

The Economics of Regulating Industry

M. A. UTTON

Basil Blackwell

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For my parents
Lucy and Arthur Utton

Preface

The economic 'regulation' of markets is a term that has been much more closely associated in the past with the US economy than with those of Britain and others in Western Europe. At first glance it may seem paradoxical that the country ostensibly most committed to the operation of the market mechanism should also be most ready to intervene. However, a closer examination reveals that it is precisely this commitment that explains much of the attitude to regulation. Under certain conditions markets may allocate resources efficiently, but where some or all of those conditions are absent they may fail dramatically. An original and continuing reason for regulation, therefore, is to correct such market failure. Thus much of the regulation of the markets for consumer products can be seen as a response to the failure of those markets to provide sufficient, objective information. Most competition policies are an attempt to maintain or restore competitive conditions, and thus improve economic efficiency. Where technology appears to make competition impossible, the resulting natural monopoly may be regulated in a way that, in principle, *simulates competition*. In these and many other ways the initial move for regulation may thus be to promote 'the public interest'.

However, the enormous growth in regulation that many observers are agreed has taken place over the past thirty to forty years cannot all be explained in these optimistic terms. American writers in particular have questioned whether even a majority of their complex regulatory system has sprung from this 'public interest' motive rather than from the partial or sectional interests of a particular group.

In Britain discussions of the economics of regulation have tended until recently to be highly fragmented. Thus issues concerning information in consumer markets may be discussed in courses in micro-economic theory, while related issues of consumer protection may make an appearance in applied economics. Competition policies are usually discussed as an adjunct to courses in industrial or business economics while natural

monopoly and the policies of nationalized industries are more likely to find a place in public sector economics. The main purpose of the book, therefore, is to bring these issues together under the common theme of the economics of regulating industry, in the belief that the same analytical framework can be applied to all of them and indeed to others that have not been included. Furthermore the recent industrial policy in Britain of privatizing large public sector enterprises is likely to make the issues of regulation much more prominent in policy discussions in the future than hitherto.

Parts of the discussion in the book have been tried out on colleagues and students at the University of Reading over the past two years and I am grateful to them all for their insights and forbearance. I would also like to thank Margaret Lewis for her customary skill in typing most of the penultimate draft.

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PART I

The Economics of Regulation

1

Market Failure and the Case for Regulation

I INTRODUCTION

One of the main themes of the *Wealth of Nations* is that markets freed from artificial constraints, especially those imposed by the state, will under many circumstances promote the public interest. The famous invisible hand theorem was used against the prevailing Mercantilist philosophy of the mid-eighteenth century and was influential in creating the atmosphere of reform that accompanied the Industrial Revolution. Since Smith's day theorists have refined his analysis to a point where it is scarcely recognizable or at least, in Stigler's words, 'to a degree of purity similar to Pears soap'. In addition in popular presentations of his ideas by some of his modern followers it is argued not only that free markets promote an efficient resource allocation which accords most closely with individual preferences but also that the presence of economic freedom of this kind is a necessary condition for continued political freedom.

In many of those economies, however, which still rely heavily on markets for the coordination of economic activity, the amount of regulation of one kind or another is now at a very high level, and many would argue that it is still growing. In some cases the regulations go back many years and have near universal approval, such as laws governing the employment of children. Other cases are of much more recent origin and have aroused considerable controversy, such as the laws concerning the employment of different racial and sexual groups. These examples relate to the terms and conditions on which different groups may be employed. However, a moment's reflection suggests a wide variety of cases of market regulation with different objectives and taking different forms. Thus the terms on which firms can trade with final consumers are regulated in a great many ways. For many products much information has to be provided by law to the consumer at the time of purchase. In other cases suppliers cannot provide advertising 'messages' about their products through certain media

(e.g. cigarette advertising on television) or do not provide advertising messages about their services at all (e.g. some professions). The law lays down the times at which some traders may sell their goods to the public (the Sunday trading laws) or restricts the number of traders in a particular district (the licensing of alcohol sales).

