1 Introduction

Our aim in writing this book is to introduce readers to those practical and theoretical issues that we see as central to the study of regulation. We set out to describe the nature of those issues, to indicate how regulatory practitioners and scholars have dealt with them and to offer arguments on potential responses to regulatory difficulties. The focus is not on providing 'how to' accounts of regulatory experience. Instead, our aim is to highlight the contested areas and issues that are produced by regulation. We hope that this volume will add to exchanges between different viewpoints. Many of the examples in this book draw on the British experience, but we aim to make the text relevant to a wider international audience interested in regulatory activities broadly defined.

Over the past decades, regulation has been a topic that has stimulated discussions in a host of disciplines—notably law, economics, political science and public policy, sociology, history, psychology, geography, anthropology, management, and social administration. Given this breadth of interest, regulation is a subject or field of study that calls for a multi-disciplinary approach. Economists, for instance, are likely to benefit from the insights of political scientists and sociologists on such matters as the practicalities of implementation and enforcement. Similarly, lawyers' messages concerning the limitations of different kinds of rules and enforcement processes might profitably be taken on board by economists and others. Analogous points could be made from the perspectives of other disciplines. This edition is written by a lawyer, an economist, and a political scientist, but will attempt both to draw from a wider range of disciplinary perspectives and to be accessible across disciplines. Highly technical approaches and terminology will be avoided where possible. It is hoped, therefore, that the analysis offered will prove useful to regulatory studies in a wide variety of areas.

Regulation has become a matter of topical debate in a way that it was not even a single decade ago. This global phenomenon was partly prompted by the activities of international organizations. Criticisms and concerns with regulatory orthodoxies became increasingly prominent during the financial crisis of 2007–9, when calls for deregulation and 'light-touch' regulation suddenly gave way to daily demands for more rigorous regulation of the financial markets. Elsewhere, too, regulation had attracted supporters and opponents alike. Supporters saw regulation as a technocratic device that had the potential to exert rational controls over important economic and social activities. Sceptics regarded regulation as little other than 'red tape' and a potential burden on economic activity.

It is, therefore, fair to say that by 2011, the claim that we are living in an age of the 'regulatory state' had become widely accepted as the R-word had penetrated ever more social domains across countries. Over the past decade, regulation has risen in the academic agenda to become both a field of study in its own right and a fertile source of new perspectives on the agendas of longerestablished disciplines. Substantial contributions to regulatory debates have been made by political scientists, economists, lawyers, sociologists, anthropologists, and others. Writings on regulation have become well-represented across scholarly publications, and a diversity of university courses and programmes, as well as research centres, have emerged to deal with various aspects of the theory and practice of regulation. Some of these have treated regulation as a generic subject taught in interdisciplinary programmes; others have specialized in specific areas, such as financial services, environmental protection, communications, or utilities.

As a consequence, regulation can be said now to have reached a state of maturity, both in an intellectual and in a practical sense.² Intellectually, theoretical perspectives have developed rapidly into an impressive body of scholarship and, in the world of practice, there has developed a distinct and expanding international and national 'regulatory community' that shares similar languages, concepts, and concerns. The language of regulation has penetrated diverse policy domains and talk of regulatory strategy has become part of administrative life. In this process, central regulatory issues such as those relating to standard-setting and enforcement have become matters of regular discussion in different policy and academic communities.

What is Regulation?

Regulation is often spoken of as if an identifiable and discrete mode of governmental activity,³ yet the term 'regulation' has been defined in a number of ways.⁴ Selznick's notion of regulation as sustained and focused control

¹ See M. Moran, *The British Regulatory State* (Oxford, 2003); 'Understanding the Regulatory State' (2002) 32 *British Journal of Political Science* 391–413; and contrast this with G. Majone, 'The Rise of the Regulatory State in Europe' (1994) 17(3) *West European Politics* 77–101.

² For comparison with the position a decade ago see R. Baldwin, C. Scott, and C. Hood, 'Introduction' in R. Baldwin, C. Scott, and C. Hood (eds), *A Reader on Regulation* (Oxford, 1998). See also R. Baldwin, M. Cave, and M. Lodge, 'Introduction' in R. Baldwin, M. Cave, and M. Lodge (eds.), *Oxford Handbook of Regulation* (Oxford, 2010).

³ See Baldwin, Scott, and Hood, *Regulation*, ch. 1.

⁴ See B. Mitnick, *The Political Economy of Regulation* (New York, 1980), ch. 1; A. Ogus, *Regulation: Legal Form and Economic Theory* (Oxford, 1994), ch. 1; G. Majone (ed.), *De-Regulation or Re-Regulation?* (London, 1989).

exercised by a public agency over activities that are valued by a community has been referred to as expressing a central meaning,⁵ but it is perhaps useful to think of the word regulation being used in the following different senses:⁶ As a specific set of commands—where regulation involves the promulgation of

a binding set of rules to be applied by a body devoted to this purpose. An example would be the health and safety at work legislation as applied by the Health and Safety Executive.

As deliberate state influence—where regulation has a more broad sense and covers all state actions that are designed to influence business or social behaviour. Thus, command-based regimes would come within this usage, but so also would a range of other modes of influence—for instance, those based on the use of economic incentives⁷ (e.g. taxes or subsidies); contractual powers; deployment of resources; franchises; the supply of information, or other techniques.

As all forms of social or economic influence—where all mechanisms affecting behaviour—whether these be state-based or from other sources (e.g. markets)—are deemed regulatory. One of the great contributions of the theory of 'smart regulation' has been to point out that regulation may be carried out not merely by state institutions but by a host of other bodies, including corporations, self-regulators, professional or trade bodies, and voluntary organizations. According to this third, broad usage of the term 'regulation', there is no requirement that the regulatory effects of a mechanism are deliberate or designed, rather than merely incidental to other objectives.

As a final comment on the concept of regulation, it should be noted that regulation is often thought of as an activity that restricts behaviour and prevents the occurrence of certain undesirable activities (a 'red light' concept⁹). The broader view is, however, that the influence of regulation may also be *enabling* or *facilitative* ('green light') as, for example, where the airwaves are regulated so as to allow broadcasting operations to be conducted in an ordered fashion, rather than left to the potential chaos of an uncontrolled market.

⁵ P. Selznick, 'Focusing Organisational Research on Regulation', in R. Noll (ed.), *Regulatory Policy and the Social Sciences* (Berkeley, CA, 1985), 363, quoted Ogus, *Regulation*, 1.

⁶ See Baldwin, Scott, and Hood, *Regulation*, ch. 1; J. Black, 'Critical Reflections on Regulation' (2002) 27 *Australian Journal of Legal Philosophy* 1–95.

⁷ On the distinction between command-and incentive-based regimes, see S. Breyer, *Regulation and Its Reform* (Cambridge, MA, 1982); Ogus, *Regulation*, esp. ch. 11; and R. Baldwin, 'Regulation: After Command and Control', in K. Hawkins (ed.), *The Human Face of Law* (Oxford, 1997).

