

What Makes a Regulator Excellent? A Risk Regulation Perspective

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Regulation is extraordinarily difficult. It is about balancing and achieving multiple objectives, as well as balancing the interests of multiple groups and stakeholders. "Excellence" in regulation might be viewed differently depending on where you stand – for example, as a member of the public or as a business – and when and where you ask the question of what constitutes best regulatory practice. This is because regulatory objectives and interests not only vary between groups, they also vary across time and across countries. Excellent regulators need to be able to handle this complex and shifting landscape, one that is often not of their own making.

I will consider these issues from the perspective of risk regulation, taking the view that a crucial feature of regulation is that it attempts to control and manage risk. This perspective developed in the 1990s within a wider social science context, emerging as a distinctive interdisciplinary area bridging the studies of regulation and risk management across a number of social science disciplines. The focus of this paper is on the ways in which the definition and understanding of "risk regulation" are influenced by the broader contexts within which they are situated. It is not an approach which, for example, constructs mathematical risk models, but rather one which examines the social, economic, and political circumstances within which these risk models are constructed, and surveys how they are used both within, and by, organizations. Such an approach partly reflects a more general trend in social science literature to view and make sense of the world through the lens of risk. It has also emerged alongside changes in regulatory practice.

This paper will consider different types of risk. In particular, it will differentiate the risks which regulators oversee and manage – such as risks to health and safety, financial stability, the environment, aviation safety and so on – from the risks that regulators themselves face – for example political risks. I argue that "excellent" regulators must address both the technical and social aspects of the risk regulation task they are charged with undertaking.

Risk Regulation and Excellence: Anticipation

For many social scientists, risk regulation is a very modern phenomenon: a real expression of what some have termed the "risk society." This is a society in which there is an orientation to the future and a belief that we can control and manage risks. The social theorist Anthony Giddens argues, for example, that we live in a world where there is no longer a belief in fate but an "aspiration to control" future events, leading to a growing preoccupation with the future. From this perspective, regulation is one manifestation of a modern belief that risks can be anticipated and controlled. Moreover, risk has become a key organizing concept in such a society. Excellent regulators, it follows, aspire to satisfy demands for the anticipation and control of risks. These are very great, and arguably unreasonable, expectations which come to the fore when things go wrong and regulators are among those blamed for not foreseeing events. There are many examples of this, ranging from the 2007-08 financial crisis to terrorist attacks.

Witness the emerging debate about whether the French police and intelligence services should have predicted the Charlie Hebdo murders, or the 9/11 Commission's pronouncement that U.S. intelligence agencies and other governmental entities did not succeed in preventing the 9/11 attacks because of failures of "imagination." Similar controversies surround the "failure" of regulators to predict the financial crisis. Indeed, most disasters that occur lead to a similar questioning of regulators, businesses, and others, which in turn creates an industry of "self-help" advice which spells out what was done wrong, what should have happened, and how things should be done better next time. 11

Risk regulation can be a very normative and emotive topic, apparent in the political rhetoric, both pro- and anti-regulation, which is employed. This rhetoric is underpinned by different political philosophies about the relationship between the state and markets, and is reflected in changing policies. Regulators are seldom free to make decisions about how best to manage risks free from political steering, and excellent regulators have to be adept at managing risks in association with these shifting agendas. A common political theme over recent decades has been the so-called "better regulation" agenda, with different regimes around the world exemplifying stronger or weaker variations of this. There have been repeated deregulatory initiatives since the 1980s, for example, with politicians using the changing language of "burden," "deregulation," "better regulation," and "regulatory impact." The costs and benefits of regulation have been at the center of political debates in the form of normative claims about "burdens" and "red tape." In policy terms, such concerns are encoded in the tools regulators use, some of which have also become benchmarks against which they are judged. These include, for example, cost-benefit analyses, regulatory impact assessments and risk-based regulation, all of which incorporate calculative and probabilistic thinking about regulation itself (and which I discuss further below).

Such technocratic, apparently "rational," approaches aim to make regulation more efficient, objective, and fair for business. In so doing, they disguise some of the very real political and ethical decision making that lies at the heart of regulation, and characterizes the regulatory process from its inception. For example, the definition of what is deemed to be "risky" can be controversial: it is frequently contested and negotiated. Identifying what constitutes a "risk" is not always straightforward due to the fact that there may be conflicts in evidence, as well as competing interests. As Mary Douglas and Aaron Wildavsky once observed, there can be "substantial disagreement ... over what is risky, how risky it is and what to do about it." Determining whether a risk requires regulation can be similarly controversial, as can determining, at the implementation stage, the correct regulatory approach to take.