Similarly the production activities of firms are widely regulated. The regulation may range from the kinds of equipment or materials that producers may use (e.g. the size and condition of commercial vehicles, ingredients in food products) to the method of price fixing (cartels have to be registered) or the kinds of technical information used (without a licence firms cannot use patented information). In many cases the way producers handle waste products may be subject to close regulation.

It should be clear from these preliminary examples that the initial stimulus to regulate may arise from a variety of motives. In some cases the objective may be the protection of employment conditions of vulnerable groups or the health and safety of consumers. Other regulations may be largely concerned to re-establish competitive conditions or prevent the abuse of a position of dominance, or again to protect the natural or man-made environment. The prohibition of the sale of certain products on Sundays or the advertisement of contraceptives on television may originally have been concerned to preserve spiritual or moral values.

The examples also illustrate the point that while much regulation of markets may stem from the law, other pieces of regulation may derive from administrative action where a voluntary agreement is arranged with producers. In some important cases the regulation may be entirely based on the rules of a professional association. Thus although professional status may derive from a statute, the rules of practice may be drawn up and administered by the governing body.

In all cases it is safe to conclude that the final outcome of the market process is different once the regulations are in force from what would have happened had no regulation been adopted, but equally the degree of difference may vary considerably depending on the kind of regulation that is applied. One of the main purposes of this book is to attempt to analyse the impact of various kinds of regulation, whether they are having the effect that was originally intended and whether the kind of regulation in force is efficient in the sense of achieving the desired end with the minimum cost. Although in general discussions of particular pieces of regulation it may not always be articulated in this way, the well-known and unifying concept used in economic analysis to explain the possible need for regulation is that of 'market failure': the notion that in a number of contexts completely free markets do not yield the best performance in terms of economic welfare, with the implied corollary that the performance can be improved by some form of regulation. In this introductory chapter we examine a number of

ways in which markets may 'fail' and indicate some of the regulatory corrections that can be adopted and that are discussed in later sections of the book.

II ATTRIBUTES OF A WELL-FUNCTIONING COMPETITIVE SYSTEM

In order to throw our subsequent discussion into sharper relief it is useful to summarize briefly the advantages of a smoothly functioning system of competitive markets. We will understand a competitive market to consist of an inter-related group of buyers and sellers all of whom have full information about products and prices, where there is free entry to the market for sellers and buyers, and where no individual buyer or seller is large enough to influence the terms of trading. Three characteristics of such a system stand out. First, economic waste is kept to a minimum because the system allows for the continuous adjustment by consumers and producers to changes in their individual circumstances and to changes in their view about the future. Individuals make constant assessments of the balance of costs and benefits to them of a particular action. While neither producers nor consumers are free from mistakes, corrections can be made with the minimum of disturbance. Some consumers may have misjudged the properties of certain goods and subsequently adjust their spending patterns. Some producers may over-estimate future demand and be left with unsold stocks which they have to dispose of at a reduced price. The corrections made at the level of the individual consumer or enterprise, however, help to keep the response flexible compared with a system dependent on more centralized control. The speed of adjustment may therefore be faster and more efficient.

Secondly, the carrot-and-stick form of the incentives in competitive markets also makes for a high level of productive efficiency. On the positive side the lure of profits for producers tends to ensure that they make available goods and services at the lowest possible cost. The fewer the resources used in the production of one good or service, the more resources there are for producing others. On the other hand those who are less successful in keeping their costs to a minimum are likely to suffer a loss of their market and eventual bankruptcy. In this case some of the resources may be maintained in their current use, administered by others, while the remainder are used more productively elsewhere.

Thirdly, the same set of incentives will tend to stimulate innovations and their use in the most socially desired directions. Indeed one group of writers place this innovating process, and the role of the entrepreneur in it, at the centre of their analysis of the market process.¹ Rather than focusing on the efficient allocation of a given set of resources that a competitive

market system may provide, their emphasis is on the growth of resources that flows from the innovative energies of entrepreneurs, released by the expectation of profit.