⁸ See N. Gunningham and P. Grabosky, Smart Regulation (Oxford, 1998).

⁹On 'red light' and 'green light' rules and regulations, see C. Harlow and R. Rawlings, *Law and Administration* (3rd edn, Cambridge, 2009); Ogus, *Regulation*, 2.

Issues on the Regulatory Agenda

There is a tendency to associate regulation with the post-privatization control of the utilities. The language and practice of regulation, however, looks back on a much longer history. In Britain, regulation has been practised since at least the Tudor and Stuart periods. ¹⁰ In the nineteenth century, there was a burgeoning of regulation, with the emergence of specialist regulatory institutions ¹¹ and a host of measures dealing with public health and employment conditions. ¹² Developments in the supply of railway, water, gas, and electricity services led to the introduction of controls over prices, safety, and quality of service. ¹³ Elsewhere, too, regulation was practised widely and transferred from one domain to another. For example, initial railway regulation drew on provisions governing turnpikes.

During the twentieth century, a steady growth in regulation took place from the 1930s onwards. That decade saw the licensing of goods and passenger carryings by road as well as the advent, in the fishing industry, of marketing boards that fulfilled both operational and regulatory functions. The nationalization of core industries, such as the railways, were even framed as issues of regulation. For example, the 'godfather' of the UK public corporation model post-1945, Herbert Morrison, defined the ministerial function vis-à-vis public corporations as being 'regulatory and supervisory in character'. 14

In the post-war period, marketing boards followed in the cotton, crofting, sugar, and iron and steel industries, and the first US-style independent regulatory agency was established in Britain in 1954 with the Independent Television Authority. The ITA was innovatory in combining a degree of independence from government with the carrying out of adjudicatory and regulatory, as well as policy-developing, functions. In the United States, such independent regulatory bodies had been carrying out key functions of government since the Inter State Commerce Commission was established in 1887 to limit discriminatory pricing by railroads. In the ITA's wake followed a series of regulatory agencies that were created in the 1960s and

¹⁰ Ogus, Regulation, 6–12; 'Regulatory Law: Some Lessons from the Past' (1992) 12 Legal Studies 1.

O. MacDonagh, 'The Nineteenth-Century Revolution in Government: A Reappraisal' (1958) 1 Historical Journal 52.

¹² P. Craig, Administrative Law (5th edn, London, 2003), ch. 2.

¹³ See J. Foreman-Peck and R. Millward, *Public and Private Ownership of British Industry 1820–1990* (Oxford, 1994), esp. chs 1–3; C. Foster, *Privatisation, Public Ownership and the Regulation of Natural Monopoly* (Oxford, 1992), chs. 1 and 2.

¹⁴ H. Morrison, *Taking Stock*, PRO MT 47/15, S.I. (M) (47) (32), 18 July 1947. See also M. Lodge, *On Different Tracks* (Westport, CT, 2002).

¹⁵ B. Sendall, *Independent Television in Britain: Origin and Foundation*, vol. 1: 1946–62 (London, 1982).

1970s to deal with issues in such areas as monopolies, gaming, industrial relations, civil aviation, discrimination, and workplace health and safety.

During the 1980s and 1990s, much stress was placed by governments and commentators on the problems and costs of regulation and the case for deregulating the economy. ¹⁶ The privatization drive of the same period, however, produced a new burst of regulation, carried out by a host of new regulatory bodies such as OFTEL (1984), OFGAS (1986), OFFER (1989), OFWAT (1990), and the Office of the Rail Regulator (1993). In addition, administrative changes produced a new Environment Agency in 1996 and from the creation of the National Lottery there emerged an Office of the National Lottery to oversee the providing private operator, Camelot.

By the mid-1990s, some 25 million customers were served by the main four regulated utilities industries alone. Their total annual turnover of £51 billion represented around 8 per cent of the annual gross domestic product of the UK, and not only the results of regulation but the processes used to regulate had prompted unprecedented concern. Regulation and deregulation had moved to positions high on the political agenda. Conservative administra- tions had sought, since 1985, to deregulate, cut red tape, and substitute competitive pressures for regulatory action. The Department of Trade and Industry's Enterprise and Deregulation Unit had been established in that year in order to review all new legislative instruments and assess the compliance costs they would impose on businesses. That body, later called the Deregula- tion Unit and housed in the Cabinet Office, had, by 1996, started to subject regulations to a newly taxing process of 'regulatory appraisal', 17 but the high point of deregulatory action had come with the passing of the Deregulation and Contracting Out Act 1994 which inter alia had given ministers the power to use secondary legislative to eliminate burdens and controls. No rigorous

¹⁶ See J. Kay, C. Mayer, and D. Thompson (eds), *Privatisation and Regulation: The UK Experience* (Oxford, 1986); D. Swann, *The Retreat of the State: Deregulation and Privatisation in the UK and US* (Brighton, 1988); K. Button and D. Swann (eds), *The Age of Regulatory Reform* (Oxford, 1989); also see the White Papers: *Building Business, Not Barriers*, Cmnd. 9794 (London, 1986); *Lifting the Burden*, Cmnd. 9751 (London, 1985); *Releasing Enterprise*, Cmnd. 512 (London, 1988); Department of Trade and Industry, *Burdens on Business* (London, 1985); Cabinet Office, *Checking the Cost of Regulation* (London, 1996); *Regulation in the Balance* (London, 1996); M. Derthick and P. Quirk, *The Politics of Deregulation* (Washington, 1985); V. Wright, 'Public Administration, Regulation, Deregulation and Reregulation', in E. Eliassen and J. Kooiman (eds), *Managing Public Organisations: Lessons from Contemporary European Experience* (London, 1993).

¹⁷ See *Regulation in the Balance* and Chapter 15 below. Under Labour, the Deregulation Unit was renamed the Better Regulation Unit in 1997. In 2006, these functions were split into two: the Better Regulation Executive (supporting government departments) and the Better Regulation Commission (tasked with overseeing the implementation of initiatives). In 2008, the Better Regulation Commission was replaced by the Risk and Regulation Advisory Council (which in itself ended its activities in 2009). The core of regulatory reform initiatives moved to the then Department of Business, Enterprise and Regulatory Reform (BERR). At the time of writing (2011), the Better Regulation Executive remained located within the (now called) Department of Business, Innovation and Skills.

review of the impact of such initiatives was, however, carried out by the Major government and promises of 'bonfires of red tape' were not fulfilled.