Partly as a result of such controversy, many regulatory regimes have begun to explicitly design their operations in terms of systematic risk assessment and prioritization. ¹⁴ The adoption of apparently rational, objective, and transparent ways of prioritizing work, and the deployment of limited regulatory resources, may be appealed to should a crisis require defensive measures to avoid blame and liability. ¹⁵ This practice has also arisen from other contemporary imperatives defining excellent regulation, some of which are discussed under the generic title of the "New Public Management," and which include the adoption of risk-based approaches by public sector departments. Excellent regulators thus become defined as excellent risk managers. ¹⁶

Risk Regulation and Organizational Risk Management

There are a variety of ways in which regulatory and risk management templates have blurred. The most fundamental is through the use of risk assessment tools by regulators, especially those derived from natural science and economics. More recently, some jurisdictions have mandated a more general move to risk-based approaches as a way of organizing regulatory activities. In the UK, for example, the Hampton Report on "effective inspection and enforcement" led to risk-based regulation becoming the cornerstone of Treasury recommendations for regulation, enshrined and made mandatory by the Legislative and Regulatory Reform Act 2006. ¹⁷

There is no firm definition of risk-based regulation, but the practice generally includes a commitment to a philosophy which takes the principles of risk management as a framework for governance, the organization of regulatory work, and an agency's resources. It involves the formalization of regulation through the employment of technical risk-based tools emerging out of economics (for example, cost-benefit approaches) and science (for example, risk assessment techniques). As such, it usually involves cycles of risk identification, measurement, mitigation, control and monitoring. Risks are identified and assessed, a ranking or score is assigned on the basis of this assessment, and inspection and enforcement is undertaken on the basis of these scores. It is a systematic approach which takes a holistic view of regulation and risk management, and conceptualizes risks as interrelated and as having potential consequences for broader social, economic and political environments. It provides an overarching framework for governance, in contrast to systems where risk management tools are used in an ad hoc, piecemeal way – for example, those which rely more on the expertise of individual regulatory officials or local offices and regimes. 20

Achieving excellence in this context places numerous demands on regulators. These include demands that regulators have access to accurate information so that they have a clear idea of the risks they are regulating. This is not always straightforward, as – even in the simplest cases – the necessary data may not be available. Sally Lloyd-Bostock and I have discussed the difficulties encountered by the UK's General Medical Council (GMC), the professional regulator for doctors in the UK, in determining the risks they need to consider in a risk-based approach.² Their main data source has been recorded complaints, but while these can be a very rich source of risk-related information, they are not representative of all risks, and may not, therefore, provide the most useful data for risk-based regulation purposes. For example, patients tend to report dissatisfaction in areas where they feel they are competent to judge, but research indicates that most risks to patients are not recognized by the patients themselves, let alone reported by them. The data which are recorded will be further filtered and constructed by methods and systems used for processing patient complaints, which will in turn reflect the perceptions and attitudes of members of the organization. It is highly questionable that such data can readily be used for risk-based regulation purposes. However, generating new sources of data can be very expensive.

At a technical level, there may be difficulties in how regulators rely on data. For instance, the past is not always a good predictor of the future. This is the case, for example, in

environmental risks. Climate change may well be increasing the incidence and patterns of natural disasters, thus rendering their incidence and location less predictable. The 2007-08 financial crisis also reveals the ways in which social and political environments can distort our interpretation of data. The risk models used by the financial markets in the decades prior to the crisis were colored by a climate of optimism which encouraged mistaken assumptions about risk and the ability of markets to regulate themselves.²²

At a political level, scientific data can be compromised by partisan interests. "Climategate" involved a politically motivated challenge to the status of scientific evidence and expert knowledge relating to climate change. The controversy began in November, 2009, when a server was breached at the University of East Anglia's Climatic Research Unit (CRU), one of the research centers that compiled various global temperature and precipitation analyses. Two weeks before the Copenhagen Summit on climate change, large amounts of data relating to the Unit's climate change research were posted on the Internet. Climate change skeptics alleged the hacked emails showed evidence that climate scientists manipulated data and that the emails constituted evidence of a global warming conspiracy and the suppression of dissenting scientific papers. Despite the fact that successive inquiries refuted these claims, this was a damaging episode to scientists, especially given that international climate change talks were in progress at the time. This episode underlines the difficulties there may be in securing a robust and agreed evidence base.

