsh economic times as in benign ones[60].

(viii) **Competitions are there to be won**

The last point that should be made in this brief survey of objections to competition is that the competitive process contains an inevitable paradox. Some competitors win. By being the most innovative, the most responsive to customers' wishes, and by producing goods or services in the most efficient way possible, one firm may succeed in seeing off its rivals. It would be strange, and indeed harmful, if that firm could then be condemned for being a monopolist. As Judge Learned Hand opined in *US v Aluminum Co of America*[61]:

> [A] single producer may be the survivor out of a group of active companies, merely by virtue of his superior skill, foresight and industry…The successful competitor, having been urged to compete, must not be turned upon when he wins.

(E) **Empirical evidence**

A separate issue is whether there is any empirical evidence to support, or indeed to contradict, the case for competition and, if so, what the evidence can tell us. It is notoriously difficult to measure such things as allocative efficiency or the extent to which innovation is attributable to the pressure of competition upon individual firms. Economists have often suggested that there is some direct causal relationship between industrial structure, the conduct of firms on the market and the quality of their economic performance[62]: this is often referred to as the 'structure-conduct-performance paradigm'. A monopolistic structure can be expected to lead to a restriction of output and a loss of economic efficiency: a natural consequence of this view would be that competition law should be watchful for any acts or omissions that could be harmful to the structure of the market, and in particular for conduct that could foreclose access to it and mergers that lead to fewer players. Others argue that this schematic presentation is too simplistic. In particular it is said to be unsound because it is uni-directional and fails to indicate the extent to

[59] See ch 19, 'Is there an inevitable tension between intellectual property rights and competition law?', pp 769–770.

[60] Innumerable speeches to this effect can be found: as examples see Kroes 'Competition Policy, growth and consumer purchasing power' 13 October 2008, available at www.ec.europa.eu/competition/speeches/index_2008.html; Fingleton 'Competition Policy in Troubled Times' 20 January 2009, available at www.oft.gov.uk.

[61] 148 F 2d 416 (2nd Cir 1945).

[62] This schematic model of industrial behaviour was first suggested by Mason 'Price and Production Policies of Large-Scale Enterprise' (1939) 29 Am Ec Rev Supplement 61–74; see *Scherer and Ross*, chs 3 and 4.

which performance itself can influence structure and conduct[63]. Good performance, for example, may in itself affect structure by attracting new entrants into an industry.

Other economists have attempted to measure the extent to which monopoly results in allocative inefficiency and leads to a deadweight loss to society[64]. There are of course formidable difficulties associated with this type of exercise, and many of the studies that have been published have been criticised for their methodology. Scherer and Ross devote a chapter of their book to this problem[65] and point out that there has been a dramatic expansion in the range and intensity of empirical research into industrial organisation in recent years. Their conclusion is that, despite the theoretical problems of such research, important relationships do exist between market structure and performance, and that the research should continue[66]. These issues are considered further in an Economic Discussion Paper, published by the OFT in June 2002, which contains literature reviews looking in turn at the deadweight welfare loss attributable to monopoly, at competition and efficiency and at price fixing and cartels[67]. More prosaically it might be added that, even if there are difficulties in measuring scientifically the harmful effects of monopoly in liberalised market economies, the economic performance of the Soviet Union and its neighbours in the second half of the twentieth century suggests that the effects of state planning and monopoly can be pernicious.

(F) **Workable competition**

The discussion so far has presented a model of perfect competition, but has acknowledged that it is based upon a set of assumptions that are unlikely to be observed in practice; it has also been pointed out that there are some arguments that can be made against competition, although some of them are less convincing than others. If perfect competition is unattainable, the question arises whether there is an alternative economic model to which it would be reasonable to aspire. Some economists have been prepared to settle for a more prosaic theory of 'workable competition'[68]. They recognise the limitations of the theory of perfect competition, but nonetheless consider that it is worthwhile seeking the best competitive arrangement that is practically attainable. Quite what workable competition should consist of has caused theoretical difficulties[69]; however a workably competitive structure might be expected to have a beneficial effect on conduct and performance, and therefore be worth striving for and maintaining.

[63] Phillips 'Structure, Conduct and Performance – and Performance, Conduct and Structure' in Markham and Papanek (eds) *Industrial Organization and Economic Development* (Houghton Mifflin Co, 1970); Sutton *Sunk Costs and Market Structure: Price Competition, Advertising and the Evolution of Concentration* (MIT Press, 1991).

[64] Weiss 'Concentration-Profit Relationship' in *Industrial Concentration: the New Learning* (eds Goldschmid and others, 1974); Gribbin *Postwar Revival of Competition as Industrial Policy*; Cowling and Mueller 'The Social Costs of Monopoly Power' (1978) 88 Ec J 724–748, criticised by Littlechild at (1981) 91 Ec J 348–363.

[65] *Industrial Market Structure and Economic Performance*, ch 11.

[66] Ibid, p 447.

[67] OFT Economic Discussion Paper 4 (OFT 386) *The development of targets for consumer savings arising from competition policy* (Davies and Majumdar, June 2002), available at www.oft.gov.uk.

[68] Clark 'Toward a Concept of Workable Competition' (1940) 30 Am Ec Rev 241–256; Sosnick 'A Critique of Concepts of Workable Competition' (1958) 72 Qu J Ec 380–423 (a general review of the literature); see also *Scherer and Ross* pp 52–55.

[69] See Asch *Industrial Organization and Antitrust Policy* (Wiley, revised ed, 1983), pp 100–104.

(G) **Contestable markets**

Some economists have advanced a theory of 'contestable markets' upon which competition law might be based[70]. According to this theory, firms will be forced to ensure an optimal allocation of resources provided that the market on which they operate is 'contestable', that is to say provided that it is possible for firms easily to enter the market without incurring sunk costs[71] and to leave it without loss. While this theory aims to have general applicability, it has been particularly significant in discussion of the deregulation of industries in the US. In a perfectly contestable market, entry into an industry is free and exit is costless. The emphasis on exit is important as firms should be able to leave an industry without incurring a loss if and when opportunities to profit within it disappear. A perfectly *contestable* market need not be perfectly *competitive*: perfect competition requires an infinite number of sellers on a market; in a perfectly contestable market an economically efficient outcome can be achieved even where there are only a few competitors, since there is always the possibility of 'hit and run' entry into the market. Even an industry in which only one or two firms are operating may be perfectly contestable where there are no impediments to entry or exit, so that intervention by the competition authorities is unnecessary. The theory shifts the focus of competition policy, as it is more sanguine about markets on which few firms operate than the 'traditional' model of perfect competition; having said this, it is questionable whether the theory of contestability really adds a great deal to traditional thinking on industrial economics or whether it simply involves a difference of emphasis.

As far as the specific issue of deregulation is concerned, the theory of contestability suggests, for example, that the existence within the air transport sector of only a few airlines need not have adverse economic effects provided that the conditions for entry and exit to and from the market are not disadvantageous. It is not clear how significant the theory of contestable markets is likely to be in the formulation of EU and UK competition policy, other than in the particular area of deregulation. In the UK Competition Commission's investigation of *CHC Helicopter Corpn/Helicopter Services Group ASA*[72] the Commission cleared a merger that would create a duopoly in helicopter services where the market was found to be contestable. The European Commission was less impressed by contestable market theory in *Far East Trade Tariff Charges and Surcharges Agreement (FETTCSA)*[73].

(H) **Effective competition**

On some occasions, legal provisions and regulators use the expression 'effective competition'. For example it is found in Article 2(3) of the European Union Merger Regulation ('the EUMR'), as part of the test for determining when a merger is incompatible with the common market: 'effective competition' must not be significantly impeded. In the UK the Office of Telecommunications (now the Office of Communications) published a strategy statement in January 2000, one of the objectives of which would be to achieve 'effective

[70] See Baumol, Panzar and Willig *Contestable Markets and the Theory of Industry Structure* (Harcourt Brace Jovanovich, revised ed, 1988); Bailey 'Contestability and the Design of Regulatory and Antitrust Policy' (1981) 71 Am Ec Rev 178–183.

[71] See 'The model of perfect competition is based on assumptions unlikely to be observed in practice', pp 7–8 above.

[72] Cm 4556 (2000); for comment see Oldale 'Contestability: The Competition Commission Decision on North Sea Helicopter Services' (2000) 21 ECLR 345.

[73] OJ [2000] L 268/1, [2000] 5 CMLR 1011, para 119.

competition in all main UK telecoms markets'[74], and the same expression can be found in recital 27 of the EU Framework Directive on electronic communications[75]. The UK Utilities Act 2000 provides that the Gas and Electricity Markets Authority should have, as one of its tasks, the promotion of effective competition in the gas and electricity sectors[76]. Case law of the EU Courts and Commission communications also use the term[77]. The idea of effective competition does not appear to be the product of any particular theory or model of competition – perfect, workable, contestable or any other. Indeed, given the number of theories and assumptions already discussed in this chapter, and the many others not discussed, the idea of effective competition, free from theoretical baggage, may have much to commend it. Effective competition does connote the idea, however, that firms should be subject to a reasonable degree of competitive constraint, from actual and potential competitors and from customers, and that the role of a competition authority is to see that such constraints are present on the market[78].

(I) **Conclusion**

What can perhaps be concluded at the end of this discussion is that, despite the range of different theories and the difficulties associated with them, competition does possess sufficient properties to lead to a strong policy choice in its favour. Competitive markets seem, on the whole, to deliver better outcomes than monopolistic ones, and there are demonstrable benefits for consumers[79]. The UK Government, in its White Paper *Productivity and Enterprise: A World Class Competition Regime*[80], stated that:

> Vigorous competition between firms is the lifeblood of strong and effective markets. Competition helps consumers get a good deal. It encourages firms to innovate by reducing slack, putting downward pressure on costs and providing incentives for the efficient organisation of production[81].

This is why competition policy has been so widely embraced in recent years; there is probably a greater global consensus on the desirability of competition and free markets today than at any time in the history of human economic behaviour. In particular monopoly does seem to lead to a restriction in output and higher prices; there is a greater incentive to achieve productive efficiency in a competitive market; the suggestion that only monopolists can innovate is unsound; and competition provides the consumer with a greater degree of choice. Furthermore, in markets such as electronic communications, energy and transport competition has been introduced where once there was little, if any, and this seems to have produced significant benefits for consumers.

[74] *OFTEL strategy statement: Achieving the best deal for telecoms consumers*, January 2000, available at www.ofcom.org.uk.

[75] Directive 2002/21/EC, OJ [2002] L 108/33; Directive 2009/140/EC, OJ [2009] L 337/37, which amended the Framework Directive, also refers to effective competition in recitals 54–55.

[76] Utilities Act 2000, ss 9 and 13, amending the Gas Act 1986 and the Electricity Act 1989 respectively.

[77] See eg Case T-168/01 *GlaxoSmithKline Services v Commission* [2006] ECR II-2969, [2006] 5 CMLR 1623, para 109; Case T-321/05 *AstraZeneca v Commission* [2010] ECR II-000, [2010] 5 CMLR 1585, para 175; the Commission's *Guidelines on Vertical Restraints* OJ [2010] C 130/1, para 107; the Commission's *Guidance on the Commission's Enforcement Priorities in Applying Article [102] to abusive exclusionary conduct by dominant undertakings* OJ [2009] C 45/7, paras 5–6 and 19.

[78] For further discussion see *Bishop and Walker*, ch 2, 'Effective Competition'.

[79] See speech by Vickers 'Competition is for Consumers' 21 February 2002, available at www.oft.gov.uk.

[80] Cm 5233 (2001).

[81] Ibid, para 1.1.

It may be helpful to summarise the benefits that are expected to be derived from effective competition:

- competition promotes allocative and productive efficiency
- competition leads to lower prices for consumers
- competition means that firms will be innovative in order to win business: innovation and dynamic efficiency mean that there will be better products available on the market
- where there is effective competition, consumers have a choice as to the products that they buy.

4. **The Function of Competition Law**

(A) **Goals of competition law**[82]

In recent years many competition authorities have stressed the central importance of consumer welfare when applying competition law[83]. A very clear statement to this effect can be found in a speech of the former European Commissioner for competition policy, Neelie Kroes, given in London in October 2005:

> Consumer welfare is now well established as the standard the Commission applies when assessing mergers and infringements of the Treaty rules on cartels and monopolies. Our aim is simple: to protect competition in the market as a means of enhancing consumer welfare and ensuring an efficient allocation of resources[84].