It was in the field of utilities regulation that the most urgent political debates took place towards the end of the last millennium. Attention focused on the issues of efficiency, accountability, and fairness in the system of regulating by means of Directors General and their accompanying offices. A host of books and reports emerged from all parts of the political spectrum to put forward a large number of reform proposals. These were accompanied by significant contributions, many of which originated to the practice of economic regulation of utilities, in industrial economics. On

In parallel to these developments in the regulation of economic and social activities, there was also the rise of regulation *inside* government. This included a growing prominence of formal auditing and financial controlling activities, the emergence of oversight mechanisms that sought to check on the quality or effectiveness of public services, such as prisons, schools, hospitals, and universities, as well as the growing codification of ethics provisions supposedly guiding public officials. All of these processes had been regulated in one way or another, but, despite considerable variations across domains, the 'regulation industry' inside UK government witnessed a considerable growth at a time of wider reductions in public service staff numbers elsewhere.²¹

By the turn of the millennium, the appropriateness of regulatory strategies and structures had become a significant public concern, and this led to a set of responses and debates over the first decade following 2000.²²

¹⁸ For a review of this debate see R. Baldwin, Regulation in Question (London, 1995).

¹⁹ See e.g. C. Veljanovski, *The Future of Industry Regulation in the UK* (London, 1993); Adam Smith Institute, *Who Will Regulate the Regulators?* (London, 1992); P. Hain, *Regulating for the Common Good* (London, 1994); Centre for the Study of Regulated Industries, *Regulating the Utilities: Accountability and Processes* (London, 1994); National Consumer Council, *Paying the Price* (London, 1993); C. Graham, *Is There a Crisis in Regulatory Accountability?* (London, 1995 and reproduced in Baldwin, Scott, and Hood, *Regulation*); D. Helm, *British Utilities Regulation* (Oxford, 1995); M.E. Beesley (ed.), *Regulatory Utilities: A Time for Change?* (London, 1996); *Regulating Utilities: Broadening the Debate* (London, 1997); DTI Green Paper, *A Fair Deal for Consumers: Modernising the Framework for Utility Regulation*, Cmnd 3898 (March, 1998).

²⁰ J. Vickers and G. Yarrow, *Privatisation: An Economic Analysis* (Cambridge, MA, 1988); M. Armstrong, S. Cowan, and J. Vickers, *Regulatory Reform: Economic Analysis and British Experience* (Cambridge, MA, 1994); D. Newbery, *Privatization, Restructuring and Regulation of Network Utilities* (Cambridge, MA, 1999).

²¹ C. Hood, C. Scott, O. James, G. Jones, and T. Travers (eds), *Regulation Inside Government* (Oxford, 1999); C. Hood, O. James, G.B. Peters, and C. Scott (eds), *Controlling Modern Government* (Cheltenham, 2004); M. Lodge and C. Hood, 'Regulation Inside Government: Retro-Theory Vindicated or Outdated?' in R. Baldwin, M. Cave, and M. Lodge (eds), *Oxford Handbook of Regulation* (Oxford, 2010).

²² M. Lodge, 'Regulation, the Regulatory State and European Politics' (2008) 30 (1/2) West European Politics 280–301; T. Prosser, The Regulatory Enterprise (Oxford, 2010); D. Oliver, T. Prosser, and R. Rawlings (eds), The Regulatory State: Constitutional Implications (Oxford, 2010).

One prominent issue was the governance of regulatory bodies. In the British context, debates on this matter led not just to a merger of regulatory bodies in energy and communications, they also produced a change in the leadership structure, with the original, and initially much-fêted 'Director General'-model being replaced by collective decision-making boards. Indeed, the widely reported collapse of the privatized railway infrastructure provider, Railtrack, and its transfer into a 'non-dividend paying' public company, as well as the associated fall-out between ministers and the then regulator, confirmed arguements that the regulatory reforms of the 1980s and 1990s were far from achieving depoliticized stability: instead, the world of regulation continued to be one of high politics.²³

A second concern related to the effects and biases of regulatory regimes. In particular, there was a growing worry about investments in infrastructures and the environmental effects of regulated industries, especially with regard to climate change.²⁴

A third debate that grew in the new millennium was one driven by the emergence of new technologies and products. New products have come to market with increasing speed in recent times and consumers' preferences have shifted, especially as consumers have become increasingly critical of the food production chain in the light of a series of food safety scandals, starting with so-called 'Mad Cow Disease'. The arrival of genetically modified (GM) food and the new communications technologies, for instance, are two areas that have produced rafts of new control challenges and in another area—gambling via the internet—new technologies have changed the frontiers of existing regulatory regimes.²⁵

With respect to regulatory strategy, the past decade has witnessed a growing appetite to explore the potential of 'non-traditional' methods of regulation. Commentators have, for instance, devoted new attention to the potential and limitations of market-based control strategies such as franchising and permittrading regimes. There has been greater weight given to arguments for controlling not by state regulation but by 'meta-regulation' and regimes that focus on auditing the control regimes being operated within businesses and corporations themselves.²⁶ A further recent change that has emerged in

²³ M. Lodge, 'The Wrong Type of Regulation?' (2002) 22(3) Journal of Public Policy 271–97.

²⁴ D. Helm, *The New Regulatory Agenda* (London, 2004). For example, the UK government published proposals to reform energy regulation in late 2010 that was supposed to incentivize low-carbon forms of energy generation; see 'Nuclear option poised to test coalition further', *Financial Times*, 17 Dec. 2010.

²⁵ For a comparison between 'high' and 'low tech' policy domains and regulatory responses, see J. Black, M. Lodge, and M. Thatcher (eds), *Regulatory Innovation* (Cheltenham, 2005).

²⁶ J. Braithwaite, 'Meta Risk Management and Responsive Regulation for Tax System Integrity' (2003) 25 *Law and Policy* 1–16; C. Coglianese and D. Lazer, 'Management Based Regulation: Prescribing Private Management to Achieve Public Goals' (2003) 37 *Law and Society Review* 691–730; P. May, 'Performance-Based Regulation and Regulatory Regimes: the Saga of Leaky Buildings' (2003) 25 *Law*

parallel with such 'auditing' approaches has been the growth of a tendency to see regulatory issues in terms of risks and to see control issues as questions of risk management.²⁷ At the same time, governmental bodies have echoed these approaches, and bodies such as the UK's (then) Better Regulation Task Force have commended the use of 'more imaginative' thinking about regulation and have stressed the need to adopt minimalist or self-regulatory controls in the first instance.²⁸ Similar ideas have also come increasingly on to the agenda of international bodies, such as the OECD with its 'high-quality regulation' initiative and the European Union with its own extensive programme on (regulatory) impact assessments. As a result of this international and national concern, the 'better regulation' agenda diffused internationally, moving these discourses towards emerging economies such as Brazil.²⁹

Such discussions of 'meta-regulation' and 'steering' raised questions about the bodies that should be given the task of regulating and the level of government at which regulation should be positioned. Just as calls for 'meta-regulation' indicated the interest of some commentators in placing the control function within the corporation, others grew more concerned about the degree to which regulation operated inside the government itself and still others saw the important shift to be towards regulation by supra-national bodies (state or private) within a framework of globalization.³⁰

Another important focal concern has developed in influence over the last decade. A strand of scholarship has emphasized the degree to which regulatory regimes are fragmented, multi-sourced, and unfocused. On this view, fragmented regulatory authority is frequently encountered within national systems, and public, private, and (increasingly) hybrid organizations often share regulatory authority. This perspective suggests that to study regulation

and Policy 381–401; C. Parker, 'Regulator-Required Corporate Compliance Program Audits' (2003) 25 Law and Policy 221–44; M. Power, The Audit Society (Oxford, 1997); M. Power, Organized Uncertainty: Designing a World of Risk Management (Oxford, 2007).