Excellent regulators are those who appreciate both the limitations of the data and the political context within which they operate. They need to be able to critically appraise the value and validity of available data sources and be able to manage and integrate these. Most particularly, excellent regulators recognize the need to employ staff with the technical skills to use risk-based tools, with the skills to interpret the data and act on the basis of it. ²³ In short, regulatory excellence requires good data as well as analytical rigour and sound judgement to understand the restrictions of the approach and the levels of (un)certainty under which regulators operate. Achieving the ideals of risk-based regulation demands the resources to fund these levels of information collation, analysis, and interpretation. In recent years, as public sector budgets have been drastically reduced, this has become a difficult task.

Another crucial element of being an excellent regulator is appreciating the heuristic nature of the regulatory models the agency employs. Risk-based regulation, for instance, is an aid to decision making in regulatory agencies: it acts as a guide to help decisions about the prioritization of resources. But risk-based regulation has its faults too: it simplifies complex data, and where there are insufficient data it depends on proxies. Risk-based tools may also be differentially interpreted according to cultural and other factors. Haded, the uncertainties and points of contestability around the more technical aspects of risk-based regulation can be exploited by interested parties. The very tools used by state regulators may be used to challenge their decision making and authority. Regulatory models and tools may be forgotten over time, or it may be that they are well understood by those at the top of the organization but not understood further down the organization by those operating the system at a lower level. More importantly in the context of this discussion, they may not be understood by those assessing the performance of regulators.

Regulation, however, is not just a matter of achieving technical excellence – far from it. As Mary Douglas explains in her seminal work on risk, while risk assessments may be presented as scientific and neutral, they are also inherently moral and political. Regulation involves choices about the distribution of resources, such as about the relative value given to individual or collective goods, and these choices may find themselves reflected in the technical tools of risk-based regulation. Similarly, determining acceptable costs in cost-benefit analyses has been a matter of dispute, with the argument being that indirect costs and benefits are rarely considered and that the interpretation of estimates depends upon one's perspective. Even if the causes and costs of risk are clear, acceptable levels of risk must still be defined, and that is essentially a political decision. Similarly, fundamental questions such as how much weight should be given to potential impact, how much to probability, and how much to public opinion are not simple technical decisions but are intrinsically political. However robust the tools used in risk-based regulation may be, and however carefully they are used by regulators, much depends at the end of the day on the political will to act and for this reason we need to consider the political environment within which risk regulation takes place.

Risk Regulation and Politics

Being an excellent regulator is in many senses aspirational but it also requires pragmatism and realism. Risk regulation is a messy world. The regulator is seen by some as the "fall guy" in a system where governments distance themselves from difficult, sometimes irreconcilable problems, and so are at liberty to criticize the decisions made by regulators. Regulators may be criticized for being too harsh when things are calm and being too lax when risks have been realized. Excellent regulators have to be aware of this. Governments and politicians are fickle: while they can speak an anti-regulation rhetoric, they can be quick to regulate following a disaster. They can be keen to create complicated meta-regulatory structures, including "better regulation" and "deregulation" organizations, the net effect of which leads to increased regulation. Politicians and the citizenry exhibit a fundamental ambivalence around the topic of regulation.

Excellent regulators learn to deal with the ambivalence that is encoded in the word "regulation." Their role is about the management, as opposed to the elimination, of risk, about control and restriction, but also about adaptation and flexibility – reconciling risk with other factors. They must act in the interests of markets, organizations, stakeholders, consumers and also the national and global economy. Such interest groups may not always share common objectives; hence, regulation can be a balancing act. The job of a regulator, therefore, involves negotiating and weighing up both risks and partisan interests. Excellence in regulation demands impartiality in dealing with the series of difficult issues associated with managing this balancing act. However, this does not necessarily mean that all parties involved "win" and "lose" in equal measure: it does not follow that the interests of various groups and stakeholders are equally weighted. Sometimes risk management tools can help give some broad indication of where the weight of evidence indicates the solution lies, and being open and transparent about this can be helpful. There are times when regulators have to consider taking a stand regarding the correct balance – even when there are strong political interests aligned against such a stand. These are occasions when strategic and negotiating skills can help, but there may be moments when regulators decide to take an ethical standpoint to protect weaker, less vocal groups. Ascertaining

whether or not a regulator has struck the "right" balance is difficult and there may be no easy solutions; in some cases, only time will tell. And it should be remembered that sometimes decisions are judged and proven erroneous many years after they were taken. Witness, for example, the decision taken by UK regulators to regard BSE – in the form of vCJD – as being non-transmissible to humans; this view was argued to be correct for nearly a decade before it was proven wrong. The evidence in that case was that scientific interpretations had been influenced by partisan interests and that this contributed to a defensive, rather than precautionary, stance by regulators.