This does not mean that EU competition law is applicable only where a specific increase in prices to end consumers can be demonstrated. EU law has recognised from the early days that consumers can be indirectly harmed by action that harms the competitive structure of the market[85], and it continues to do so today[86]: there is no inconsistency between these statements and the proposition that EU competition law is oriented around the promotion of consumer welfare[87].

However it would be reasonable to point out that, although the consumer welfare standard is currently in the ascendancy, many different policy objectives have been pursued in the name of competition law over the years; some of these were not rooted in notions of consumer welfare in the technical sense at all, and some were plainly inimical to the pursuit of allocative and productive efficiency. The result has sometimes been inconsistency and contradiction, but it is as well for the reader to be aware of this before coming to the law itself. Historically there has not been one single, unifying, policy that bound the

[82] See Odudu 'The Wider Concerns of Competition Law' (2010) 30(3) OJLS 599.

[83] For discussion see the Symposium on 'Welfare Standards in Competition Policy' (2006) Competition Policy International; Pittman 'Consumer Surplus as the Appropriate Standard for Antitrust Enforcement' (2007) 3(2) Competition Policy International 205.

[84] SPEECH/05/512 of 15 September 2005, available at www.ec/europa/eu/competition.

[85] See eg Case 6/72 *Europemballage and Continental Can v Commission* [1973] ECR 215, [1973] CMLR 199, paras 20–26.

[86] See eg Cases C-501/06 P etc *GlaxoSmithKline Services Unlimited v Commission* [2009] ECR I-9291, [2010] 4 CMLR 50, para 63; Case C-8/08 *T-Mobile Netherlands BV and others v Raad van bestuur van de Nederlandse Mededingingsautoriteit* [2009] ECR I-4529, [2009] 5 CMLR 1701, para 38.

[87] For arguments to the contrary see Andriychuk 'Rediscovering the Spirit of Competition: On the Normative Value of the Competition Process' (2010) 6(3) European Competition Journal 575.

development of EU and UK law together. In particular competition policy does not exist in a vacuum: it is an expression of the current values and aims of society and is as susceptible to change as political thinking generally. Because views and insights shift over a period of time, competition law is infused with tension. Different systems of competition law reflect different concerns, an important point when comparing the laws of the US, the EU and the UK[88]. As already noted, competition law has now been adopted in more than 100 countries, whose economies and economic development may be very different from one another. It is impossible to suppose that each system will have identical concerns[89]. The debate at the time of the negotiation of the Lisbon Treaty of 2007 demonstrated that some Member States are less enthusiastic about the process of competition than others[90].

(i) **Consumer protection**

Several different objectives other than the maximisation of consumer welfare in the technical sense can be ascribed to competition law. The first is that its essential purpose should be to protect the interests of consumers, not by protecting the competitive process itself, but by taking direct action against offending undertakings, for example by requiring dominant firms to reduce their prices. It is of course correct in principle that competition law should be regarded as having a 'consumer protection' function: ultimately the process of competition itself is intended to deliver benefits to consumers. However the possibility exists that competition law might be invoked in a more 'populist' manner; this appeared to happen in the UK in 1998 and 1999, at a time when the Government wished to be seen to be doing something about so-called 'rip-off Britain', where Ministers suggested that excessive prices were being charged by both monopolists and non-monopolists[91]. A problem with using competition law to assume direct control over prices, however, is that competition authorities are ill-placed to determine what price a competitive market would set for particular goods or services, and indeed by fixing a price they may further distort the competitive fabric of the market. The UK Competition Commission declined to recommend price control following its report in 2000 on *Supermarkets*[92] where it found that, in general, the market was working well for consumers and that such intervention would be disproportionate and unduly regulatory. Populist measures taken to have electoral appeal may ultimately be more harmful than the high prices themselves.

Similarly the consumer may be harmed – or at least consider himself to be harmed – where a producer insists that all his goods should be sold by dealers at maintained prices, or that dealers should provide a combined package of goods plus after-sales service. Here the consumer's choice is restricted by the producer's decision. Competition law may proscribe resale price maintenance or tie-in sales for this reason, although there are those who argue that this intervention is undesirable: the producer is restricting intra-brand competition, but inter-brand competition may be enhanced as a result[93]. The obsession with protecting the consumer can also be considered short-sighted since, in the longer run, the producer

[88] On the differences between the policies of competition law in the US and the EU see eg Jebsen and Stevens 'Assumptions, Goals and Dominant Undertakings; the Regulation of Competition under Article 86 of the European Union' (1996) 64 Antitrust Law Journal 443.

[89] See Fox 'The Kaleidoscope of Antitrust and its Significance in the World Economy: Respecting Differences' [2001] Fordham Corporate Law Institute (ed Hawk), 597.

[90] See ch 2, 'The competition chapter in the TFEU', pp 50–51.

[91] See ch 18, pp 725–728 on the control of exploitative pricing practices under UK law.

[92] Cm 4842 (2000); see similarly paras 2.11–2.18 of the CC's Report on *Groceries*, 30 April 2008, available at www.competition-commission.org.uk.

[93] See in particular ch 16 on vertical agreements.

might choose to abandon the market altogether rather than comply with an unreasonable competition law; short-term benefits will then be outweighed by long-term harm to consumer welfare[94].

(ii) Redistribution

A second possible objective of competition law might be the dispersal of economic power and the redistribution of wealth: the promotion of economic equity rather than economic efficiency[95]. Aggregations of resources in the hands of monopolists, multinational corporations or conglomerates could be considered a threat to the very notion of democracy, individual freedom of choice and economic opportunity. This argument was influential in the US for many years at a time when there was a fundamental mistrust of big business. President Roosevelt warned Congress in 1938 that:

> The liberty of a democracy is not safe if the people tolerate the growth of a private power to a point where it becomes stronger than the democratic state itself… Among us today a concentration of private power without equal in history is growing[96].

It was under the US antitrust laws that the world's largest corporation at the time, AT&T, was dismembered. Some critics of the action brought by the Department of Justice against Microsoft were concerned that it amounted to an attack on a spectacularly successful business[97], while others welcomed the attempt to restrain its undoubted economic muscle[98].

(iii) Protecting competitors

Linked to the argument that competition law should be concerned with redistribution is the view that competition law should be applied in such a way as to protect small firms against more powerful rivals: the competition authorities should hold the ring and ensure that the 'small guy' is given a fair chance to succeed. To put the point another way, there are some who consider that competition law should be concerned with competitors as well as the process of competition. This idea has at times had a strong appeal in the US, in particular during the period when Chief Justice Warren led the Supreme Court. However it has to be appreciated that the arrest of the Darwinian struggle, in which the most efficient succeed and the weak disappear, for the purpose of protecting small business can run directly counter to the idea of consumer welfare in the technical economic sense. It may be that competition law is used to preserve the inefficient and to stunt the performance of the efficient. In the US the 'Chicago School' of economists has been particularly scathing of the 'uncritical sentimentality' in favour of the small competitor, and in the 1980s, in particular, US law developed in a noticeably less sentimental way[99]. To the Chicago School, the essential question in an antitrust case should be whether the conduct

[94] This is one of Bork's most pressing arguments in *The Antitrust Paradox* (The Free Press, 1993).

[95] See Odudu 'The Distributional Consequences of Antitrust' in Marsden (ed) *Handbook of Research in Trans-Atlantic Antitrust* (Edward Elgar, 2007) ch 23.

[96] 83 Cong Rec 5992 (1938).

[97] For a highly critical view of the Microsoft case generally see McKenzie *Antitrust on Trial: How the Microsoft Case Is Reframing the Rules of Competition* (Perseus Publishing, 2nd ed, 2001).

[98] See 'Now Bust Microsoft's Trust' *The Economist* 13 November 1999; 'Bill Rockefeller?' *The Economist* 29 April 2000.

[99] See Fox 'The New American Competition Policy – from Anti-Trust to Pro-Efficiency' (1981) 2 ECLR 439 where the author traces the change in the policy of the Supreme Court from judgments such as *Brown Shoe Co v US* 370 US 294 (1962) to the position in *Continental TV Inc v GTE Sylvania Inc* 433 US 36 (1977); Fox 'What's Harm to Competition? Exclusionary Practices and Anticompetitive Effect' (2002) 70 Antitrust

under investigation could lead to consumers paying higher prices, and whether those prices could be sustained against the forces of competition; antitrust intervention to protect competitors from their more efficient rivals is harmful to social and consumer welfare. Even firms with high market shares are subject to competitive constraints provided that barriers to entry and exit are low, so that intervention on the part of the competition authority is usually uncalled for.

There seems little doubt that EU competition law has, in some cases, been applied with competitors in mind: this is particularly noticeable in some decisions under Article 102, and some commentators have traced this phenomenon back to the influence of the so-called 'Freiburg School' of ordoliberalism[100]. Scholars of the Freiburg School, which originated in Germany in the 1930s, saw the free market as a necessary ingredient in a liberal economy, but not as sufficient in itself. The problems of Weimar and Nazi Germany were attributable in part to the inability of the legal system to control and, if necessary, to disperse private economic power. An economic constitution was necessary to constrain the economic power of firms, but without giving Government unrestrained control over their behaviour: public power could be just as pernicious as private. Legal rules could be put in place which would achieve both of these aims. It is not surprising that the beneficiaries of such thinking would be small and medium-sized firms, the very opposite of the monopolists and cartels feared by the members of the Freiburg School. There is no doubt that ordoliberal thinking had a direct influence on the leading figures involved in the establishment of the three European Communities in the 1950s[101]. This may have led to decisions and judgments in which the law was applied to protect competitors rather than the process of competition, although it may be that the role of ordoliberalism in competition law cases has been exaggerated: some commentators assert that economic efficiency was a key goal of competition policy from the outset[102]. However, without questioning the appropriateness of decisions taken in the early years of the EU, it can be questioned whether it is appropriate in the new millennium to maintain this approach: there is much to be said for applying competition rules to achieve economic efficiency rather than economic equity. The two ideas sit awkwardly together: indeed they may flatly contradict one another, since an efficient undertaking will inevitably be able to defeat less efficient competitors, whose position in the market ought not to be underwritten by a competition authority on the basis of political preference or, as Bork might say, sentimentality. This is an issue that will be considered further in later chapters, and in particular in chapters 5, 17, and 18 on abusive practices on the part of dominant firms where, in particular, we will see that the European Commission is clear that Article 102 is an instrument for the protection of competition and not of competitors as such.

Law Journal 371; Kolasky 'North Atlantic Competition Policy: Converging Toward What?' 17 May 2002, available at www.justice.gov/atr.

[100] See Gerber *Law and Competition in Twentieth Century Europe: Protecting Prometheus* (Clarendon Press Oxford, 1998), ch VII; see also Gerber 'Constitutionalising the Economy: German Neo-liberalism, Competition Law and the New Europe' (1994) 42 American Journal of Comparative Law 25; Eucken 'The Competitive Order and Its Implementation' (2006) 2(2) Competition Policy International 219; Ahlborn and Grave 'Walter Eucken and Ordoliberalism: An Introduction from a Consumer Welfare Perspective' (2006) 2(2) Competition Policy International 197.

[101] See *Gerber*, pp 263–265; ch IX.

[102] See Akman 'Searching for the long-lost soul of Article 82 EC' (2009) 29(2) OJLS 267.

(iv) **Other issues**

In some cases, particularly involving mergers, the relevant authorities might find that other issues require attention: whether they can be taken into account will depend on the applicable law[103]. For example, unemployment and regional policy are issues which arise in the analysis of mergers and cooperation agreements; the ability of competition to dampen price-inflation may be considered to be important; merger controls may be used to prevent foreign takeovers of domestic companies; the UK Government permitted a merger between LloydsTSB and HBOS which might otherwise have been prohibited or subject to modification because of the economic crisis in the banking sector in the late 2000s[104]; and South African law specifically provides that in certain circumstances the position of historically disadvantaged people – that is to say the victims of apartheid – should be taken into account[105].

(v) **The single market imperative**

Lastly it is important to understand that competition policy in the context of the EU fulfils an additional but quite different function from those just described (although EU law may be applied with them in mind as well). This is that competition law plays a hugely important part in the overriding goal of achieving single market integration[106]. The very idea of the single market is that internal barriers to trade within the EU should be dismantled and that goods, services, workers and capital should have complete freedom of movement. Firms should be able to outgrow their national markets and operate on a more efficient, transnational, scale throughout the EU. This remains as important in 2011 as it ever was[107]. Competition law has both a negative and a positive role to play in the integration of the single market. The negative one is that it can prevent measures which attempt to maintain the isolation of one domestic market from another: for example national cartels, export bans and market-sharing will be seriously punished[108]. For example a fine of €149 million was imposed on Nintendo for taking action to prevent exports of game consoles and related products from the UK to the Netherlands and Germany[109].