²⁷ J. Black, 'The Emergence of Risk-based Regulation and the New Public Risk Management in the UK', (2005) *Public Law* 512–48; C. Hood, H. Rothstein, and R. Baldwin, *The Government of Risk* (Oxford, 2001). See also H. Rothstein, M. Huber, and G. Gaskell, 'A Theory of Risk Colonization' (2006) 35 *Economy and Society* 91–112.

²⁸ Better Regulation Task Force, More Imaginative Thinking About Regulation (London, 2003).

 ²⁹ K. Wegrich, *Das Leitbild "Better Regulation": Ziele, Instrumente, Wirkungsweise* (Berlin, 2011);
 M. Lodge and K. Wegrich, 'High Quality Regulation: Its Popularity, Its Tools and Its Future' (2009) 29
 (3) Public Money and Management 145–52.

³⁰ J. Braithwaite and P. Drahos, *Global Business Regulation* (Cambridge, 2000); D. Kerwer, 'Rules that Many Use: Standards and Global Regulation' (2005) 18 *Governance* 611–32; E. Meidinger, *Competitive Supra-Governmental Regulation: How Could it be Democratic?* Buffalo Legal Studies Research Paper Series 2007-007 available at http://ssrn.com/abstract=1001770; P. Pattberg, 'The Institutionalization of Private Governance: How Business and Nonprofit Organizations Agree on Transnational Rules' (2005) 18 *Governance* 589–610.

³¹ J. Black, 'Decentring Regulation: Understanding the Role of Regulation and Self-regulation in a "Post-Regulatory" World' (2001) 54 *Current Legal Problems* 103–47.

by looking at single regulatory agencies is to adopt rather a limited viewpoint. Such 'decentred' interpretations of regulation have also highlighted the need to take on board the multi-level character of regulation, in which standards may be set or agreed at supranational or international levels and enforcement may take place in the locality.

When more specific regulatory questions have been explored, there have also been dramatic changes of treatment during the new millennium. A regulatory issue that has been particularly productive of fresh theories and approaches has been that of enforcement and compliance. Long gone are the days when one might comfortably profess to be an advocate of either 'compliance' or 'deterrence' approaches. In the wake of the well-established theories of 'responsive regulation', and 'smart regulation', and have then been both exposed to criticism and refined. More attention has been paid to motivations and behaviours, to interactions of control systems, and to 'risk-based' and 'principles-based' approaches to regulatory enforcement.

As regulation has come to the forefront of public debates in recent years, some particular issues have exerted an especially strong grasp on public and political attentions—on either a continuing or an ephemeral basis. There has, for instance, been a sustained concern about the 'evils' of regulation, such as 'red tape', overload, and the excessive bureaucratization of economic and social life. Critics have suggested that regulation creates major barriers to competitiveness and economic growth, and such worries have been fuelled by benchmarking exercises and league tables such as the World Bank's 'Doing Business' reports.

In some cases, particular items have shifted place on the regulation agenda—so that debates about the virtues and vices of deregulation and privatization have, as noted, given way to post-millennium discussions of regulatory improvement and 'better regulation'. In these newer conversations about regulation, it has become accepted, not only that regulation is necessary for the functioning of a market economy, but that regulatory oversight remains essential in the running of public services, especially those involving

³² I. Ayres and J. Braithwaite, Responsive Regulation (Oxford, 1992).

³³ N. Gunningham and P. Grabosky, Smart Regulation (Oxford, 1998).

³⁴ M. Sparrow, *The Regulatory Craft* (Washington DC, 2000).

³⁵ C. Sunstein and R.Thaler, *Nudge* (New Haven, 2008); C. Jolls, C. Sunstein, and R. Thaler, 'A Behavioural Approach to Law and Economics' in C. Sunstein (ed.), *Behavioural Law and Economics* (Cambridge, 2008).

³⁶ R. Baldwin and J. Black, 'Really Responsive Regulation' (2008)71(1) *Modern Law Review* 59–94; J. Black and R. Baldwin, 'Really Responsive Risk-Based Regulation' (2010) 32(2) *Law and Policy* 181–213.

³⁷ See Chapters 13 and 14 below.

naturally monopolistic elements, such as networks. An initial emphasis on economic regulation that was supposed to 'wither away' over time has been replaced by a realization that there is a continuing need for regulatory oversight and an imperative to add environmental and sustainability objectives to the earlier, primarily economic and social, objectives.

These freshly developing agendas of regulation have not, however, always gelled into highly coherent packages of policy or theory. The 'better regulation' group of initiatives can, for instance, be seen as rich in tensions and contradictions. Thus, calls have been made for more evidence-based regulation (and data-intensive, risk-based regulation) but, at the same time, governments have demanded that regulators make fewer informational and data supply demands on businesses. Similarly, the past decade or so has seen the spread of rationalistic and formal modes of evaluating regulatory proposals (notably 'Regulatory Impact Assessments') and, at the same time, many governments have urged regulators to move towards the kinds of regulatory styles that are least likely to score convincingly in RIA appraisals—such as more user-friendly and less formal modes of control (see, further, Chapter 15). In itself, the 'better regulation' agenda could be seen as an uneasy rhetorical package that combines a continuation of the 'anti-red tape' message and the belief in technocratic and 'rationalizing' tools for enhancing regulatory quality.³⁸

By 2010, regulation had come to occupy a place at the forefront of public debate in more than one domain. The financial crisis that was initially to have led to a 'return of the state' pointed to the problems that could be caused by an over-reliance on the self-regulatory capacities of private organization.³⁹ It also highlighted a series of issues regarding enforcement styles and overall regulatory arrangements. By 2011, regulatory debates continued to be dominated by demands and warnings, on the one side, to impose 'more' regulation (in many variants: more rules, tougher sanctions, growing distinctiveness and 'professionalization' of regulators) and, on the other, cautioning that 'more' regulation would have considerable undesirable effects. The financial crisis also added to global regulation debates on such matters as how systemic risks could be coped with across jurisdictions, and how national regulators (through the Basel III agreement) could coordinate their 'macroprudential' actions and impose capital requirements to cope with overheated national economies. 40 Environmental disasters, such as the Louisiana oil-spill of 2010, brought their own regulatory disputes.41

³⁸ T.O.McGarity, *Reinventing Rationality: The Role of Regulatory Analysis in the Federal Bureaucracy* (Cambridge, 1991).