Furthermore these desirable achievements – minimum waste, efficiency and innovation – may be attained in ways that are themselves desirable. The production and allocation of goods and services through competitive markets greatly reduces the need for the central collection and analysis of information about resource flows and consumer demands. Information about changes that are taking place will be reflected in price signals to which producers and consumers can respond according to their own judgement and preferences. The decentralized and impersonal nature of competitive markets helps to produce a sense of ‘fairness’ in the outcome and minimizes obstruction to change from those who are likely to be harmed, because, for example, the demands for their products, services or skills has diminished. In general, to the extent that freely functioning markets are regarded as a ‘unanimous consent arrangement’² they help to minimize the need for coercion in the organization of society.

The above sketch of a freely operating market system is, of course, highly informal. Much effort and ingenuity has been put by economic theorists over a very long period into deriving the formal properties of a competitive system.³ It is when we look more closely at the formal model, and especially at the assumptions on which it rests, that the various sources of market failure can be distinguished. Essentially ‘market failure’ occurs when one or more of those assumptions cannot be met, even imperfectly, or where they may hold ‘eventually’ but where the lapse of time is unacceptably long. It is convenient to consider first those sources of failure that come from production and then those deriving from consumption.

III SOURCES OF MARKET FAILURE

The ‘classical’ cases for regulation by the state concerned natural monopolies which D. H. Robertson characterized more colourfully many years ago as the ‘octopoid industries’. Industries that were subject to very great internal economies of scale so that unit costs of a firm first in the field fell over the entire range of relevant output would not sustain enough firms to ensure anything like a competitive performance. Instead of many firms charging competitive prices, the technology of the industry would rapidly lead to the monopoly by one firm that had been alert to the cost-reducing opportunities and that, unregulated, could charge a monopoly price. These industries, usually designated public utilities – water supply, sewage disposal, gas and electricity supply, rail transport and telecommunications – usually have two other characteristics, which until recently have

tended to make them candidates for regulation. Generally they require very large capital investments much of which consists of very costly installations running under roads, lands and into individual dwellings. They are also fundamental to the whole economy in a sense that most other industries are not. Their products or services are used by nearly every individual or organisation in the economy, instead of by a relatively narrow group. The term 'octopoid' for such industries is thus singularly appropriate: it conveys the idea of the industries' 'tentacles' literally stretching into each dwelling or firm. The case for regulating such industries has probably the widest acceptance although the practical methods of regulating to achieve the best results is still the subject of great controversy.⁴ Much recent theoretical work has attempted to specify more precisely the conditions under which apparent natural monopolies can be sustained in the long-run.⁵

In Europe, and particularly the UK, industries traditionally regarded as 'natural monopolies' have tended to be nationalized and thus prone to direct control by the central government (whereas in the US such industries have remained in private hands but are usually subject to the supervision of a regulatory commission). Although the British nationalized industries are in principle run by a public corporation that operates at arms length from the government, there have been frequent complaints that, in practice, governments have found it convenient to use them as additional instruments for achieving their macro-economic objectives.⁶

The issue has been complicated in the UK by the nationalization of some industries or firms where the traditional natural monopoly arguments did not hold, for example, coal-mining, shipbuilding, aerospace (now de-nationalized) steel (nationalized, de-nationalized, re-nationalized) and cars (in the form of BL). In some cases the central reason may have been political (as in the case of coal-mining and steel) while in others almost fortuitous (cars). However, it is very difficult to find any coherent economic rationale for the miscellaneous collection of industries that have found themselves recently in the 'public' rather than the 'private' sector of industry.

On the other hand for those industries that fall some way short of being 'natural monopolies' but where, nevertheless, economies of scale and size are substantial enough to support comparatively few firms efficiently, the traditional case for some kind of antitrust regulation can be made. The second aspect of market failure on the production side is thus related to monopoly but in this case the achievement of monopoly returns will often require collaboration between existing firms. In a number of countries joint attempts by a group of firms to behave like a unified monopoly are either illegal (as in the US) or closely circumscribed (as in the UK). Similarly where the internal or external (i.e. by merger) growth of one firm has left it practically in sole possession of the domestic market orthodox economic

analysis gives a number of grounds for regulation by antitrust policy. In particular where existing firms attempt to prevent the entry of new competition, the case for intervention may be especially strong.