The positive role is that competition law can be moulded in such a way as to encourage trade between Member States, partly by 'levelling the playing fields of Europe' as one contemporary catchphrase puts it, and partly by facilitating cross-border transactions and integration. Horizontal collaboration between firms in different Member States may be permitted in some circumstances[110]; and a producer in one Member State can be permitted to appoint an exclusive distributor in another and so penetrate a market which

[103] On the relevant tests to be applied to mergers under EU and UK law see respectively ch 21, 'Substantive Analysis', pp 861–864 and ch 22, 'The "Substantial Lessening of Competition" Test', pp 932–940.

[104] See ch 22, 'Public interest cases', pp 956–958.

[105] South African Competition Act 1998, section 2(f).

[106] See Ehlermann 'The Contribution of EC Competition Policy to the Single Market' (1992) 29 CML Rev 257; the Commission's XXIXth *Report on Competition Policy* (1999), point 3.

[107] For recent pronouncements on the importance of market integration see the Commission's *Guidelines on Vertical Restraints* OJ [2010] C 130/1, para 7; Monti *A New Strategy for the Single Market: At the Service of Europe's Economy and Society* (2010), Report to the President of the European Commission, available at www.ec.europa.eu/bepa/pdf/monti_report_final.

[108] See ch 7, 'Chapter VI: penalties', pp 275–282 on the powers of the European Commission to impose fines for infringements of Articles 101 and 102.

[109] OJ [2003] L 255/33, [2004] 4 CMLR 421; on appeal to the General Court the fine imposed on Nintendo was reduced to €119 million: Case T-13/03 *Nintendo v Commission* [2009] ECR II-975, [2009] 5 CMLR 1421; for further discussion of the single market imperative see ch 2, 'Single market imperative', p 51.

[110] See generally ch 15.

individually he could not have done[111]. Unification of the single market is an obsession of the EU authorities; this has meant that decisions have sometimes been taken prohibiting behaviour which a competition authority elsewhere, unconcerned with single market considerations, would not have reached. Faced with a conflict between the narrow interests of a particular firm and the broader problem of integrating the market, the tendency has been to subordinate the former to the latter.

(B) **Who decides?**

A further issue that should be mentioned is that competition law may not be so much about any particular policy – for example the promotion of consumer welfare or protection of the weak – but about who actually should make decisions about the way in which business should be conducted. The great ideological debate of the twentieth century was between capitalism and communism: whether to have a market or not. For the most part that debate has been concluded in favour of the market mechanism. But competition law and policy by their very nature envisage that there may be situations in which some control of economic behaviour in the marketplace may be necessary in order to achieve a desirable outcome. To some the market, and the vast rewards it brings to successful operators, remains an object of suspicion; to others, the spectre of the state as regulator is more alarming. These matters have been eloquently discussed by Amato[112]:

> It is a fact that within liberal society itself one of the key divisions of political identity (and hence identification) is between these two sides: the side that fears private power more, and in order to fight it is ready to give more room to the power of government; and the side that fears the expansion of government more, and is therefore more prepared to tolerate private power.

In Europe there seems little doubt that, notwithstanding the demonopolisation and liberalisation of economic behaviour and the promotion of free enterprise that occurred in the late twentieth century, there remains a scepticism about the market, and that this results in 'active' enforcement of the competition rules by the European Commission and by the national competition authorities[113].

This in turn raises an additional, complex, issue: if there are to be competition authorities to decide on what is and what is not acceptable business behaviour, what type of institution should be asked to make these decisions (a court, a commission, an individual?); how should individuals be appointed to those institutions (by ministerial appointment, by election, by open competition?); and how should those institutions themselves be controlled (by judicial review, or by an appellate court?). Here we leave law and economics and move into the world of political science which, though fascinating, is beyond the scope of this book[114].

[111] See generally ch 16.

[112] Amato *Antitrust and the Bounds of Power: The Dilemma of Liberal Democracy in the History of the Market* (Hart Publishing, 1997), p 4.

[113] See Gerber *Law and Competition in Twentieth Century Europe* (Clarendon Press, 1998), pp 421ff.

[114] On these issues see generally Doern and Wilks (eds) *Comparative Competition Policy: National Institutions in a Global Market* (Clarendon Press, 1996) and, in particular, chs 1 and 2; Cini and McGowan *Competition Policy in the European Union* (Macmillan, 1998); Craig *Administrative Law* (Sweet & Maxwell, 6th ed, 2008), ch 11.

(C) Competition advocacy and public restrictions of competition

A final point about the function of competition law is that competition authorities can usefully be given a different task, which is to scrutinise legislation that will bring about, or is responsible for, a distortion of competition in the economy. The reality is that states and international regulatory authorities are capable of harming the competitive process at least as seriously as private economic operators on the market itself, for example by granting legal monopolies to undertakings, by limiting in other ways the number of competitors in the market, or by establishing unduly restrictive rules and regulations. Some competition authorities are specifically mandated to scrutinise legislation that will distort competition[115]. Some developing countries might more usefully deploy their resources on this issue rather than adopting their own competition rules[116]. In the UK the OFT, acting under section 7 of the Enterprise Act 2002, can bring to the attention of Ministers laws or proposed laws that could be harmful to competition[117]. The International Competition Network (an association of various national competition authorities), through the work originally of its competition advocacy working group and now of its competition policy implementation group, is seeking to develop best practices in promoting competition law and policy[118].

5. Market Definition and Market Power

This section will discuss the issues of market definition and market power. As has been noted above competition law is concerned, above all, with the problems that occur where one or more firms possess, or will possess after a merger, market power. Market power presents undertakings with the possibility of profitably raising prices over a period of time; the expression 'raising price' here includes, and is a shorthand for, other ways in which competition can be restricted, for example by limiting output, suppressing innovation, reducing the variety or quality of goods or services or by depriving consumers of choice, all of which are clearly inimical to consumer welfare[119]. In a perfectly competitive market no firm has market power; in a pure monopoly one firm has absolute control over it. There is a continuum between these two extremes, and many degrees of market power lie along it. Competition law attaches particular significance to 'substantial market power', often equated with 'a dominant position', since the prohibition of certain unilateral practices, for example in Article 102 TFEU and the Chapter II prohibition of the Competition Act 1998 in the UK, applies only where an undertaking or undertakings have this amount of market power. The International Competition Network Working

[115] See eg s 21(1)(k) of the South African Competition Act 1998, which requires the Competition Commission to 'review legislation and public regulations and report to the Minister concerning any provision that permits uncompetitive behaviour'; and s 49(1) of the Indian Competition Act 2002 which provides that the Competition Commission of India can review legislation, but only if a reference is made to it by either the Central or the State governments.

[116] Rodriguez and Coate 'Competition Policy in Transition Economies: the Role of Competition Advocacy' (1997) 23 Brooklyn Journal of International Law 365.

[117] See ch 2, 'Functions of the OFT', pp 65–66.

[118] See www.internationalcompetitionnetwork.org/working-groups/current/advocacy.aspx; see also Emberger 'How to strengthen competition advocacy through competition screening' (2006) (Spring) *Competition Policy Newsletter* 28.

[119] See Landes and Posner 'Market power in antitrust cases' (1981) 94 Harvard Law Review 937; Vickers 'Market power in competition cases' (2006) 2 European Competition Journal 3.

Group on Unilateral Behaviour has produced 'Recommended Practices' for the assessment of dominance/substantial market power in the context of unilateral conduct laws. They contain ten recommendations for competition authorities when applying their domestic law in this difficult area[120]. In particular they stress that determinations of substantial market power should not be based on market shares alone; rather a comprehensive analysis should be undertaken of all factors affecting competitive conditions in the market under investigation.

There are numerous ways in which this key concern – the exercise of market power – is manifested, by implication if not expressly, in EU and UK competition law. A variety of legal tests and expressions will be found, but in essence they all express a concern about the misuse of market power:

- there are rules that firms should not enter into agreements to restrict competition (Article 101 TFEU; Chapter I prohibition, Competition Act 1998): however any such restriction must be appreciable, and there are various '*de minimis*' exceptions where the parties lack market power[121]
- block exemption is not available to parties to agreements where the parties' market share exceeds a certain threshold[122]
- firms should not abuse a dominant position (Article 102 TFEU; Chapter II prohibition, Competition Act 1998)
- concentrations can be prohibited under the EUMR that would significantly impede effective competition, in particular by creating or strengthening a dominant position
- mergers can be prohibited under UK law that would substantially lessen competition (Part 3 of the Enterprise Act 2002)
- 'market investigations' can be conducted by the Competition Commission where features of a market could have an adverse effect on competition (Part 4 of the Enterprise Act)
- other variants can be found: for example in the electronic communications sector regulatory obligations can be imposed upon firms that have 'significant market power', which has the same meaning for this purpose as 'dominance' under Article 102 TFEU[123].

Each of these provisions reflects a concern about the abuse or potential abuse of market power. Throughout this book and throughout competition law and practice generally, therefore, two key issues recur: first, the definition of the relevant product and geographic (and sometimes the temporal) markets in relation to which market power may be found to exist; secondly, and more importantly, the identification of market power itself.

[120] Available at www.internationalcompetitionnetwork.org.

[121] See eg ch 3, 'The *De Minimis* Doctrine', pp 140–144.

[122] See eg Article 3 of Regulation 772/2004, OJ [2004] L 123/11, on technology transfer agreements: 20 per cent market share cap in the case of horizontal agreements and 30 per cent cap in the case of vertical agreements; Article 3 of Regulation 330/2010, OJ [2010] L 102/1, on vertical agreements: 30 per cent market share cap; Article 4 of Regulation 1217/2010, OJ [2010] L 335/36, on research and development agreements: 25 per cent market share cap; and Article 3 of Regulation 1218/2010, OJ [2010] L 335/43, on specialisation agreements: 20 per cent market share cap.

[123] See ch 23, 'Legislation', pp 980–981.

(A) **Market definition**

Pure monopoly is rare, but a firm or firms collectively may have sufficient power over the market to enjoy some of the benefits available to the true monopolist. If the notion of 'power over the market' is key to analysing competition issues, it becomes immediately obvious that it is necessary to understand what is meant by 'the market' or, as will be explained below, the 'relevant market' for this purpose. The concept is an economic one, and in many cases it may be necessary for lawyers to engage the services of economists to assist in the proper delineation of the market, as highly sophisticated economic and econometric analysis is sometimes called for.

In the last 20 years the 'science' of market definition has evolved considerably. There are numerous sources of information on how to define markets. A useful document is the International Competition Network's *Recommended Practices for Merger Analysis*, Part II of which contains useful discussion of market definition issues[124]. One particular comment in the *Recommended Practices* is worth stressing: that the boundaries of relevant markets may not be precise. Some products may be 'in the market' while others may be 'out of the market'; however products that lie outside the market can still provide a competitive constraint, and should not be excluded from competition analysis simply because of the market definition.

Of particular importance in the EU is the European Commission's *Notice on the Definition of the Relevant Market for the Purposes of [EU] Competition Law*[125] which adopts the so-called 'hypothetical monopolist' test (also known as the 'SSNIP test') for defining markets. This *Notice* provides a conceptual framework within which to think of market definition, and then explains some of the techniques that may be deployed when defining markets. The Commission's *Notice* adopts the approach taken by the antitrust authorities in the US in the analysis of horizontal mergers[126]; the OFT in the UK has adopted a guideline which adopts a similar approach to that of the Commission[127]. Other competition authorities also apply the hypothetical monopolist test[128].

Paragraph 2 of the Commission's *Notice* explains why market definition is important:

> Market definition is a tool to identify and define the boundaries of competition between firms. It serves to establish the framework within which competition policy is applied by the Commission. The main purpose of market definition is to identify in a systematic way the competitive constraints that the undertakings involved face. The objective of defining a market in both its product and geographic dimension is to identify those actual competitors of the undertakings involved that are capable of constraining those undertakings' behaviour and of preventing them from behaving independently of effective competitive pressure.

[124] Available at www.internationalcompetitionnetwork.org.

[125] OJ [1997] C 372/5; more specific guidance on market definition can be found in the Commission's *Guidelines on the application of Article [101 TFEU] to technology transfer agreements* OJ [2004] C 101/2, paras 19–25; *Guidelines on Vertical Restraints* OJ [2010] C 130/1, paras 86–95 and *Guidelines on the applicability of Article 101 of the Treaty on the Functioning of the European Union to horizontal co-operation agreements* OJ [2011] C 11/1, paras 112–126, 155–156, 197–199, 229 and 261–262.