³⁹ M. Lodge and K. Wegrich, 'Letter to the Editor', *Public Administration Review* (2010).

⁴⁰ 'Bank Regulators Agree on Global Sweep to Tackle Credit Bubbles', *Financial Times*, 11 Jan. 2011.

⁴¹ National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling (2011), *Final Report* (www.oilspillcommission.gov/final-report, last accessed 14 January 2011). The 'National Commission on the BP spill' criticized the lack of resources allocated to the regulator and called for the

As a result of such developments and crises, regulation now occupies its place as a central organizing concern for the worlds of practice and research alike. At the same time, it has increasingly been asked whether regimes of regulation or self-regulation can satisfactorily solve complex problems—and not just in the context of the financial crisis. Advocacy of different regulatory strategies has, moreover, tended to proceed on a cautious basis and critiques of regulation have tended to emerge in a process of interaction between the study and the practice of regulation.

The Organization of the Book

Part I of the book reviews a series of general issues in regulation, namely: why regulate at all (Chapter 2); how 'good' regulation can be identified (Chapter 3); how the origins of regulation and regulatory changes can be explained (Chapter 4); and how regulatory failures can be understood (Chapter 5). It also considers, in Chapter 6, the challenges of regulating risks and the vision of regulation as a risk-centred activity.

Part II of the book then looks at strategic issues and how regulation can be carried out. Central concerns are: choices of regulatory strategy (Chapter 7); self-regulatory, 'meta-regulatory', and complex regimes (Chapter 8); franchising (Chapter 9); and emissions trading (Chapter 10). Part III examines enforcement and implementation matters. It starts with a general review of these issues in Chapter 11 before looking at the more particular approaches of responsive regulation (Chapter 12); and risk-based regulation (Chapter 13). The problems that are encountered in choosing types of regulatory standards are considered in Chapter 14, together with the case for principles-based regulation.

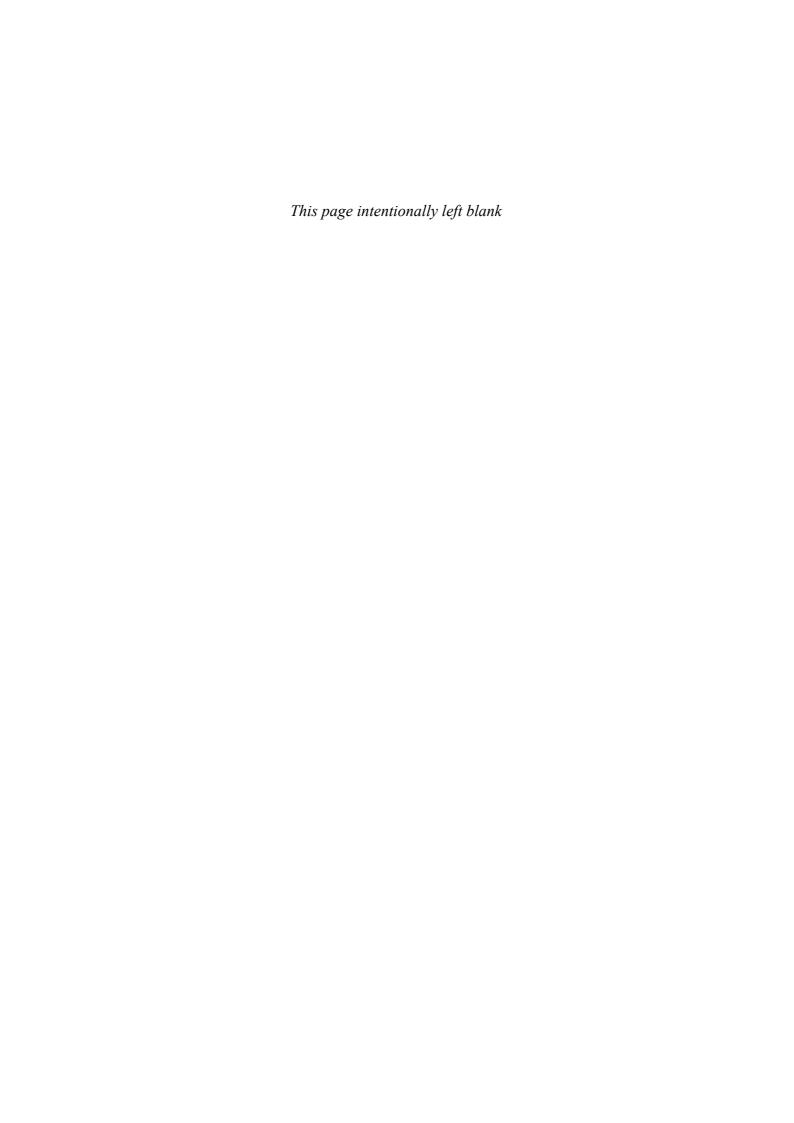
Part IV turns attention to questions of evaluation of the quality of regulation. Cost-benefit testing and Regulatory Impact Assessment are looked at in Chapter 15. Accountability and procedural fairness concerns are discussed in Chapter 16. Finally, the role and incidence of competition and coordination between regulators is addressed in Chapter 17.

Part V reviews a host of issues that relate to the governmental levels at which regulatory systems are located. Chapter 18 deals generally with regulation at different levels before Chapter 19 considers the European

creation of a new safety regulator. The Commission also criticized the prevalence of self-regulation in the sector, especially the role in which the 'American Petroleum Institute' which produced national and global technical standards, was predisposed to rely on 'industry autonomy'. It called for the creation of an industry-based safety standard-setting body and enforcing—a demand that was widely contested, with opponents noting in particular the financial implications of these proposals—see 'US "cannot walk away" from oil in deep water', *Financial Times*, 12 Jan, 2011.

dimension to regulation. Development and globalization issues are covered by Chapters 20 and 21, respectively. Part VI then looks at utility or network industry issues, and focuses on: price setting in natural monopolies (Chapter 22); using competition in network industries (Chapter 23); separation and contestability in network industries (Chapter 24); implementing price controls (Chapter 25); and efficiency and innovation in network industries (Chapter 26). Conclusions are offered in Chapter 27.

Part I Fundamentals



2 Why Regulate?

Motives for regulating can be distinguished from technical justifications for regulating. Governments may regulate for a number of motives—for example, they may be influenced by the economically powerful and may act in the interests of the regulated industry or they may see a particular regulatory stance as a means to re-election. Different commentators may analyse such motives in different ways, and a variety of approaches to such analysis will be discussed in Chapter 3. To begin, though, we should consider the technical justifications for regulating that may be given by a government that is assumed to be acting in pursuit of the public interest.¹

Many of the rationales for regulating can be described as instances of 'market failure'. Regulation in such cases is argued to be justified because the uncontrolled marketplace will, for some reason, fail to produce behaviour or results in accordance with the public interest. In some sectors or circumstances, there may also be 'market absence'—there may be no effective market—because, for example, households cannot buy clean air or peace and quiet in their localities. In this chapter, we discuss the traditional 'market failure' rationales for regulating, but we also consider the argument that there may be other reasons to regulate and that these have a basis in human rights or social solidarity, rather than market, considerations.