The regulatory process holds many risks for regulators and the regulated alike. ²⁹ There are the risks of failing to regulate serious problems on one hand, or over-regulating small risks on the other. Regulators need to judge when to intervene and when they should leave organizations to get on with managing risks on their own. This judgment involves appreciating the complexities of so-called stakeholder groups, which can be highly diverse in their constitution, abilities and motivations. Businesses vary enormously in both their regulatory capacity and their views regarding regulation. Some businesses are very powerful players who are able to organize and put substantial sums of money into fighting regulation. Witness, for example, the debates over nutritional food labeling where some food businesses spent millions fighting a "traffic light" labeling scheme. This scheme was designed to give consumers readily identifiable information about the amount of fat, saturated fat, sugar and salt in food products via easy to understand red, amber, and green traffic lights. The controversy over whether the labeling scheme should be implemented persisted for many years in the UK before eventually moving to Europe, where a proposal that the system be adopted was rejected in June, 2009, by the European Parliament despite strong support from public health campaigners and some food chains. The debate is an example of an industry divided, and underlines the need to appreciate the complexities of stakeholder groups. A similar debate over food labeling took place in Australia. At the other end of the spectrum are small and micro businesses in which the risks associated with running a business are often ill understood. ³⁰ In these circumstances regulators may be the main source of information and education about risks. There are, of course, exceptions, such as small and micro businesses with highly specialized workforces in technology sectors who function in an industry vulnerable to closure in the event of accidents.³¹

There are a variety of factors which explain variations in businesses' capacity to manage the risks they generate: motivational factors, organizational capacity, and changing circumstances, to name a few.³² The optimal solution is to align, where possible, regulatory and organizational interests. In some sectors there may be a "natural" alignment of interests; for example, a major risk event could mean the destruction of a site and the possibility of going out of business. This does not necessarily mean that the business has the capability to manage regulation, but at least it has strong motivation to do so. An alignment can also occur when organizations seek solutions to compliance problems which satisfy wider interests. A simple example: for many decades railways and regulators struggled to get workers to wear high visibility vests when working on or near the tracks; this was solved by providing comfortable protective clothing which was also high visibility. "Nudge" techniques, based on behavioral economics, offer a similar hope that individuals and organizations, when given the right nudge, will choose optimal solutions without the need to resort to costly regulatory processes.³³ But, notwithstanding the paucity of evidence demonstrating the success of these strategies, we do

know that neither all risks nor all businesses are amenable to simple solutions. Excellent regulators help facilitate these solutions by leveraging a wide range of motivations to manage risks, such as those concerning reputational issues, education, and the threat of legal sanction.³⁴

The "public" is not a homogeneous grouping either; it is even more disparate than a business. There are many publics with different risk concerns and varying risk appetites, and therefore publics can also exercise ambivalence about risk regulation. They are selective and differential about the risks that concern them. Typically, their regulatory standards are higher in cases of involuntary risk than they are for voluntary risk-taking. Some risks do not generate concern (for example, mobile phones and nanotechnology), whereas other risks may generate what some regard as disproportionate attention. Publics may be loosely organized, as in the case of green markets, but this is atypical. More usually non-governmental organizations are taken as representative of the public as a whole. Yet despite their heterogeneity, publics are often portrayed as a uniform group by politicians and the media.

Risks to Regulators

In past decades, we have witnessed politicians discussing the "public" as a threat. With this in mind we turn to consider to what degree the public poses a risk to regulators. In the UK the public began to be regarded as a potential risk to regulators partly as a result of the BSE/vCJD incident, when public opinion was increasingly vociferous in contesting the official advice and the public were eventually proven correct in their concerns. This led to a massive loss of trust in regulators, experts, and government in the UK. Since then, debates about the role of science and technological innovations have construed the public as a "new" risk and one which it is feared may be activated through exposure to various media outlets.³⁸ More recently, public perceptions of risk have become viewed as a potential source of risk to businesses, regulators, and governments, to the extent that the public are portrayed as increasingly risk averse and depicted as making spiraling demands for the public management of risks. Sally Lloyd-Bostock argues that political and media claims about this culture of risk averseness effectively blame "the public" for the potential consequences of a range of anticipated risks, such as excessive regulation. 39 There are groups which have an interest in promoting such myths: most prominently politicians, but also the press, who may regard public fears as a good media story. Certainly the term "public" can be hijacked by the media and conveniently presented as a homogeneous grouping.