[126] See 'Demand-side substitutability', pp 31–32 below.

[127] *Market Definition*, OFT 403, December 2004, available at www.oft.gov.uk.

[128] See eg the *Merger Guidelines* of the Australian Competition and Consumer Commission, available at www.accc.gov.au; the *Mergers and Acquisitions Guidelines* of the New Zealand Commerce Commission, available at www.comcom.govt.nz; and the *Merger Enforcement Guidelines* of the Canadian Competition Bureau, available at www.competitionbureau.gc.ca.

This paragraph contains a number of important points. First, market definition is not an end in itself[129]. Rather it is an analytical tool that assists in determining the competitive constraints upon undertakings: market definition provides a framework within which to assess the critical question of whether a firm or firms possess market power. Secondly, both the product and geographic dimensions of markets must be analysed. Thirdly, market definition enables the competitive constraints only from *actual* competitors to be identified: it tells us nothing about *potential* competitors. However, as paragraph 13 of the *Notice* points out, there are three main sources of competitive constraint upon undertakings: demand substitutability, supply substitutability and potential competition. As will be explained below, demand substitutability is the essence of market definition. In some, albeit fairly narrow, circumstances supply substitutability may also be part of the market definition; however normally supply substitutability lies outside market definition and is an issue of potential competition. It is also necessary, when assessing a supplier's market power, to take into account any countervailing power on the buyer's side of the market. It is very important to understand that factors such as potential entry and buyer power are relevant, since this means that a particular share of a market cannot, in itself, indicate that a firm has market power; an undertaking with 100 per cent of the widget market would not have market power if there are numerous potential competitors and no barriers to entry into the market. Lawyers must not be seduced by numbers when determining whether a firm has market power; market shares, of course, are helpful; indeed there are circumstances in which they are very important: a share of 50 per cent or more of a market creates a rebuttable presumption of dominance in a case under Article 102[130], and a market share of 30 per cent or more will prevent the application of the block exemption in Regulation 330/2010 on vertical agreements[131]. However, calculating an undertaking's market share is only one step in determining whether it has market power.

(B) **Circumstances in which it is necessary to define the relevant market**

The foregoing discussion may be rendered less abstract by considering the circumstances in EU and UK competition law in which it may be necessary to define the relevant market.

(i) **EU competition law**

- under Article 101(1), when considering whether an agreement has the effect of restricting competition[132]
- under Article 101(1), when considering whether an agreement *appreciably* restricts competition. In particular there are market share tests in the *Notice on Agreements of Minor Importance*: a horizontal agreement, that is one between competitors, will usually be *de minimis* where the parties' market share is 10 per cent or less; and an agreement between non-competitors that operate at different levels of the market will usually be *de minimis* where their market share is 15 per cent or less[133]

[129] For an interesting discussion of the limits of market definition see Carlton 'Market Definition: Use and Abuse' (2007) 3(1) Competition Policy International 3.

[130] See ch 5, 'The *AKZO* presumption of dominance where an undertaking has a market share of 50 per cent or more', pp 182–183.

[131] See ch 16, 'Article 3: the market share cap', pp 660–662.

[132] See eg Case C-234/89 *Delimitis v Henninger Bräu* [1991] ECR I-935, [1992] 5 CMLR 210; para 27 of the Commission's *Guidelines on the application of Article [101(3)]* OJ [2004] C 101/97.

[133] OJ [2001] C 368/13, para 7.

- under the Commission's guidelines on the application of Article 101(1) to horizontal cooperation agreements, where various market share thresholds will be found[134]
- under Article 101(1), when considering whether an agreement has an *appreciable* effect on trade between Member States[135]
- under Article 101(3)(b), when considering whether an agreement would substantially eliminate competition[136]
- under numerous block exemptions containing market share tests, for example Regulation 330/2010 on vertical agreements[137], Regulation 1217/2010 on research and development agreements[138] and Regulation 1218/2010 on specialisation agreements[139]
- under Article 102, when considering whether an undertaking has a dominant position[140]
- under the EUMR when determining whether a merger would significantly impede effective competition, in particular by creating or strengthening a dominant position[141].

(ii) UK law

- when applying the Chapter I and Chapter II prohibitions of the Competition Act 1998, which are based on the provisions in Articles 101 and 102[142]
- when determining the level of a penalty under the Competition Act 1998[143]
- when scrutinising mergers under Part 3 of the Enterprise Act 2002[144]
- when conducting 'market investigations' under Part 4 of the Enterprise Act 2002[145].

Market definition, therefore, plays an important part in much competition law analysis. The table at the end of this chapter captures some of the important market share thresholds that may be relevant in competition law cases.

(C) The relevant product market

The Court of Justice, when it heard its first appeal on the application of Article 102 in *Europemballage Corpn and Continental Can Co Inc v Commission*[146], held that when identifying a dominant position the delimitation of the relevant product market was of crucial importance. This has been repeated by the Court of Justice on numerous occasions[147]. In *Continental Can Co Inc*[148] it was the Commission's failure to define the relevant product market that caused the Court of Justice to quash its decision. The Commission had held that Continental Can and its subsidiary SLW had a dominant position in three different product markets – cans for meat, cans for fish and metal tops – without giving a

134 See ch 15, 'Purchasing Agreements', p 604.

135 OJ [2004] C 101/97, para 55.

136 See ch 4, 'Fourth condition of Article 101(3): no elemination of competition in a substantial part of the market', pp 164–165.

137 See ch 16, 'Article 3: the market share cap', pp 660–662.

138 See ch 15, 'Article 4: duration of exemption and the market share threshold and duration of exemption', p 597.

139 See ch 15, 'Article 3: the market share threshold', p 602.

140 See ch 5, 'Dominant position', pp 179–189.

141 See ch 21, 'Market definition', pp 862–863.

142 See ch 9, generally.

143 *Guidance as to the Appropriate Amount of a Penalty*, OFT 423, para 2.3.

144 See ch 22, 'Market definition', p 934.

145 See ch 11, 'The Market Investigation Provisions on Practice', p 479.

146 Case 6/72 [1973] ECR 215, [1973] CMLR 199, para 32.

147 See eg Case 27/76 *United Brands v Commission* [1978] ECR 207, [1978] 1 CMLR 429, para 10.

148 JO [1972] L 7/25, [1972] CMLR D11.

satisfactory explanation of why these markets were separate from one another or from the market for cans and containers generally. The Court of Justice in effect insisted that the Commission should define the relevant product market and support its definition in a reasoned decision.

(i) The legal test

The judgments of the Court of Justice show that the definition of the market is essentially a matter of interchangeability. Where goods or services can be regarded as interchangeable, they are within the same product market. In *Continental Can* the Court of Justice enjoined the Commission, for the purpose of delimiting the market, to investigate:

> [those] characteristics of the products in question by virtue of which they are particularly apt to satisfy an inelastic need and are only to a limited extent interchangeable with other products[149].

Similarly in *United Brands v Commission*, where the applicant was arguing that bananas were in the same market as other fresh fruit, the Court of Justice said that this depended on whether the banana could be:

> singled out by such special features distinguishing it from other fruits that it is only to a limited extent interchangeable with them and is only exposed to their competition in a way that is hardly perceptible[150].

(ii) Measuring interchangeability

Conceptually, the idea that a relevant market consists of goods or services that are interchangeable with one another is simple enough. In practice, however, the measurement of interchangeability can give rise to considerable problems for a variety of reasons: for example there may be no data available on the issue, or the data that exist may be unreliable, incomplete or deficient in some other way. A further problem is that, in many cases, the data will be open to (at least) two interpretations. It is often the case therefore that market definition is extremely difficult; this is why the EU Courts have conducted a fairly 'light touch' review of the Commission's conclusions on market definition, recognising that this involves a 'complex economic assessment'[151].

(iii) Commission Notice on the Definition of the Relevant Market for the Purposes of [EU] Competition Law[152]

Useful guidance on market definition is provided by the Commission's *Notice*; the *Notice* has received the approval of the EU Courts[153]. The introduction of the EUMR in 1990 had, as an inevitable consequence, that the Commission was called upon to define markets in a far larger number of situations than previously. Whereas it may have had to deal with complaints under Article 102, say, 20 times a year in the 1980s, by the 1990s it was having to deal with 100 or more notifications under the EUMR each year, and it now receives at

[149] Case 6/72 [1973] ECR 215, [1973] CMLR 199, para 32; for a definition of inelastic demand see ch 1, n 24 above.

[150] Case 27/76 [1978] ECR 207, [1978] 1 CMLR 429, para 22.

[151] See eg Case T-201/04 *Microsoft Corpn v Commission* [2007] ECR II-3601, [2006] 4 CMLR 311, para 482.

[152] OJ [1997] C 372/5.

[153] See eg Case T-321/05 *AstraZeneca v Commission* [2010] ECR II-000, [2010] 5 CMLR 1585, para 86; Case T-427/08 *Confédération européenne des associations d'horlogers-réparateurs (CEAHR) v Commission* [2010] ECR II-000, [2010] 5 CMLR 1585, paras 68–70.

least 250 notifications a year: indeed in 2007 the number reached 402[154]. Furthermore, an Article 102 case would normally require the definition of just one market – the one in which the dominant firm was alleged to have abused its position; or perhaps two, for example where the abuse produces effects in a neighbouring market[155]. However – a case under the EUMR might be quite different, since the merging parties might conduct business in a number of different markets giving rise to competition considerations[156]. This necessarily meant that the Commission was called upon to develop more systematic methods for defining the market.

(iv) **Demand-side substitutability**

As mentioned above, the Commission explains at paragraph 13 of the *Notice* that firms are subject to three main competitive constraints: demand substitutability, supply substitutability and potential competition. It continues that, for the purpose of market definition, it is demand substitutability that is of the greatest significance; supply substitutability may be relevant to market definition in certain special circumstances, but normally this is a matter to be examined when determining whether there is market power; potential competition in the market is always a matter of market power rather than market definition.

Paragraph 14 of the *Notice* states that the assessment of demand substitution entails a determination of the range of products which are viewed as substitutes by the consumer. It proposes a test whereby it becomes possible to determine whether particular products are within the same market. The SSNIP test, first deployed by the Department of Justice and the Federal Trade Commission under US competition law when analysing horizontal mergers[157], works as follows: suppose that a producer of a product – for example a widget – were to introduce a **S**mall but **S**ignificant **N**on-transitory **I**ncrease in **P**rice. In those circumstances, would enough customers be inclined to switch their purchases to other makes of widgets, or indeed even to blodgets, to make the price rise unprofitable? If the answer is yes, this would suggest that the market is at least as wide as widgets generally and includes blodgets as well[158]. The same test can be applied to the delineation of the geographic market: if the price of widgets were to be raised in France by a small but significant amount, would customers switch to suppliers in Germany? If a firm could raise its price by a significant amount and retain its customers, this would mean that the market would be worth monopolising: prices could be raised profitably, since there would be no competitive constraint. For this reason, the SSNIP test is also – and more catchily – referred to sometimes as the 'hypothetical monopolist test'. The hypothetical monopolist test is given formal expression in paragraph 17 of the Commission's *Notice*, where it states that:

> The question to be asked is whether the parties' customers would switch to readily available substitutes or to suppliers located elsewhere in response to a hypothetical small (in the

[154] See www.ec.europa.eu/comm/competition/mergers/statistics.pdf.

[155] See ch 5, 'The dominant position, the abuse and the effects of the abuse may be in different markets', pp 205–208.

[156] Case COMP/M 2547 *Bayer Crop Science/Aventis* concerned a merger in which there were no fewer than 130 affected markets.

[157] *Horizontal Merger Guidelines* (issued in 1992); the current Guidelines were issued in 2010, available at www.justice.gov/atr/public/guidelines/hmg-2010.html; see Shapiro 'The Horizontal Merger Guidelines: From Hedgehog to Fox in Forty Years' (2010) 77 Antitrust LJ 701.

[158] It should be noted in passing that the possibility exists that consumers might switch from widgets to blodgets, but not the other way: in other words a phenomenon exists of 'one-way substitutability': see Case T-340/03 *France Télécom v Commission* [2007] ECR II-107, [2007] 4 CMLR 919, paras 88–90.

> range 5 per cent to 10 per cent) but permanent relative price increase in the products and areas being considered. If substitution were enough to make the price increase unprofitable because of the resulting loss of sales, additional substitutes and areas are included in the relevant market.

This formulation of the test takes the 'range' of 5 per cent to 10 per cent to indicate 'significance' within the SSNIP test[159].