Market Failure Rationales

MONOPOLIES AND NATURAL MONOPOLIES

Monopoly describes the position in which one seller produces for the entire industry or market. Monopoly pricing and output is likely to occur and be sustained where three factors obtain:³

¹ For detailed reviews of public interest reasons for regulating see S. Breyer, *Regulation and Its Reform* (Cambridge, MA, 1982), ch. 1; A. Ogus, *Regulation: Legal Form and Economic Theory* (Oxford, 1994), ch. 3; E. Gellhorn and R.J. Pierce, *Regulated Industries* (St Paul, MN, 1982), ch. 2; J. Kay and J. Vickers, 'Regulatory Reform: An Appraisal', in G. Majone (ed.), *De-Regulation or Re-Regulation*? (London, 1989); B. Mitnick, *The Political Economy of Regulation* (New York, 1980), ch. 5; C. Sunstein, *After the Rights Revolution* (Cambridge, MA, 1990), ch. 2; C. Hood, *Explaining Economic Policy Reversals* (Buckingham, 1995).

² See also J. Francis, *The Politics of Regulation* (Oxford, 1993), ch. 1.

³ See Gellhorn and Pierce, *Regulated Industries*, 36–7 and Chapter 15 below. On regulating monopolies generally see C. Foster, *Privatisation, Public Ownership and the Regulation of Natural Monopoly* (Oxford, 1992), ch. 6; Ogus, *Regulation*, 30–3; Breyer, *Regulation and Its Reform*, 15–19;

- A single seller occupies the entire market.
- The product sold is unique in the sense that there is no substitute sufficiently close for consumers to turn to.
- Substantial barriers restrict entry by other firms into the industry, and exit is difficult.

Where monopoly occurs, the market 'fails' because competition is deficient. From the public interest perspective, the problem with a firm occupying a monopolistic position is that in maximizing profits it will restrict its output and set price above marginal cost. It will do this because if it charges a single price for its product, additional sales will only be achieved by lowering the price on the entire output. The monopolist will forgo sales to the extent that lost revenue from fewer sales will be compensated for by higher revenue derived from increased price on the units still sold. The effects of monopoly, as compared to perfect competition, are reduced output, higher prices, and transfer of income from consumers to producers.

One response to potential monopolies is to use competition (or antitrust) laws so as to create a business environment that is conducive to competition. Where a 'natural monopoly' exists, however, the use of competition law may be undesirable. A natural monopoly occurs when economies of scale available in the production process are so large that the relevant market can be served at the least cost by a single firm. It is accordingly less costly to society to have production carried out by one firm than by many. Thus, rather than have three railway or electricity companies laying separate networks of rails or cables where one would do, it may be more efficient to give one firm a monopoly subject to regulation of such matters as prices and access to the network. Determining whether a natural monopoly exists requires a comparison of demand for the product with the extent of the economies of scale available in production. If a firm is in a position of natural monopoly then, like any monopoly, it will present problems of reduced output, higher prices, and transfers of wealth from consumers to the firm. Restoration of competition by use of competition law is not, however, an appropriate response, since competition may be socially costly and thus regulation of prices, quality, and output as well as access may be called for. The regulator will try to set price near incremental cost (the cost of producing an additional unit) in order to encourage the natural monopolist to expand its output to the level that competitive conditions would have induced.

Francis, *Politics of Regulation*, ch. 3; E. Gellhorn and W. Kovacic, *Antitrust Law and Economics* (St Paul, Minn., 1994), chs. 3 and 4.

⁴ On natural monopolies see M. Waterson, *Regulation of the Firm and Natural Monopoly* (Oxford, 1988), ch. 2: Foster, *Privatisation*, ch. 6.2.

Not all aspects of a supply process may be naturally monopolistic. As Ogus points out, ⁵ the economies of scale phenomenon may affect only one part of a given process—for instance the *transmission* of, say, electricity, rather than its *generation*. ⁶ The task of many governments and regulators (at least those committed to minimalist regulation) is to identify those parts of a process that are naturally monopolistic so that these can be regulated while other aspects are left to the influence of competitive forces. ⁷

WINDFALL PROFITS

A firm will earn a windfall profit (sometimes called an 'economic rent' or excess profit) where it finds a source of supply significantly cheaper than that available in the marketplace. It may do so by, say, locating a rich seam of an easily extracted mineral; by coming upon a material efficiency in a production process; or by possessing an asset that sud-denly escalates in value—for example, a boat in a desert town that has been flooded. Regulation may be called for when it is desired either to transfer profits to taxpayers or to allow consumers or the public to benefit from the windfall.

Where the windfall is the result of planned investments of money, effort, or research, or where society might want to create incentives to search for new efficiencies, products, or areas of demand, there is a case for allowing windfall profits to be retained. (If 'excess' profits are earned, it may be appropriate to limit these so that rewards and incentives are proportionate to the effort or investment that has produced the return.) In the desert town, it may be desirable to encourage some individuals to store boats in order to cope with periodic floods. If, however, the windfall is the result of good fortune rather than effort, exploration, or research, the case for taking the profits for public benefit may be stronger. Even in such cases, however, there will still be an argument for leaving windfall profits where they lie. If the state deprives a property owner of the windfalls that flow from such ownership, this may be seen by market actors as rendering property rights less secure, and this uncertainty may be bad for business generally. The balance between the public's gains from intervention and any negative effects on markets will have to be assessed in specific cases.

⁵ Ogus, Regulation, 31.

⁶ G. Yarrow, 'Regulation and Competition in the Electricity Supply Industry', in J. Kay, C. Mayer, and D. Thompson (eds), *Privatisation and Regulation* (Oxford, 1986).

⁷ See Chapter 23 below, and the White Paper, *Privatising Electricity*, Cmnd. 322 (London, 1988).

⁸ See Breyer, Regulation and Its Reform, 21.

EXTERNALITIES

The reason for regulating externalities (or 'spillovers') is that the price of a product does not reflect the true cost to society of producing that good, and excessive consumption accordingly results. Thus, a manufacturer of car tyres might keep costs to consumers down by dumping pollutants arising from the manufacturing process into a river. The price of the tyres will not represent the true costs that production imposes on society if clean-up costs are left out of account. The resultant process is wasteful because too many resources are attracted into polluting activities (too many tyres are made and sold) and too few resources are devoted by the manufacturer to pollution avoidance or adopting pollution-free production methods. The rationale for regulation is to eliminate this waste—and to protect society or third parties suffering from externalities—by compelling the internalization of spillover costs—on 'polluter pays' principles.