In a similar way, the media can be used by particular interest groups to further their regulatory (or deregulatory) ambitions. An example of this is the manner in which a number of large airlines exploited the media during the April, 2010, volcanic eruption in the Eyjafjallajökull area of Iceland. The resulting cloud of volcanic ash spread across Europe and much of its airspace was closed to civil aviation for six days. The closure had far-reaching consequences which included huge financial losses for airlines. The airlines successfully used the media to contest the regulatory decision to close airspace according to international protocols, their objective being to re-open the skies as soon as possible – a goal that was achieved by the renegotiation of regulatory limits. 40

Regulators hold an important duty, sometimes explicit, sometimes implied, to protect the public. This presents another set of risks to regulatory agencies which excellent regulators need to be able to negotiate. For example, there are fine lines between enabling, directing, and restricting choice. Regulators need to be careful not to be seen to endorse particular products, but instead to provide impartial, evidence-based advice; they also need to be careful not to take responsibility for risks caused by others. If risks are not managed successfully, it is not always the "fault" of the regulator. Primary responsibility often lies with the generators of the risk, who may not have co-operated with regulatory demands or been capable of managing risks. Moreover, the social and political climate may have been such that it was difficult for regulators to do their job; for example, in situations where light touch regulation was mandated. However, nuanced arguments around these issues in the event of an accident often fail to be heard. Excellent regulators therefore need to be adept not only at selecting policies and regulatory tools, they also need the skills to effectively communicate their decisions. They must know how to manage their audiences: diverse business organizations and diverse publics. They must also be able to communicate the intricacies of the legal and possibly financial constraints under which they operate, and – very importantly – their political neutrality.

One means of aiding this, which has been increasingly advocated, is to be transparent about the decisions made: in particular, to be open about the reasoning used to make regulatory decisions. ⁴¹ This is, in fact, one of the rationales and attractions of risk-based regulation but experience shows us that transparency does not necessarily protect regulators from criticism or indeed blame should things go wrong. ⁴² One of the strongest proponents of a transparent risk-based regulatory system in the UK preceding the financial crisis was the Financial Services Authority. However, its approach was not accepted as a defense for its failure to predict the crisis in the financial markets. Partly for this reason, excellent regulators also need to think through their crisis management and contingency planning. Zero tolerance is not an option in a system of regulation which demands that regulators "regulate" rather than "eliminate" risk, where they are required to weigh up costs and benefits and determine the tolerability of risk. Moreover, we cannot anticipate and manage everything all of the time: some things will be unknowns, some systems are too complex to completely manage, and – as we have seen – regulators do not always have the skills or necessary information upon which to make their decisions. ⁴³

Conclusion

Regulatory excellence is difficult to achieve in a national context but in a transnational context the challenges are greatly exacerbated. Twenty-first Century regulators need to be able to operate on a world stage. They are increasingly asked to regulate risks which have no national boundaries, such as environmental, financial and internet risks. They are operating in arenas where there are powerful multi-national companies who have the capacity to shape regulation to their own advantage and who may threaten regulatory "shopping" – as when some major financial institutions threatened regulatory arbitrage (for example, to relocate from London) if the UK and EU strengthened financial regulation. These companies have the capacity to exploit global inequalities not just in regulatory regimes but also in cheap labor. In this context, excellent regulators need to scale up on all of their skills to grasp the complexities – technical, moral, and political – of operating on a global scale.

In this context excellent regulators should be seen to set high standards of risk regulation, establish good models which are recognized to be exemplary and which other countries want to follow, and to engage in – and lead – transnational discussions. Excellent regulators will preferably be highly regarded in their own countries.

We live in a global landscape where risks, and the demands of regulatory excellence, are fast expanding. Embracing transnational co-operation and negotiation requires strong diplomatic skills. The world also demands an even greater appreciation of the social science aspects of risk regulation; namely an understanding that the ways in which problems are framed as "risks," and how decisions are made, are deeply embedded in social, economic and political environments.