(v) The 'Cellophane Fallacy'[160]

It is necessary to enter a word of caution on the hypothetical monopolist test when applied to abuse of dominance cases. A monopolist may already be charging a monopoly price: if it were to raise its price further, its customers may cease to buy from it at all. In this situation the monopolist's 'own-price elasticity' – the extent to which consumers switch from its products in response to a price rise – is high. If a SSNIP test is applied in these circumstances between the monopolised product and another one, this might suggest a high degree of substitutability, since consumers are already at the point where they will cease to buy from the monopolist; the test therefore would exaggerate the breadth of the market by the inclusion of false substitutes. This error was committed by the US Supreme Court in *United States v EI du Pont de Nemour and Co*[161] in a case concerning packaging materials, including cellophane, since when it has been known as the 'Cellophane Fallacy'.

In the US the SSNIP test was devised in the context of merger cases, and is usually applied only in relation to them. In the European Commission's *Notice*, it states in the first paragraph that the test is to be used for cases under Articles 101, 102 and the EUMR; the Cellophane Fallacy is briefly acknowledged at paragraph 19 of the *Notice*, where it says that in cases under Article 102 'the fact that the prevailing price might already have been substantially increased will be taken into account'[162]. In DG COMP's *Discussion Paper on the application of [Article 102 TFEU] to exclusionary abuses*[163] it acknowledged that the SSNIP test needs to be particularly carefully considered in Article 102 cases, and that it is necessary in such cases to rely on a variety of methods for checking the robustness of alternative market definitions[164]. The Commission's *Guidance on the Commission's Enforcement Priorities in Applying Article [102 TFEU] to Abusive Exclusionary Conduct by Dominant Undertakings*[165] is silent on the issue of the Cellophane Fallacy.

In the UK the OFT's Guideline on *Market Definition* notes the problem of the Cellophane Fallacy, and states that the possibility that market conditions are distorted by the presence of market power will be accounted for 'when all the evidence on market

[159] In the UK the Competition Commission and the OFT have said that they will usually postulate a price rise of 5 per cent when applying the hypothetical monopolist test in merger cases: see *Merger Assessment Guidelines* CC2 (Revised), OFT 1254, September 2010, para 5.2.12, available at www.competition-commission.org.uk.

[160] For discussion see Glick, Cameron and Mangum 'Importing the Merger Guidelines Market Test in Section 2 Cases: Potential Benefits and Limitations' (1997) 42 Antitrust Bulletin 121.

[161] 351 US 377 (1956).

[162] It is worth pointing out that the Cellophane Fallacy can also occur where a SSNIP is applied to an unreasonably low (for example a predatory) price: the SSNIP test requires the hypothetical price rise to be applied to the *competitive* price.

[163] December 2005, available at www.ec.europa.eu/competition/antitrust/art82/discpaper2005.pdf.

[164] Ibid, paras 13–19.

[165] OJ [2009] C 45/7.

definition is weighed in the round'[166]. The OFT's decisions in *Aberdeen Journals II*[167] and *BSkyB*[168] both acknowledged the problem of the Cellophane Fallacy in defining the relevant markets in circumstances where competition may already have been distorted: in each case the OFT concluded that it was necessary to find alternative ways of determining whether the firms under consideration had market power and/or were guilty of abuse. In *BSkyB* the OFT looked at the physical characteristics of premium sports pay-TV channels and consumers' underlying preferences and in *Aberdeen Journals II* it looked at the conduct and statements of the allegedly dominant firm. In the appeal against the latter decision the Competition Appeal Tribunal ('the CAT') specifically stated that, in a case concerning an alleged abuse of a dominant position, the market to be taken into consideration means the market that would exist in normal competitive conditions, disregarding any distortive effects that the conduct of the dominant firm has itself created[169]. The CAT rejected arguments that the Cellophane Fallacy had been perpetrated in both *National Grid plc v Gas and Electricity Markets Authority*[170] and *Barclays Bank v Competition Commission*[171].

(vi) **Supply-side substitutability**

In most cases interchangeability will be determined by examining the market from the customer's perspective. However it is helpful in some situations to consider the degree of substitutability on the supply side of the market. Suppose that A is a producer of widgets and that B is a producer of blodgets: if it is a very simple matter for B to change its production process and to produce widgets, this might suggest that widgets and blodgets are part of the same market, even though consumers on the demand side of the market might not regard widgets and blodgets as substitutable. Dicta of the Court of Justice in *Continental Can v Commission*[172] indicate that the supply side of the market should be considered for the purpose of defining the market. Among its criticisms of the decision the Court of Justice said that the Commission should have made clear why it considered that producers of other types of containers would not be able to adapt their production to compete with Continental Can. The Commission has specifically addressed the issue of supply-side substitutability in subsequent decisions[173]. A good example is *Tetra Pak 1 (BTG Licence)*[174], where it took into account the fact that producers of milk-packaging machines could not readily adapt their production to make aseptic packaging machines and cartons in arriving at its market definition.

In paragraphs 20 to 23 of the *Notice on Market Definition* the Commission explains the circumstances in which it considers that supply-side substitutability is relevant to market definition. At paragraph 20 the Commission says that where suppliers are able

[166] *Market Definition*, OFT 403, December 2004, paras 5.4–5.6; see also OFT Economic Discussion Paper 2 (OFT 342) *The Role of Market Definition in Monopoly and Dominance Inquiries* (National Economic Research Associates, July 2001).

[167] *Aberdeen Journals (remitted case)*, OFT decision of 25 September 2002, paras 94–99, available at www.oft.gov.uk.

[168] *BSkyB investigation*, OFT decision of 30 January 2003, paras 88–97, available at www.oft.gov.uk.

[169] Case No 1009/1/1/02 *Aberdeen Journals Ltd v OFT* [2003] CAT 11, [2003] CompAR 67, para 276.

[170] Case No 1099/1/2/08 [2009] CAT 14, [2009] CompAR 282, paras 41–43.

[171] Case No 1109/6/8/09 [2009] CAT 27, [2009] CompAR 381, paras 53–55.

[172] Case 6/72 [1973] ECR 215, [1973] CMLR 199, paras 32ff.

[173] See eg *Eurofix-Bauco v Hilti* OJ [1988] L 65/19, [1989] 4 CMLR 677, para 55, upheld on appeal to the General Court Case T-30/89 *Hilti AG v Commission* [1991] ECR II-1439, [1992] 4 CMLR 16 and on appeal to the Court of Justice Case C-53/92 P [1994] ECR I-667, [1994] 4 CMLR 614.

[174] OJ [1988] L 272/27, [1988] 4 CMLR 47, upheld on appeal to the General Court Case T-51/89 *Tetra Pak Rausing SA v Commission* [1990] ECR II-309, [1991] 4 CMLR 334.

to switch production to other products and to market them 'in the short term' without incurring significant additional costs or risks in response to small and permanent changes in relative prices, then the market may be broadened to include the products that those suppliers are already producing. A footnote to paragraph 20 suggests that the short term means 'such a period that does not entail a significant adjustment of existing tangible and intangible assets'. A practical example is given in paragraph 22 of an undertaking producing a particular grade of paper: if it could change easily to producing other grades of paper, they should all be included in the market definition. However, where supply substitution is more complex than this, it should be regarded as a matter of determining market power rather than establishing the market[175].

While it may seem unimportant whether the issue of supply-side substitution is dealt with at the stage of market definition or of market power, where competition law deploys a market share test, as for example in Article 3 of Regulation 330/2010[176], the possibility of broadening the market definition through the inclusion of supply-side substitutes may have a decisive effect on the outcome of a particular case.

(vii) **Evidence relied on to define relevant markets**

The SSNIP test establishes a conceptual framework within which markets should be defined. In practice, however, the critical issue is to know what evidence can be adduced to determine the scope of the relevant market. If the world were composed of an infinite number of market research organisations devoted to asking SSNIP-like questions of customers and consumers, market definition would be truly scientific. But of course the world is not so composed, and a variety of techniques, some of considerable sophistication, are deployed by economists and econometrists in order to seek solutions. The Commission's *Notice*, from paragraph 25 onwards[177], considers some of the evidence that may be available, but it quite correctly says that tests that may be suitable in one industry may be wholly inappropriate in another. A moment's reflection shows that this must be so: for example, the demand-substitutability of one alcoholic beverage for another in the ordinary citizen's mind is likely to be tested by different criteria than an airline choosing whether to purchase aeroplanes from Boeing or Airbus. In *Aberdeen Journals Ltd v OFT*[178] the CAT has said that there is no 'hierarchy' of evidence on issues such as market definition that would require, for example, objective economic evidence to be given greater weight than subjective evidence such as the statements or conduct of the parties[179].

[175] Recommended Practice F of the ICN's *Recommended Practices for Merger Analysis* recommends that supply-side substitution should be taken into account when firms could produce or sell in the relevant market 'within a short time frame and without incurring significant sunk costs'; the *Recommended Practices* are available at www.internationalcompetitionnetwork.org.

[176] OJ [2010] L 102/1; on market definition under this block exemption see the Commission's *Guidelines on Vertical Restraints* OJ [2010] C 130/1, Section V, paras 86–92.

[177] See also *Bishop and Walker*, chs 9–14 and 16, which considers techniques that may be relevant to market definition; also OFT Research Paper 17 (OFT 266) *Quantitative techniques in competition analysis* (LECG Ltd, October 1999): this can be obtained from the OFT's website at www.oft.gov.uk.

[178] Case No 1009/1/1/02 [2003] CAT 11, [2003] CompAR 67.

[179] Ibid, para 127.

Both DG COMP[180] and the UK Competition Commission[181] have issued best practices on how economic evidence should be submitted.

(viii) **Examples of evidence that may be used in defining the relevant product market**

As far as definition of the product market is concerned the *Notice* suggests that the following evidence may be available.

(A) Evidence of substitution in the recent past

There may recently have been an event – such as a price increase or a 'shock', perhaps a failure of the Brazilian coffee crop due to a late frost – giving rise to direct evidence of the consequences that this had for consumers' consumption (perhaps a large increase in the drinking of tea).

(B) Quantitative tests

Various econometric and statistical tests have been devised which attempt to estimate own-price elasticities and cross-price elasticities for the demand of a product, based on the similarity of price movements over time, the causality between price series and the similarity of price levels and/or their convergence. Own-price elasticities measure the extent to which demand for a product changes in response to a change in its price. Cross-price elasticities measure the extent to which demand for a product changes in response to a change in the price of some other product. Own-price elasticities provide more information about the market power that an undertaking possesses than cross-price elasticities; however cross-price elasticities help more with market definition, since they provide evidence on substitutability.

(C) Views of customers and competitors

The Commission will contact customers and competitors in a case that involves market definition and will, where appropriate, specifically ask them to answer the SSNIP question. This happens routinely, for example, when it seeks to delineate markets under the EUMR.

(D) Marketing studies and consumer surveys

The Commission will look at marketing studies as a useful provider of information about the market, although it specifically states in paragraph 41 of the *Notice* that it will scrutinise 'with utmost care' the methodology followed in consumer surveys carried out *ad hoc* by the undertakings involved in merger cases or cases under Articles 101 and 102. Its concern is that the selection of questions in the survey may be deliberately made in order to achieve a favourable outcome[182].

[180] *Best Practices for the Submission of Economic Evidence and Data Collection in Cases Concerning the Application of Articles 101 and 102 TFEU and in Merger Cases* (2010), available at www.ec.europa.eu/competition/antitrust/legislation/legislation.html.

[181] *Suggested Best Practice for the Submission of Technical Economic Analysis from Parties to the Competition Commission*, available at www.competition-commission.org.uk/rep_pub/corporate_documents/other_guidance_documents.htm.

[182] Note that in the UK the Competition Commission and OFT have jointly published guidance on *Good Practice in the Design and Presentation of Consumer Survey Evidence in Merger Inquiries* OFT 1230 and CC2com1, March 2011, available at www.oft.gov.uk.

(E) Barriers and costs associated with switching demand to potential substitutes

There may be a number of barriers and/or costs that result in two apparent demand substitutes not belonging to one single product market. The Commission deals with these in paragraph 42 of the *Notice*, and gives as examples regulatory barriers, other forms of state intervention, constraints occurring in downstream markets, the need to incur capital investment and other factors. The OFT has published an Economic Discussion Paper that specifically considers the issue of switching costs[183].

(F) Different categories of customers and price discrimination

At paragraph 43 the Commission states that the extent of the product market might be narrowed where there exist distinct groups of customers for a particular product: the market for one group may be narrower than for the other, if it is possible to identify which group an individual belongs to at the moment of selling the relevant products and there is no possibility of trade between the two categories of customer[184].