INFORMATION INADEQUACIES

Competitive markets can only function properly if consumers are sufficiently well informed to evaluate competing products. 10 The market may, however, fail to produce adequate information and may fail for a number of reasons: information may cost money to produce (e.g. because researching the effects of a product, such as a drug, may prove expensive). The producer of information, however, may not be compensated by others who use that information (e.g. other manufacturers of the drug). The incentive to pro-duce information may accordingly be low. There may also be incentives to falsify information—where, for example, consumers of the product are illpositioned to challenge the falsification and seek remedies for damages suffered or where they face high costs in doing so. Areas in which consumers purchase a type of product very infrequently may give rise to this problem. The information produced may, in addition, not be of sufficient assistance to the consumer—for instance, because the consumer lacks the expertise required to render technical data useful. Finally, collusion in the marketplace, or insufficient competition, may reduce the flow of information below the levels consumers might want. Producers, as a group, may thus fail to warn consumers about the general hazards or deficiencies associated with a product. Breyer notes that until the US government required disclosure, accurate information was unavailable to most buyers in that country

⁹ See Breyer, Regulation and Its Reform, 23-6; Ogus, Regulation, 35-8.

¹⁰ See F. Hayek, 'The Use of Knowledge in Society' (1945) 35 American Economic Review 519; Breyer, Regulation and Its Reform, 26–8; Ogus, Regulation, 38–41.

concerning the durability of light bulbs, nicotine content of cigarettes, fuel economy for cars, or care requirements for textiles.¹¹

Regulation, by making information more extensively accessible, accurate, and affordable, may protect consumers against information inadequacies and the consequences thereof, and may encourage the operation of healthy, competitive markets.

CONTINUITY AND AVAILABILITY OF SERVICE

In some circumstances, the market may not provide the socially desired levels of continuity and availability of service. Thus, where demand is cyclical (for example, as with passenger air transport to a holiday island) waste may occur as firms go through the processes of closing and reopening operations. ¹² Regulation may be used to sustain services through troughs—for example, by setting minimum prices at levels allowing the covering of fixed costs through lean periods. This would be justified where the extra costs imposed on consumers by pricing rules are less than those caused by the processes of closing and opening services in response to the business cycle. The subsidizing of off-peak by peak travellers will, however, raise issues of equity to be considered alongside questions of social policy. In the case of some products or services—for example, water services—it may be considered, as a matter of social policy, that these should be generally available at least to a certain minimum standard. In the unregulated market, however, competition may lead to 'cream-skimming' the process in which the producer chooses to supply only the most profitable customers—and services may be withdrawn from poorer or more geographically dispersed groupings of customers. Regulation may be justified in order to produce socially desirable results, even though the cross-subsidizations effected may be criticizable as inefficient and unfair.

ANTI-COMPETITIVE BEHAVIOUR AND PREDATORY PRICING

Markets may be deficient not merely because competition is lacking: they may produce undesirable effects because firms behave in a manner not conducive to healthy competition. A principal manifestation of such behaviour is predatory pricing. This occurs when a firm prices below costs, in the hope of driving competitors from the market, achieving a degree of domination, and then using its position to recover the costs of predation and increase profits at the expense of consumers. Preconditions for a rational firm to engage in predatory pricing are that: it must be able to outlast its competitors once prices are cut below variable costs; and it must be able to maintain prices well

¹¹ Breyer, Regulation and Its Reform, 28.

¹² Ogus, Regulation, 43–6.

above costs for long enough to recover its prior losses. The costs of entry to and exit from the market must, accordingly, allow it this period of comfort before new competition arises. The aim for regulators is to sustain competition and protect consumers from the ill-effects of market domination by outlawing predatory or other forms of anti-competitive behaviour.

PUBLIC GOODS AND MORAL HAZARD

Some commodities, e.g. security and defence services, may bring shared benefits and be generally desired. It may, however, be very costly for those paying for such services to prevent non-payers ('free-riders') from enjoying the benefits of those services. As a result, the market may fail to encourage the production of such commodities, and regulation may be required—often to overcome the free-rider problem by imposing taxes.

Similarly, where there is an instance of moral hazard—where someone other than the consumer pays for a service¹³—there may be excessive consumption without regard to the resource costs being imposed on society. If, for example, medical costs are not met by the patient, but by the state or an insurer, regulatory constraints may be required if excessive consumption of medical services is to be avoided.

UNEQUAL BARGAINING POWER

One precondition for the efficient or fair allocation of resources in a market is equal bargaining power. If bargaining power is unequal, regulation may be justified in order to protect certain interests. Thus, if unemployment is prevalent it cannot be assumed that workers will be able to negotiate effectively to protect their interests, and regulation may be required to safeguard such matters as the health and safety of those workers. Inequalities of bargaining power may thus be the products of relative positions in the marketplace, but they may also stem from asymmetries of information. Workers, for instance, may be poorly placed to secure health protections from their employers because they lack the information that would put them on an equal footing in negotiations.

SCARCITY AND RATIONING

Regulatory rather than market mechanisms may be justified in order to allocate certain commodities when these are in short supply. In a petrol

¹³ See generally G. Calabresi, *The Cost of Accidents: A Legal and Economic Analysis* (New Haven, 1970).

shortage, for example, public interest objectives may take precedence over efficiency so that, instead of using pricing as an allocative instrument, the petrol is allocated with reference to democratically generated lists of priorities.

RATIONALIZATION AND COORDINATION

In many situations, it is extremely expensive for individuals to negotiate private contracts so as to organize behaviour or industries in an efficient manner—the transaction costs would be excessive. ¹⁴ The firms in an industry may be too small and geographically dispersed to bring themselves together to produce efficiently. (This might happen when small fishing concerns in a sparsely populated area fail to make collective marketing arrangements.) Enterprises may, moreover, have developed different and incompatible modes of production. In these circumstances, regulation may be justified as a means of rationalizing production processes (perhaps standardizing equip- ment in order to create effective networks) and in order to coordinate the market. Centralized regulation holds the advantage over individual private law arrangements, where information can be more efficiently communicated through public channels and economies of scale can be achieved by having one public agency responsible for upholding standards. ¹⁵

It is noteworthy that this rationale for regulation is based more on the desire to *enable* effective action to take place than on the need to prohibit undesirable behaviour.

PLANNING

Markets may ensure reasonably well that individuals' consumer preferences are met, but they are less able to meet the demands of future generations or to satisfy altruistic concerns (e.g. the quality of an environment not personally enjoyed). There is also, as far as altruism is concerned, a potential free-rider problem. Many people may be prepared to give up some of their assets for altruistic purposes only if they can be assured that a large number of others

¹⁴ See Ogus, *Regulation*, 41–2; S. Breyer and P. MacAvoy, 'The Federal Power Commission and the Coordination Problem in the Electrical Power Industry' (1973) 46 *Southern California Law Review* 661

¹⁵ In the transportation sector, coordination and regulation by a central agency may be needed in order to organize a route network—see S. Glaister, *Deregulation and Privatisation: British Experience* (Washington, DC, 1998).