Notes

- ¹ Best-in-Class Regulator Initiative, University of Pennsylvania Law School, June 2015, (www.law.upenn.edu/institutes/ppr/bestinclassregulator).
- ² See Christopher Hood, Henry Rothstein and Robert Baldwin, *The Government of Risk* (Oxford University Press, 2001); Bridget M. Hutter, *Regulation and Risk: Occupational Health and Safety on the Railways* (Oxford University Press, 2001).
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- ⁴ Ulrich Beck, *Risk Society: Towards a New Modernity* (London: SAGE Publications, Ltd., 1992).
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- ⁸ See, e.g., Cary Coglianese, *Regulatory Breakdown: The Crisis of Confidence in U.S. Regulation* (University of Pennsylvania Press, 2012); Fiona Haines, *The Paradox of Regulation: What Regulation Can Achieve and What It Can Not* (Cheltenham: Edward Elgar, 2011); Bridget M. Hutter, *Regulation and Risk: Occupational Health and Safety on the Railways*.
- ⁹ See John Mueller and Mark Stewart, "How French Intelligence Missed the 'Charlie Hedbo' Terrorists," *Time*, January 14, 2015 (http://time.com/3667663/charlie-hebdo-attack-terrorism-intelligence).

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- ¹⁴ See Julia Black, "The Emergence of Risk-Based Regulation and the New Public Management in the United Kingdom," *Public Law* (Autumn 2005), pp. 512–49; Bridget M. Hutter, "Risk Management and Governance," in *Designing Government: From Instruments to Governance*, edited by Pearl Eliadis, Margaret Hill and Michael Howlett (McGill-Queen's University Press, 2005), pp. 303–21; see also Bridget M. Hutter, "The Attractions of Risk-Based Regulation: Accounting for the Emergence of Risk Ideas in Regulation," CARR Discussion Paper 33 (London: Center for Analysis of Risk and Regulation, London School of Economics and Political Science, 2005).
- $^{\rm 15}$ Black, "The Emergence of Risk-Based Regulation and the New Public Management in the United Kingdom."
- ¹⁶ Christopher Hood and Ruth Dixon, A Government that Worked Better and Cost Less? Evaluating Three Decades of Reform and Change in UK Central Government (Oxford University Press, 2015).
- ¹⁷ Philip Hampton, "Reducing Administrative Burdens: Effective Inspection and Enforcement" (The Hampton Review 2005) (www.berr.gov.uk/files/file22988.pdf).
 - ¹⁸ Hutter, "Risk Management and Governance," pp. 303–21.
- ¹⁹ Julia Black, "Risk-Based Regulation: Choices, Practices and Lessons Learnt," in *Risk and Regulatory Policy: Improving the Governance of Risk* (Paris: OECD, corp. ed., 2010) pp. 185–224.
 - ²⁰ Hutter, "Risk Management and Governance," pp. 303–21.
- ²¹ Bridget M. Hutter and Sally Lloyd-Bostock, "Risk, Interest Groups and the Definition of Crisis: The Case of Volcanic Ash," *British Journal of Sociology*, vol. 64 (September 2013), pp. 383–404.

- ²² See Clive Briault, "Risk Society and Financial Risk," in *Anticipating Risks and Organising Risk Regulation*, edited by Bridget M. Hutter (Cambridge University Press, 2010), pp. 25–45; Nassim Nicholas Taleb, *The Black Swan: The Impact of the Highly Improbable* (New York: Random House, 2007).
- ²³ Hutter and Lloyd-Bostock, "Risk, Interest Groups and the Definition of Crisis: The Case of Volcanic Ash," pp. 383–404.
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- ³² Christine Parker and Vibeke Lehmann Nielsen, Vibeke (eds.), *Explaining Compliance: Business Responses to Regulation* (Cheltenham: Edward Elgar, 2011).
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 - ³⁸ Ibid.
- ³⁹ Lloyd-Bostock, Sally, "Public Perceptions of Risk and 'Compensation Culture' in the UK," in *Anticipating Risks and Organising Risk Regulation*, edited by Bridget M. Hutter (Cambridge University Press, 2010), pp. 90–113.
- ⁴⁰ Hutter and Lloyd-Bostock, "Risk, Interest Groups and the Definition of Crisis: The Case of Volcanic Ash," pp. 383–404.
- ⁴¹ Martin Lodge, "Accountability and Transparency in Regulation: Critiques, Doctrines and Instruments" in *The Politics of Regulation: Institutions and Regulatory Reforms for the Age of Governance*, edited by Jacint Jordana and David Levi-Faur (Cheltenham: Edward Elgar, 2004), pp. 124–44.
 - ⁴² Hutter, "Risk Management and Governance," pp. 303–21.
- ⁴³ Charles Perrow, *Normal Accidents: Living with High-Risk Technologies* (New York: Basic Books, 1984).

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About the Author

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