(ix) **A word of caution on the *Notice***

It is important to point out a few words of caution about the *Notice on Market Definition*. The problem of the Cellophane Fallacy has already been mentioned[185]. There are three other points about the *Notice*.

First, it is 'only' a Commission Notice: it does not have the force of law, and ought not to be treated as a legislative instrument. However the EU Courts have referred to it on various occasions with apparent approval[186].

A second point about the *Notice* is that, no matter how well it explains the SSNIP test and the evidence that may be used when applying it, the fact remains that in some sectors actual price data about substitutability may not be available: the information that can be captured varies hugely from one sector to another, and in some cases one will be thrown back on fairly subjective assessments of the market for want of hard, scientific evidence. In this situation it may be necessary to predict the likely effect of a SSNIP on customers by looking at various factors such as the physical characteristics of the products concerned or their intended use. In some cases it may not be possible to apply the SSNIP test at all. An example is the Commission's decision in *British Interactive Broadcasting*[187]: there the Commission stated that it could not delineate the markets for interactive broadcasting services by applying a SSNIP test since no data were available in relation to a product that had yet to be launched. In several broadcasting cases the fact that public-sector broadcasting is available 'free-to-air' to end users meant that a SSNIP test was inapplicable[188]. Clearly this is always likely to be a problem in relation to products introduced into the 'new' economy[189].

A third point about the *Notice* is that there are by now very many cases – in particular under the EUMR – in which the Commission has been called upon to define the

[183] OFT Economic Discussion Paper 5 (OFT 655) *Switching Costs* (National Economic Research Associates, April 2003).

[184] See also *Market Definition* OFT 403, December 2004, paras 3.8–3.10; Hausman, Leonard and Vellturo 'Market Definition Under Price Discrimination' (1996) 64 Antitrust LJ 367.

[185] See 'The "Cellophane Fallacy"', pp 32–31 above.

[186] See ch 1 n 153 above.

[187] OJ [1999] L 312/1, [2000] 4 CMLR 901.

[188] See eg Case M 553 *RTL/Veronica/Endemol* OJ [1996] L 134/32, upheld on appeal Case T-221/95 *Endemol Entertainment Holding BV v Commission* [1999] ECR II-1299, [1999] 5 CMLR 611.

[189] On the issue of market definition in cases involving e-commerce see OFT Economic Discussion Paper 1 (OFT 308) *E-commerce and its implications for competition policy* (Frontier Economics Group, August 2000), ch 4.

market. With more than 4,000 mergers having been notified to the Commission under the EUMR by the end of 2010, there are few sectors in which it has not been called upon to analyse relevant markets. As a consequence of this there is a very considerable 'decisional practice' of the Commission in which it has opined – from cars, buses and trucks to pharmaceuticals and agrochemicals, from banking and insurance services to international aviation and deep-sea drilling[190]. Not unnaturally, an undertaking in need of guidance on the Commission's likely response to a matter of market definition will wish to find out what it has had to say in the past in actual decisions; however the caveat should be entered that the General Court has established that the market must always be defined in any particular case by reference to the facts prevailing at the time and not by reference to precedents[191].

(x) Spare parts and the aftermarket[192]

There are numerous sectors in which a consumer of one product – for example a car – will need to purchase at a later date complementary products such as spare parts. The same can be true where a customer has to buy 'consumables', such as cartridges to be used in a laser printer, or maintenance services. In such cases one issue is to determine how the relevant product market should be defined. If there is a separate market for the complementary product, it may be that an undertaking that has no power over the 'primary' market may nevertheless be dominant in the 'secondary' one. An illustration is *Hugin v Commission*[193], where the Court of Justice upheld the Commission's finding that Hugin was dominant in the market for spare parts for its own cash machines. Liptons, a firm which serviced Hugin's machines, could not use spare parts produced by anyone else for this purpose because Hugin would have been able to prevent this by relying on its rights under the UK Design Copyright Act 1968. Therefore, although for other purposes it might be true to say that there is a market for spare parts generally, in this case, given the use to which Liptons intended to put them, the market had to be more narrowly defined. Liptons was 'locked in', as it was dependent on Hugin, and this justified a narrow market definition. This case, and the judgments of the Court of Justice in *AB Volvo v Erik Veng*[194] and *CICRA v Régie Nationale des Usines Renault*[195], establish that spare parts can form a market separate from the products for which they are needed.

[190] See ch 21, 'Access to the Commission's decisions', pp 832–833 on how to access the Commission's decisions under the EUMR.

[191] In Joined Cases T-125/97 etc *Coca-Cola v Commission* [2000] ECR II-1733, [2000] 5 CMLR 467, para 82, the General Court stated that in the course of any decision applying Article 102, 'the Commission must define the relevant market again and make a fresh analysis of the conditions of competition which will not necessarily be based on the same considerations as those underlying the previous finding of a dominant position': see similarly, in the UK, the CAT in Case No 1109/6/8/09 *Barclays Bank plc v Competition Commission* [2009] CAT 27, [2009] CompAR 381, para 36; examples of how market definitions can change over a period of time are afforded by cross-channel ferry services between the UK and continental Europe, where the Channel Tunnel has altered the market: see *The Peninsular and Oriental Steam Navigation Corpn and Stena Line AB* Cm 4030 (1998); and the market for betting shops in the UK: see *Ladbroke Group plc and The Coral Betting Business* Cm 4030 (1998); in the UK the OFT, pursuant to the *Coca-Cola* judgment, conducted a fresh market analysis in its *BSkyB* decision, 17 December 2002, paras 29ff, available at www.oft.gov.uk; see also *Market Definition*, OFT 403, December 2004, paras 5.7–5.9.

[192] See *Bishop and Walker*, paras 4.045–4.046 and 6.020–6.046; this issue often arises in cases concerning alleged 'tie-in transactions', as to which see ch 17, 'Tying', pp 688–696.

[193] Case 22/78 [1979] ECR 1869, [1979] 3 CMLR 345; the Commission's decision was quashed in this case as it had failed to establish the necessary effect on inter-state trade.

[194] Case 238/87 [1988] ECR 6211, [1989] 4 CMLR 122.

[195] Case 53/87 [1988] ECR 6039, [1990] 4 CMLR 265.

Likewise consumables, such as nails for use with nail-guns[196] and cartons for use with filling-machines[197], have been held to be a separate market from the product with which they are used.

However, as a matter of economics, it would be wrong to conclude that the primary and secondary markets are necessarily always discrete. It may be that a consumer, when deciding to purchase the primary product, will also take into account the price of the secondary products that will be needed in the future: this is sometimes referred to as 'whole life costing'. Where this occurs high prices in the secondary market may act as a competitive constraint when the purchaser is making his initial decision as to which primary product to purchase. It is an empirical question whether there is a separate aftermarket. The Commission has stated that it regards the issue as one that needs to be examined on a case-by-case basis[198], and that it will look at all important factors such as the price and life-time of the primary product, the transparency of the prices for the secondary product and the proportion of the price of the secondary product to the value of the primary one. In its investigation of *Kyocera/Pelikan*[199] the Commission concluded that Kyocera was not dominant in the market for toner cartridges for printers, since consumers took the price of cartridges into account when deciding which printer to buy. In the UK both the Office of Telecommunication (OFTEL, now the Office of Communications (OFCOM)) and the OFT have reached similar conclusions[200], and the OFT's guideline on *Market Definition* adopts the same approach[201]. However in *Confédération européenne des associations d'horlogers-réparateurs (CEAHR) v Commission*[202] the General Court disagreed with the Commission's view that the repairing and maintenance of Swiss watches was part of the market generally for prestige and luxury watches[203].

(xi) Procurement markets

In some cases the business behaviour under scrutiny is that of buyers rather than sellers. For example where supermarkets merge[204], or where their procurement policies are under investigation[205], the market must be defined from the demand rather than the supply side of the market. In the case of vertical agreements Article 3 of Regulation 330/2010, which contains a market share threshold of 30 per cent for the application of that block exemption, requires that the market be defined from the demand as well as the supply side of the market[206].

[196] Case T-30/89 *Hilti AG v Commission* [1990] ECR II-163, [1992] 4 CMLR 16, upheld on appeal Case C-53/92 P *Hilti AG v Commission* [1994] ECR I-667, [1994] 4 CMLR 614.

[197] *Tetra Pak II* OJ [1992] L 72/1, [1992] 4 CMLR 551, upheld on appeal to the General Court Case T-83/91 *Tetra Pak International SA v Commission* [1994] ECR II-755, [1997] 4 CMLR 726, and on appeal to the Court of Justice Case C-333/94 P *Tetra Pak International SA v Commission* [1996] ECR I-5951, [1997] 4 CMLR 662.

[198] XXVth *Report on Competition Policy* (1995), point 86; see also the *Notice on Market Definition* (p 30, ch 1, n 152 above), para 56; the *Guidelines on Vertical Restraints* (p 34, ch 1, n 176 above), para 91; DG COMP's *Discussion paper on the application of [Article 102 TFEU] to exclusionary abuses* paras 243–265.

[199] XXVth *Report on Competition Policy* (1995), point 87.

[200] See *Swan Solutions Ltd/Avaya ECS Ltd*, OFT decision of 6 April 2001 and OFT decision of, *ICL/Synstar*, 26 July 2001; both decisions are available on the OFT's website: www.oft.gov.uk.

[201] OFT 403, December 2004, paras 6.1–6.7.

[202] Case T-427/08 [2010] ECR II-000.

[203] Ibid, paras 65–121.

[204] See eg Case M 1221 *Rewe/Meinl* OJ [1999] L 274/1, [2000] 5 CMLR 256.

[205] See the reports of the UK Competition Commission on *Supermarkets* Cm 4842 (2000) and *Groceries*, 30 April 2008.

[206] See ch 16, 'The *Vertical guidelines*', p 662.

(xii) **Innovation markets**[207]

In the US a 'market for innovation', separate from products already on the market, has been found in some cases involving high technology industries[208]. The Commission's decision in *Shell/Montecatini*[209] suggested that it would be prepared to define a market for innovation, although in other cases it has made use of the more conventional idea of 'potential competition' to deal with the situation[210]. The Commission's *Guidelines on Horizontal Cooperation Agreements*[211] provide some guidance on this issue.

(D) **The relevant geographic market**

It is also necessary, when determining whether a firm or firms have market power, that the relevant geographic market should be defined. The definition of the geographic market may have a decisive impact on the outcome of a case, as in the *Volvo/Scania* decision[212] under the EUMR: the Commission's conclusion that there were national, rather than pan-European, markets for trucks and buses led to an outright prohibition of that merger[213]. Some products can be supplied without difficulty throughout the Union or even the world. In other cases there may be technical, legal or practical reasons why a product can be supplied only within a narrower area. The delineation of the geographic market helps to indicate which other firms impose a competitive constraint on the one(s) under investigation. The cost of transporting products is an important factor: some goods are so expensive to transport in relation to their value that it would not be economic to attempt to sell them on distant markets. Another factor might be legal controls which make it impossible for an undertaking in one Member State to export goods or services to another. This problem may be dealt with by the Commission bringing proceedings against the Member State to prevent restrictions on the free movement of goods (under Articles 34 to 36 TFEU) or of services (under Articles 56 to 62 TFEU). With the completion of the internal market, there should be fewer claims that fiscal, technical and legal barriers to inter-state trade exist.

(i) **The legal test**

That the geographic market should be identified is clear from the Court of Justice's judgment in *United Brands v Commission*[214]. The Court said that the opportunities for competition under Article 102 must be considered:

> with reference to a clearly defined geographic area in which [the product] is marketed and where the conditions are sufficiently homogeneous for the effect of the economic power of the undertaking concerned to be able to be evaluated.

[207] See Rapp 'The Misapplication of the Innovative Market Approach to Merger Analysis' (1995) 64 Antitrust LJ 19; Glader *Innovation Markets and Competition Analysis: EU Competition Law and US Antitrust Law* (Edward Elgar, 2006).

[208] See eg *United States v Flow International Corpn* 6 Trade Reg Rep (CCH) ¶ 45,094; US Department of Justice and Federal Trade Commission *Antitrust Guidelines for the Licensing of Intellectual Property* available at www.justice.gov/atr/public/guidelines/0558.htm.

[209] OJ [1994] L 332/48.

[210] See Temple Lang 'European Community Antitrust Law: Innovation Markets and High Technology Industries' [1996] Fordham Corporate Law Institute (ed Hawk), ch 23; Landman 'Innovation Markets in Europe' (1998) 19 ECLR 21; OFT Economic Discussion Paper 3 (OFT 377) *Innovation and Competition Policy* (Charles River Associates, March 2002), Annex B.