¹⁶ See Ogus, *Regulation*, 54; R.B. Stewart, 'Regulation in a Liberal State: The Role of Non-Commodity Values' (1983) 92 *Yale Law Journal* 1537; Sunstein, *After the Rights Revolution*, 57–61.

will do the same. The problems and costs of coordination mean that regulation may be required in order to satisfy such desires.¹⁷

Rights-based and Social Rationales for Regulating

It has been argued, notably by Tony Prosser, ¹⁸ that the market failure rationale does not adequately justify the range of regulatory activities that are commonly undertaken. He suggests, moreover, that the market failure analysis treats regulation as second-best to market allocation and that this does not properly explain or justify current practice. Prosser, accordingly, points to the relevance of two further rationales for regulating—to protect human rights¹⁹ and to further social solidarity. ²⁰ In doing so, he takes issue with the assumptions that market solutions are always the best ways to deal with decisions on the allocation of goods and services, and that non-market failure rationales for regulating are essentially arbitrary. The idea that market allocations are 'technical' whereas social justice issues are 'political' is also questioned. What can be said as a matter of description, says Prosser, is that environmental and many other regulators can properly be seen as seeking to further social objectives, rather than as simply acting to correct market failures. Even where markets are involved, regulatory laws, on such a view, are not limited to merely correcting the market but often serve to constitute market relations, to provide the frameworks of rights and processes that allow markets to work, and to protect markets from fragmentation. In many contexts, accordingly, regulation can be seen as prior, not secondary, to the market and as a firstchoice method of organizing social relations.²¹

¹⁷ Ogus, Regulation, 54.

¹⁸ T. Prosser, 'Regulation and Social Solidarity' (2006) 33 Journal of Law and Society 364–87; 'Public Service Law' (2000) 63 Law and Contemporary Problems 63–82. See also C. McCrudden, 'Social Policy and Economic Regulators' in C. McCrudden, Regulation and Deregulation (Oxford, 1999) and M. Feintuck, 'Regulatory Rationales Beyond the Economic' in R. Baldwin, M. Cave and M. Lodge (eds), The Oxford Handbook of Regulation (Oxford, 2010).

¹⁹ See R. Brownsword, 'What the World Needs Now: Techno-Regulation, Human Rights and Human Dignity' in R. Brownsword (ed.), *Global Governance and the Quest for Justice* (Oxford, 2004).

²⁰ A developing of the argument is offered in T. Prosser, *The Regulatory Enterprise: Government Regulation and Legitimacy* (Oxford, 2010), 11–20, where four rationales for regulation are distinguished: (1) regulation for economic efficiency and consumer choice (market-centred regulation); (2) regulation to protect rights; (3) regulation for social solidarity; and (4) regulation as deliberation (the provision of processes to resolve problems). See also H. McVea, 'Financial Services Regulation Under the Financial Services Authority: A Reassertion of the Market Failure Thesis?' (2005) 64 *Cambridge Law Journal* 413–48; J. Black, 'Critical Reflections on Regulation', *LSE Centre for Analysis of Risk and Regulation (CARR)*, *Discussion Paper* 4 (2002).
²¹ See C. Shearing, 'A Constitutive Conception of Regulation' in P. Grabosky and J. Braithwaite

²¹ See C. Shearing, 'A Constitutive Conception of Regulation' in P. Grabosky and J. Braithwaite (eds), *Business Regulation and Australia's Future* (Canberra, 1994).

Consistent with such regulatory rationales are examples of regulating for reasons of distributional justice, rights protection, and citizenship—as, for example, where regulated utilities are obliged to apply geographically averaged tariffs or to meet universal service obligations. Governments, indeed, regulate on a host of matters simply in order to further social policies such as the prevention of discrimination based on race, sex, or age. Social objectives, moreover, are sometimes furthered by regulating even where this involves overruling the preferences of market players and acting paternalistically. Thus, society may, as a matter of policy, decide to act in the face of drivers' desires and demand that seat belts be worn in motor vehicles. In the strongest form of such paternalism, the decision is taken to regulate even where it is accepted that the citizens involved would not support regulation and that they are possessed of full information on the relevant issue.²²

Conclusions: Choosing to Regulate

There are, as seen above (and in Table 2.1) a number of well-recognized reasons commonly given for regulating. It should be stressed, however, that in any one sector or industry the case for regulating may well be based not on a single but on a combination of rationales—be these market failure-, human rights-, or social solidarity-based. Health and safety regulation, for example, can be justified with reference to such matters as externalities, information defects, unequal bargaining, human rights, and paternalism.²³

A second point to be borne in mind in considering whether to regulate, is that the market and all its failings should be compared with regulation and all its failings. Any analysis of the need to regulate will be skewed if it is assumed that regulatory techniques will operate perfectly. We will see during this book that all regulatory strategies have strengths and weaknesses in relation to their implementation, as well as their design. Regulatory and market solutions to problems should be considered in all their varieties and with all likely deficiencies and side-effects if true comparisons are to be effected.

²² Ibid., 51-4.

²³ Breyer, Regulation and Its Reform, 34; Prosser, 'Regulation and Social Solidarity'.

Table 2.1. Rationales for regulating

Rationale	Main aims of regulation	Example	
Monopolies and natural monpolies	Counter tendency to raise prices and lower output. Harness benefits of scale economies. Identify areas that are genuinely monopolistic.	Utilities.	
Windfall profits	Transferbenefits of windfalls from firms to consumers or taxpayers.	Firm discovers unusually cheap source of supply.	
Externalities	Compel producer or consumer to bear full costs of production, rather than pass on to third parties or society.	Pollution of river by factory.	
Information inadequacies	Inform consumers to allow market to operate.	Pharmaceuticals. Food and drinks labelling.	
Continuity and availability of service	Ensure socially desired (or protect minimal) level of 'essential' service.	Transport service to remote region.	
Anti-competitive and predatory pricing behaviour	Prevent anti-competitive behaviour.	Below-cost pricing in transport.	
Public goods and moral hazard	Share costs where benefits of activity are shared but free-rider problems exist.	Defence and security services. Health Services.	
Unequal bargaining power	Protect vulnerable interests where market fails to do so.	Health and Safety at Work.	
Scarcity and rationing	Public interest allocation of scarce commodities.	Petrol shortage.	
Rationalization and coordination	Secure efficient production where transaction costs prevent market from obtaining network gains or efficiencies of scale. Standardization.	Disparate production in agriculture and fisheries.	
Planning	Protect interests of future generations. Coordinate altruistic intentions.	Environment.	
Human rights	Protection ofweaker citizens.	Discrimination. Embryology.	
Social protection	protection Social solidarity.		