Broadly speaking whereas antitrust regulation may attempt to achieve or maintain the conditions necessary for competition (by prohibiting cartels and some mergers, for example) natural monopoly regulation may attempt to replicate the results of competition (by pursuing marginal cost pricing or keeping returns to a 'normal' level).⁷

Thirdly, an aspect of market failure that has received much public attention recently is where private and social costs diverge.⁸ The competitive model of market transactions usually proceeds on the assumption that all costs (representing alternatives foregone) are taken into account in a firm's production decisions and are therefore reflected in market prices. It has long been recognized, however, that this is an oversimplification which in an increasing number of cases does not hold. Many production decisions may thus impose costs on third parties that are unaccounted for in the price system and in the absence of some form of corrective intervention will lead to resource misallocation. While there may be a large measure of agreement on the basic analysis of external effects there is considerable controversy on how regulation should proceed and which methods are both practically feasible and relatively efficient. Part of the problem is that external diseconomies in production can be so diverse in their effects and consequently extremely difficult to monitor and hence control. For every well-publicized case of water or air pollution, an unknown side-effect of a new drug or the destruction of a natural wilderness, there are probably hundreds of seemingly minor externalities whose aggregate effect is a considerable reduction in economic welfare.

We should mention, fourthly, an important source of market failure on the production side, certain aspects of which are relevant to our discussion, although a full treatment lies outside the scope of the book. Public goods can be distinguished as having one or two special characteristics (and sometimes both). First they may be non-exclusive in the sense that their provision for one person, or one group, automatically ensures their provision for others: my neighbour's Cruise missile also protects me;⁹ a high level of public health benefits me, even if I am rather careless about my own health. A second aspect may be the non-divisible nature of some public goods. My use of, say, a park or a motorway does not deny its services to other users¹⁰ whereas my consumption of a nut cutlet (a private good) does deny it to others. Another example of a public good is much closer to our main purpose and will be discussed in some detail later. Information, especially *new* information about products, production or organization methods, is non-divisible in very much the same way as that just mentioned. Once the information is known one group's use of it does

not diminish it in any way as *information*. It can be used over and over again without deteriorating or becoming damaged. What does change if it becomes widely available is its value to the original inventor or discoverer. If everyone is given free access to it, as they are to many other public goods, then the future source of new information is likely to be reduced. One partial and rather paradoxical solution to this problem has been the regulation of the use of new information by granting inventors a monopoly of its use in the form of a patent. In the case of the 'octopoid' industries, therefore, regulation is thought necessary because of the natural evolution of monopoly, while in the case of new information, regulation takes the form of a grant of monopoly.

Most aspects of market failure on the production side have been recognized for some time and have produced a variety of regulatory responses. On the other hand, full recognition of sources of failure stemming essentially from the consumer's side of the market is of more recent origin. A great deal of recent theoretical work has been concerned with the full implications of the fact that in many markets for final consumer's goods the buyer may possess very imperfect and incomplete information about the product. A key assumption of the model of competitive markets is that buyers possess full information not only about product prices but also about the characteristics, qualities, and effects of the products they may purchase. Under these circumstances (together with the other assumptions about production conditions) competitive markets will, as we have seen, lead to the maximization of consumer welfare. Where the consumer has very little knowledge of products and where full information is either impossible or extremely costly to acquire, markets that appear 'competitive' in other respects will fail to produce an efficient result. In some cases, for example, full information about a product may be unknown by anyone, including producers, at the time of purchase or consumption. Recent tragic cases with certain drugs are the most immediate examples. In many more mundane examples while information about the characteristics of products may be known to producers, the cost of acquiring that information for an individual consumer may be out of all proportion to the value he or she attaches to the good concerned. For *all* potential consumers taken together the value of the information might outweigh the total cost of acquiring it, yet because of the difficulty and cost of organizing to act jointly, consumers may continue to act separately and suffer the consequences, i.e. they will make decisions that turn out to be sub-optimal because of their imperfect information.

In both cases, therefore, the lack of information and the market failure that it implies may be grounds for regulation. In the first example regulation may take the form of controls over the sale of products where serious risks to health are possible and in the second case regulation may