[211] OJ [2011] C 11/1, paras 119–126.

[212] Case M 1672, OJ [2001] L 143/74, [2001] 5 CMLR 11.

[213] See ch 21, 'Outright prohibitions', pp 902–904.

[214] Case 27/76 [1978] ECR 207, [1978] 1 CMLR 429, paras 10–11.

In that case the Commission had excluded the UK, France and Italy from the geographic market since in those countries special arrangements existed as to the importing and marketing of bananas. United Brands argued that, even so, the Commission had drawn the geographic market too widely, since competitive conditions varied between the remaining six Member States[215]; the Court of Justice however concluded that the Commission had drawn it correctly. The significance of the geographic market in determining dominance was emphasised by the Court of Justice in *Alsatel v Novasam SA*[216]. There the Court of Justice held that the facts before it failed to establish that a particular region in France rather than France generally constituted the geographic market, so that the claim that Novasam had a dominant position failed in the absence of evidence of power over the wider, national, market.

(ii) **The Commission's Notice on Market Definition**

The Commission provides helpful guidance on the definition of the geographic market in its *Notice on Market Definition*[217]. At paragraph 28 it says that its approach can be summarised as follows:

> it will take a preliminary view of the scope of the geographic market on the basis of broad indications as to the distribution of market shares between the parties and their competitors, as well as a preliminary analysis of pricing and price differences at national and [EU] or EEA level. This initial view is used basically as a working hypothesis to focus the Commission's enquiries for the purposes of arriving at a precise geographic market definition.

In the following paragraph the Commission says that it will then explore any particular configuration of prices or market shares in order to test whether they really do say something about the possibility of demand substitution between one market and another: for example it will consider the importance of national or local preferences, current patterns of purchases of customers and product differentiation. This survey is to be conducted within the context of the SSNIP test outlined above, the difference being that, in the case of geographic market definition, the question is whether, faced with an increase in price, consumers located in a particular area would switch their purchases to suppliers further away. Further relevant factors are set out in paragraphs 30 and 31 of the *Notice*, and at paragraph 32 the Commission points out that it will take into account the continuing process of market integration in defining the market, the assumption here being that, over time, the single market should become more of a reality, with the result that the geographic market should have a tendency to get wider. There is no reason in principle why the relevant geographic market should not extend to the entire world, and there have been decisions in which this has been so[218].

[215] This decision was reached before the accession of Greece, Spain and Portugal etc.

[216] Case 247/86 [1988] ECR 5987, [1990] 4 CMLR 434; other cases in which the General Court has upheld the Commission's definition of the geographic market include Case T-151/05 *Nederlandse Vakbond Varkenshouders v Commission* [2009] ECR II-1219, [2009] 5 CMLR 1613 paras 69–78 and Case T-57/01 *Solvay v Commission* [2009] ECR II-4621, paras 239–260, on appeal to the Court of Justice Case C-109/10 P *Solvay SA v Commission*, not yet decided.

[217] See p 29, ch 1, n 152 above.

[218] For example the Commission found global markets for top-level internet connectivity in Case M 1069 *WorldCom/MCI* OJ [1999] L 116/1, [1999] 5 CMLR 876, para 82 and Case M 1741 *MCI WorldCom/Sprint*, decision of 28 June 2000, para 97, available at www.europa.eu.int/comm/competition/mergers/cases.

(iii) **Examples of evidence that may be used in defining the relevant geographic market**

As far as definition of the geographic market is concerned, the Commission suggests that the following evidence may be available.

(A) Past evidence of diversion of orders to other areas

It may be that direct evidence is available of changes in prices between areas and consequent reactions by customers. The Commission points out that care may be needed in comparing prices where there have been exchange rate movements, where taxation levels are different and where there is significant product differentiation between one area and another.

(B) Basic demand characteristics

The scope of the geographic market may be determined by matters such as national preferences or preferences for national brands, language, culture and life style, and the need for a local presence.

(C) Views of customers and competitors

As in the case of defining the product market, the Commission will take the views of customers and competitors into account when determining the scope of the geographic market.

(D) Current geographic pattern of purchases

The Commission will examine where customers currently purchase goods or supplies. If they already purchase across the European Union, this would indicate an EU-wide market.

(E) Trade flows/patterns of shipments

Information on trade flows may be helpful in determining the geographic market, provided that the trade statistics are sufficiently detailed for the products in question.

(F) Barriers and switching costs associated with the diversion of orders to companies located in other areas

Barriers that isolate national markets, transport costs and transport restrictions may all contribute to the isolation of national markets.

(E) **The temporal market**

It may also be necessary to consider the temporal quality of the market[219]. Competitive conditions may vary from season to season, for example because of variations of weather or of consumer habits. A firm may find itself exposed to competition at one point in a year but effectively free from it at another. In this situation it may be that it has market power during one part of the year but not others.

The issue arose in *United Brands v Commission*[220]. There was evidence in that case which suggested that the cross-elasticity of demand for bananas fluctuated from season to season. When other fruit was plentiful in summer, demand for bananas dropped:

[219] The temporal market is discussed briefly in the OFT Guideline on *Market Definition*, OFT 403, December 2004, paras 5.1–5.3.

[220] Case 27/76 [1978] ECR 207, [1978] 1 CMLR 429.

this suggests that the Commission might have considered that there were two seasonal markets, and that United Brands had no market power over the summer months. The Commission however identified just the one temporal market and held that UBC was dominant within it. On appeal the Court of Justice declined to deal with this issue. In *ABG*[221] on the other hand the Commission did define the temporal market for oil more narrowly by limiting it to the period of crisis which followed the decision of OPEC to increase dramatically the price of oil in the early 1970s. The Commission held that during the crisis companies had a special responsibility to supply existing customers on a fair and equitable basis; the Court of Justice quashed the Commission's decision on the issue of abuse, but not on the definition of the market[222].

The fact that electricity as a product is not capable of being stored means that there may be different temporal markets in this sector[223].

(F) **Market power**

As has been stressed, market definition is not an end in itself. The really important question in competition law cases is whether a firm or firms have, or will have after a merger, market power. It will be recalled that market power exists where a firm has the ability profitably to raise prices over a period of time, or to behave analogously for example by restricting output or limiting consumer choice[224]. Three issues are relevant to an assessment of market power: these are usefully summarised in paragraph 12 of the Commission's *Guidance on the Commission's Enforcement Priorities in Applying Article [102 TFEU] to Abusive Exclusionary Conduct by Dominant Undertakings* ('*Guidance on Article 102 Enforcement Priorities*')[225]:

- constraints imposed by the existing supplies from, and the position on the market of, *actual competitors* (the market position of the dominant undertaking and its competitors),
- constraints imposed by the credible threat of future expansion by actual competitors or entry by *potential competitors* (expansion and entry),
- constraints imposed by the bargaining strength of the undertaking's customers (*countervailing buyer power*) (emphasis added).

It will require only a moment's reflection to appreciate that market share figures cannot provide any insights into the influence of potential competitors on the market power of existing ones, since a figure cannot be ascribed to someone not already in the market; nor, for the same reason, can market shares provide information about the extent of any countervailing buyer power. This is why market share figures are, at best, simply a proxy for market power, and cannot be determinative in themselves.

[221] OJ [1977] L 117/1, [1977] 2 CMLR D1.

[222] Case 77/77 *BP v Commission* [1978] ECR 1513, [1978] 3 CMLR 174.

[223] See eg *Application in the Energy Sector* OFT 428, January 2005, para 3.13; DG COMP's *Report on Energy sector Inquiry* SEC(2006)1724, para 398.

[224] See ch 1 n 119 above.

[225] OJ [2009] C 45/7; although this document is specifically concerned with market power of sufficient scale to earn the adjective 'substantial' for the purposes of Article 102 TFEU, the three criteria set out in para 12 of the *Guidance* are relevant to any assessment of market power; for further guidance on the assessment of market power see *Assessment of market power* OFT 415, December 2004.

(i) Actual competitors

(A) Market shares[226]

As paragraph 13 of the Commission's *Guidance on Article 102 Enforcement Priorities* says, market shares provide a useful first indication of the structure of any particular market and of the relative importance of the various undertakings active on it. However the Commission adds that it will interpret market shares in the light of the relevant market conditions, and in particular of the dynamics of the market and of the extent to which products are differentiated. It will also look at the development of market shares over time in the case of volatile markets or bidding markets, where firms bid *for* the market, often in auctions[227].

As noted earlier in this chapter, there are varying degrees of market power – from none, to 'non-appreciable', to 'substantial', to pure monopoly. Clearly market share figures tell us something about where an undertaking is along this continuum. The Table of Market Share Thresholds at the end of this chapter lists a (large) number of thresholds that have some significance in the application of EU and UK competition law, for example by providing a 'safe harbour' for firms below a certain threshold, or by indicating a fairly stormy sea for firms above a different one. Specific market share rules – such as the presumption of dominance where an undertaking has a market share of 50 per cent or more or the application of the block exemption for vertical agreements provided that the parties' market shares are below 30 per cent – are examined in later chapters of this book.

(B) Market concentration and the Herfindahl-Hirschman Index

In some cases market share figures may be used in order to determine how concentrated a market is, or how concentrated it will be following a merger or the entry into force, for example, of a cooperation agreement. Competition concerns may be greater as the market becomes more concentrated. One way of determining the level of concentration in the market is to use the so-called 'Herfindahl-Hirschman Index' ('the HHI'). This sums up the squares of the individual market shares of all the competitors in a market: the higher the total, the more concentrated the market. According to paragraph 16 of the European Commission's *Guidelines on the assessment of horizontal mergers*[228] the concentration level will be low where the total is below 1,000; moderate if between 1,000 and 1,800; and high where it is above 1,800. This is a relatively simple way of calculating market concentration, and its effectiveness is demonstrated by the following three examples:

Example 1

In the widget industry there are 15 competitors: 5 of them each has a market share in the region of 10 per cent, and 10 of them each has a market share in the region of 5 per cent

$$\text{HHI} = 5 \times 10^2 + 10 \times 5^2 = 500 + 250 = 750$$

The market concentration is low

[226] For a critical discussion of the use of market shares in competition analysis see Kaplow 'Market Share Thresholds: On the Conflation of Empirical Assessments and Legal Policy Judgments' (2011) 7 Journal of Competition Law and Economics 243.

[227] A helpful discussion of the types of auction that may be held and the decisional practice in the EU and the UK can be found in Szilági Pál 'Bidding Markets and Competition Law in the European Union and the United Kingdom' (2008) 29 ECLR 16 and (2008) 29 ECLR 89.

[228] [2004] OJ C 31/5; see also the Commission's *Guidelines on the assessment of non-horizontal mergers* OJ [2008] C 265/6, para 25.

Example 2
In the blodget industry there are 8 competitors: 2 of them each has a market share in the region of 20 per cent, and 6 of them each has a market share in the region of 10 per cent

$$\text{HHI} = 2 \times 20^2 + 6 \times 10^2 = 800 + 600 = 1400$$

The market concentration is moderate

Example 3
In the sprocket industry there are 4 competitors: 2 of them each has a market share in the region of 30 per cent and the other 2 each has a market share in the region of 20 per cent

$$\text{HHI} = 2 \times 30^2 + 2 \times 20^2 = 1800 + 800 = 2600$$

The market concentration is high

The same approach can be used to work out the consequences for the concentration of the market of any of the competitors merging or entering into an agreement with one another. For example if, in Example 2, the two firms with 20 per cent were to merge, the HHI after the agreement would be:

$$40^2 + 6 \times 10^2 = 1600 + 600 = 2200$$

The market concentration will have moved from moderate to high. The difference in the pre- and post-merger concentration levels – that is to say the increase of 800 from 1400 to 2200, is referred to as the 'Delta', represented by the symbol Δ.

If however, in Example 2, two of the firms with 10 per cent had entered into an agreement with one another, the HHI after the agreement would be:

$$2 \times 20^2 + 1 \times 20^2 + 4 \times 10^2 = 800 + 400 + 400 = 1600$$

The market concentration will remain moderate, and the Delta would be merely 200.

The HHI provides some insights into the competitive condition of markets; however it is fairly unsophisticated, not least since it adopts a static view of markets based on market share figures, and is unable to reflect dynamism and innovation. Its role, therefore, is fairly limited: it is at its most useful when screening out mergers that do not give rise to competitive concerns[229]; however little if any reliance would be placed on HHIs at the stage of deciding to prohibit an agreement, conduct or a merger, where much more sophisticated analysis would be undertaken.

(ii) **Potential competitors**[230]

Recommendation 7 of the International Competition Network's Working Group on *Unilateral Conduct Laws* is that 'The Assessment of durability of market power, with a focus on barriers to entry or expansion, should be an integral part of the analysis of dominance/substantial market power'. As paragraph 16 of the Commission's *Guidance on Article 102 Enforcement Priorities* points out, competition is a dynamic process and an assessment of competitive constraints cannot be based solely on the existing market situation: potential entry by new firms and expansion by existing ones must also be taken into account. This is why it is necessary to take barriers to entry and barriers to expansion into account. In the Commission's view, an

[229] See ch 21, 'Market shares and concentration levels', p 868 and ch 22, 'Measures of concentration', p 934.
[230] See further the OECD's *Best Practices Roundtable on Barriers to Entry*, 2005, available at www.oecd.org.

undertaking would be deterred from raising its prices if expansion is 'likely, timely and sufficient'; in particular paragraph 16 says that to be 'sufficient', entry cannot be simply on a small-scale basis, for example into a market niche, but must be of such a magnitude as to be able to deter any attempt by an undertaking already in the market to increase prices.

Paragraph 17 of the *Guidance* provides examples of such barriers:

- legal barriers, such as tariffs or quotas
- advantages specifically enjoyed by dominant undertakings such as economies of scale and scope; privileged access to essential inputs or natural resources; important technologies; or an established distribution and sales network
- costs and other impediments, for example resulting from network effects, faced by customers in switching to a new supplier
- the conduct of a dominant undertaking, such as long-term exclusive contracts that have appreciably foreclosing effects.

Barriers to entry and expansion will be considered further in specific chapters of this book[231].

(iii) Countervailing buyer power

Paragraph 18 of the Commission's *Guidance on Article 102 Enforcement Priorities* explains that competitive constraints may be exerted not only by actual or potential competitors, but also by customers if they have sufficient bargaining strength; such power may result from a customer's size or its commercial significance for a dominant firm. However buyer power may not amount to an effective competitive constraint where it ensures only that a particular or limited segment of customers is shielded from the market power of the supplier.

Buyer power will be considered further in specific chapters of this book[232].

(iv) Summary

The discussion above has explained the key features involved in the determination of whether a firm or firms have market power. In particular it was explained that:

- **market definition** is an important part of the analysis of market power, but it is not an end in itself and is simply one stage in the overall process
- **market shares** provide us with important information about the state of existing competition within the market, but they cannot, in themselves, be determinative, since they tell us nothing about barriers to expansion and entry, nor about buyer power
- **barriers to expansion and entry** are important, since they provide us with information about the existence of potential competition, something which cannot be captured by a market share figure, precisely because the competition is potential only
- **buyer power** is also an important part of the analysis of market power.

[231] See eg ch 5, 'Potential competitors', pp 184–187 on Article 102 TFEU and ch 21, 'Entry', p 874 on the EUMR.

[232] See eg ch 21, 'Countervailing buyer power', p 874 and ch 22, 'Countervailing buyer power', p 940.

(G) A final reflection on market shares

It has been said several times in this chapter that market share does not, in itself, determine whether an undertaking possesses market power; assessing market power is not and cannot be reduced simply to numbers. This having been said, however, it is interesting to consider the large range of situations in which EU and UK competition law require competition lawyers and their clients to consider market share figures for the purpose of deciding how to handle a particular case. This arises partly from numerous pieces of legislation and guidelines which contain a market share threshold; and partly from case law which has attributed significance to particular market share figures. The following table sets out a series of market share thresholds that should be embedded in the mind of in-house counsel to *DoItAll*, a diversified conglomerate company conducting business in the EU. The list is not exhaustive, and was compiled in a more light-hearted mood than the rest of this chapter: it does nevertheless reveal how influential market share figures can be in analysing competition law cases in the EU and the UK.

1.1 Table of market share thresholds

0%	With a market share of 0% even the most zealous of competition authorities is unlikely to take action against you
	With a market share of less than 5% your agreements are unlikely to have an appreciable effect on trade between Member States provided that certain other criteria are satisfied[1]
5%	At 5% or more your agreements with undertakings that are not actual or potential competitors may significantly contribute to any 'cumulative' foreclosure effect of parallel networks of similar agreements[2]
	Agreements with undertakings that concern imports and exports have been found to have an effect on trade between Member States where your market share is around the 5% level[3]
	When notifying mergers under the EU Merger Regulation you will be required to provide information about competitors that have more than 5% of the relevant geographic market[4]
10%	At 10% or more your agreements with actual or potential competitors are no longer *de minimis* under the European Commission's *Notice on Agreements of Minor Importance*[5]
15%	It is unlikely that your joint purchasing agreements[6] or your commercialisation[7] agreements infringe Article 101(1) where your market share is below 15%
	At 15% or more your agreements with undertakings that are not actual or potential competitors are no longer *de minimis* under the *Notice on Agreements of Minor Importance*[8]
	Under the EU Merger Regulation, in the case of horizontal mergers, markets in which your market share exceeds 15% are 'affected markets', necessitating the provision of substantial information on Form CO to DG COMP[9]
	With more than 15% of the market you are no longer eligible to take advantage of the 'simplified procedure' for certain horizontal mergers under the EU Merger Regulation[10]
20%	At 20% or more block exemption for certain co-insurance agreements ceases to be available[11]; some marginal relief is provided up to a market share cap of 25%[12] and even, exceptionally, beyond 25%[13]
	Block exemption ceases to be provided for specialisation agreements under Regulation 1218/2010 where the parties' market share exceeds 20%[14]; some marginal relief is available up to a market share cap of 25%[15]
	Block exemption ceases to be available for technology transfer agreements between competing undertakings where their combined market share exceeds 20%[16]
25%	At 25% or more block exemption ceases to be available for research and development agreements under Regulation 1217/2010[17]; some marginal relief is provided up to a market share cap of 30%[18] and even, exceptionally, beyond 30%[19]
	At 25% or more block exemption for certain co-reinsurance, as opposed to co-insurance, agreements ceases to be available[20]; some marginal relief is provided up to a threshold of 30%[21] and even, for a limited period, beyond 30%[22]

	Under the EU Merger Regulation at 25% you cease to benefit from a presumption that your merger will not significantly impede effective competition[23]
	Under the EU Merger Regulation you do not benefit from the simplified procedure in the case of vertical mergers where your market share exceeds 25%[24]
	Under the EU Merger Regulation, in the case of vertical mergers, markets in which your market share exceeds 25% are affected markets[25]
	Under UK law you could be referred to the Competition Commission under the merger provisions of the Enterprise Act 2002[26] where you supply or are supplied with 25% or more of the goods or services of a certain description[27]
30%	At 30% your agreements with undertakings that are not actual or potential competitors cease to benefit from the EU block exemption for vertical agreements[28], although there is some marginal relief up to 35%[29]
	Your liner consortia agreements run into problems under Commission Regulation 906/2009 if your market share exceeds 30%, with some marginal relief of up to 10% (that is to say up to a market share of 33%)[30]
	Block exemption ceases to be available for technology transfer agreements between non-competing undertakings where their combined market share exceeds 30%
	At less than 30% your non-horizontal mergers are unlikely to give rise to any problems under the EU Merger Regulation; and there is no presumption against them where your market share is more than 30%[31]
40%	You may be dominant under Article 102 with a market share of 40% or more (there has been only one finding by the European Commission of dominance under Article 102 below 40%)[32]; if you are dominant, you have a special responsibility not to harm competition[33]
	If your market share is below 40% the OFT considers it 'unlikely' that you are dominant[34]; the same point is made in the European Commission's *Guidance on the Commission's Enforcement Priorities in Applying Article [102 TFEU] to Abusive Exclusionary Conduct by Dominant Undertakings*[35]
	There is unlikely to be a cumulative foreclosure effect arising from your exclusive purchasing agreements where all the companies at the retail level have market shares below 30% and the total tied market share is less than 40%[36]
45%	
50%	There is a rebuttable presumption that, with 50% or more of the market, you have a dominant position[37]; this presumption applies in the case of collective dominance as well as single-firm dominance[38]
	Where the market share of the 5 largest suppliers in a market is below 50%, and the market share of the largest supplier is below 30%, there is unlikely to be a single or cumulative anti-competitive effect arising from their agreements[39]
	There is unlikely to be such an effect where the share of the market covered by selective distribution systems is less that 50%[40]
55%	
60%	
65%	
70%	
75%	
80%	At 80% you may now be approaching a position of 'super-dominance', where you have a particularly special responsibility not to indulge in abusive behaviour[41]
85%	
90%	At 90% you are approaching 'quasi-monopoly'[42]
	In the European Commission's view it is unlikely that conduct that maintains, creates or strengthens a market position 'approaching that of monopoly' can normally be justified on the ground that it also creates efficiency gains[43]
95%	
100%	At 100% you are a monopolist.

(*Continued*)

1 *Guidelines on the effect on trade concept* OJ [2004] C 101/81, para 52.

2 *Notice on agreements of minor importance* OJ [2001] C 368/13, para 8; the Commission's *Guidelines on Vertical Restraints* OJ [2010] C 130/1, paras 134 and 179; OFT Guideline *Agreements and concerted practices*, OFT 401, December 2004, para 2.16.

1.1 Table of market share thresholds (*Continued*)

3 *Guidelines on the effect on trade concept* OJ [2004] C 101/81, para 46.
4 Regulation 802/2004, OJ [2004] L 133/1, section 7.3.
5 OJ [2001] C 368/13, para 7; OFT Guideline *Agreements and concerted practices*, OFT 401, December 2004, para 2.16.
6 Commission's *Guidelines on Horizontal Cooperation Agreements* OJ [2011] C 11/1, para 208.
7 Ibid, para 240.
8 OJ [2001] C 368/13, para 7; OFT Guideline *Agreements and concerted practices*, OFT 401, December 2004, para 2.16.
9 See ch 21, 'Market Definition', pp 862–863.
10 See ch 21, 'Notifications', p 857.
11 Regulation 267/2010, OJ [2010] L 83/1, Article 6(2)(a).
12 Ibid, Article 6(5).
13 Ibid, Article 6(6).
14 Regulation 1218/2010, OJ [2010] L 335/43, Article 3.
15 Ibid, Article 5.
16 Regulation 772/2004, OJ [2004] L 123/11, Article 3(1).
17 Regulation 1217/2010, OJ [2010] L 335/36, Article 4.
18 Ibid, Article 7(d).
19 Ibid, Article 7(e).
20 Regulation 267/2010, OJ [2010] L 83/81, Article 6(2)(b).
21 Ibid, Article 6(8).
22 Ibid, Article 6(9).
23 Regulation 139/2004, OJ [2004] L 24/1, recital 32.
24 Ch 21, 'Notifications', p 857.
25 Ch 21, 'Market definition', pp 862–863.
26 See ch 22, 'The share of supply test', pp 922–923.
27 Note that the 'share of supply' test for referring a merger to the Competition Commission is not technically a market share test: see ch 22, 'The share of supply test', pp 922–933.
28 Regulation 330/2010, Article 3.
29 Ibid, Article 7(d)–(e).
30 Regulation 906/2009, OJ [2009] L 256/31, Articles 5(1) and 5(3).
31 *Guidelines on the assessment of non-horizontal mergers* OJ [2008] C 265/6, para 25.
32 See *Virgin/British Airways* OJ [2000] L 30/1, [2000] 4 CMLR 999: dominance at 39.7 per cent of the market, upheld on appeal Case T-219/99 *British Airways v Commission* [2003] ECR II-5917, [2004] 4 CMLR 1008.
33 On the special responsibility of dominant firms see ch 5, 'The "special responsibility" of dominant firms', pp 192–193.
34 OFT Guideline *Abuse of a dominant position*, OFT 402, December 2004, para 4.18 and *Assessment of market power*, OFT 415, para 2.12.
35 OJ [2009] C 45/7.
36 Commission's *Guidelines on Vertical Restraints* (p 34, n 176), para 141.
37 See Case C-62/86 *AKZO Chemie v Commission* [1991] ECR I-3359, [1993] 5 CMLR 215, para 60.
38 Case T-191/98 *Atlantic Container Line AB v Commission* [2003] ECR II-3275, [2005] 4 CMLR 1283, paras 931–932.
39 Commission's *Guidelines on Vertical Restraints*, para 135.
40 Ibid, para 179.
41 See ch 5, 'The emergence of super-dominance', pp 187–189.
42 Ibid, pp 187–189.
43 *Guidance on Article 102 Enforcement Priorities* OJ [2009] C 45/7, para 30.