

# Risk and the limits of governance: Exploring varied patterns of risk-based governance across Europe

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## Abstract

Risk-based approaches to governance are widely promoted as universally applicable foundations for improving the quality, efficiency, and rationality of governance across policy domains. Premised on the idea that governance cannot eliminate all adverse outcomes, these approaches provide a method for establishing priorities and allocating scarce resources, and, in so doing, rationalise the limits of what governance interventions can, and should, achieve. Yet cursory observation suggests that risk-based approaches have spread unevenly across countries. Based on a comparison of the UK, France, and Germany, this article explores the ways in which, and why, such approaches have “colonised” governance regimes in the UK, but have had much more limited application in France and Germany. We argue that the institutionally patterned adoption of risk-based governance across these three countries is related to how entrenched governance norms and accountability structures within their national polities handle both the identification and acceptance of adverse governance outcomes.

**Keywords:** governance norms and accountability, risk, risk-based governance and regulation.

## 1. Introduction

In recent years, “risk” has been promoted as a universal organizing concept for improving the quality, efficiency, and rationality of governance in ways that far exceed its traditional association with the environment or health and safety. These new “risk-based” approaches comprise a wide range of mechanisms of control, most notably taking the form of what has become known as “risk-based regulation,” but also involving – as the term “governance” connotes – a plurality of public and private actors, instruments, and purposes (Braithwaite *et al.* 2007). What they have in common is that they are premised on the beguilingly simple idea that governance cannot, and indeed, should not, aim to

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eliminate all potential harms or more generally, “adverse outcomes” (Graham 2010). Rather, in an adaption of Paracelsus’ maxim – the *likely* dose makes the poison – “risk-based” approaches pay attention to both the *probability* and *impact* of potential adverse outcomes. In so doing, risk analysis is promoted as a method for framing all aspects of governance activities.

Risk-based approaches have become popular in many countries, such as the UK, Australia, New Zealand, and Canada, and across domains as diverse as child protection, housing, finance, and utility regulation (Rothstein *et al.* 2006; Black 2010). Likewise, risk analysis has become a central idea for the international “better regulation movement” and a general principle of corporate governance in the private and public sectors. For example, the OECD argues that a “risk-based approach to the design of regulatory management and compliance strategies . . . can improve the welfare of citizens by providing better protection from hazards and more efficient services from government” (OECD 2010, p. 11). Indeed, the World Trade Organization (WTO) insists that import restrictions must be based on an assessment of risk to combat trade protectionism, and in the 1990s forced the EU to comply following a successful complaint by the US over an EU ban on meat containing artificial beef hormones.

While much attention has been paid to the normative rationales for risk-based approaches, less attention has been paid to the extent to which they are able to challenge institutionally embedded expectations of governance across different national polities. In this article, we start to fill that gap by exploring the extent to which risk-based approaches have been adopted within the UK, France, and Germany. cursory observation suggests that such approaches have found much more restricted application in France and Germany than in the UK. Our analysis suggests that the patterned adoption of risk-based governance across these three countries is related to how entrenched governance norms and accountability demands within their national polities handle both the identification and acceptance of adverse governance outcomes. This analysis not only questions assumptions about the universality of, and convergence towards, risk-based governance across national settings, but also potentially offers an important insight into the institutional logics that underlie the concept of “risk governance” itself. In so doing, it contributes to nascent research on how governance manages its own limits and failures (Jessop 2000; Hood 2011).

## 2. The emergence of risk analysis as a “universal” policy instrument

Risk analysis has long been associated with the governance of environmental and human health and safety hazards, such as radiation, food, and chemicals. In the 1980s, the US National Research Council’s (NRC) landmark “Red Book” set out what became the “gold standard” of risk analysis in an effort to help the US Environmental Protection Agency defend chemical exposure limits in the face of legal challenge (NRC 1983). But in recent years, risk-based approaches have been applied to much wider policy-contexts as a way of rationalizing the management of the puzzles, conflicts, and trade-offs that inevitably constrain governance interventions.

The normative rationale for risk-based approaches rests on the idea that efforts to reduce adverse governance outcomes to zero tend to be sub-optimal because they can be disproportionately costly to achieve, perversely create other risks, or distract attention from more serious problems (Viscusi 1995; Sunstein 2002; Baldwin & Black 2010; Black

& Baldwin 2012; Graham 2010). Proponents argue that it is better, instead, to target governance activities and resources towards the greatest harms or threats to achieving policy objectives. By defining what adverse outcomes can be counted as successes or failures – that is, acceptable or unacceptable risks – risk-based approaches are held to improve the accountability of decisionmaking by providing formal *ex-ante* rationalizations of the limits of what governance interventions can, and should, seek to achieve.

The ostensibly universal “rational” appeal of risk-based approaches points towards a potential convergence of the ways in which governance problems are framed and solutions sought across policy domains and national contexts. In particular, such approaches can find application across the three essential components of control that, from a cybernetic perspective, any complete governance regime must possess (Hood *et al.* 2001). In *analysing governance problems*, risk-based approaches probabilistically qualify predictions, such as which areas are most likely to flood or which firms are most likely to mis-sell financial products. In *setting governance goals*, risk-based approaches express how far governance should intervene to manage, rather than eliminate, adverse outcomes, such as setting acceptable probabilities of cancer from exposure to toxic chemicals or acceptable probabilities of financial meltdown from the use of complex financial instruments. Likewise, in *modifying governed behaviours*, risk-based approaches can help allocate scarce compliance resources to achieve optimal, rather than complete, achievement of policy goals, such as targeting anti-terrorist campaigns on communities deemed susceptible to violent radicalization or targeting child-protection interventions on those children most vulnerable to abuse.

Such normative rationales have underpinned more coercive drivers of risk-based governance in the form of hard mandate and soft expectations within international fora, and national, sectoral, and professional contexts. For example, the EC has been promoting risk-based approaches, such as risk-based enforcement of food-safety and environmental regulation, although its application across domains has proved uneven (Lofstedt 2011). Some countries, such as the UK, require regulatory enforcement across all policy domains to be risk-based. Risk management has become central to corporate codes of governance in many developed countries. Even professionals are under pressure to probabilistically qualify their advice for fear of criminal prosecution, as Italian seismologists are now facing for their reassuring advice to L’Aquila city-officials prior to the devastating 2009 earthquake (Nosengo 16 February 2012).

Others suggest, however, that the growing focus on risk may be driven less by its analytical potential than as a symbol of rational decisionmaking. Power (2007), for example, argues that in the face of increasing scrutiny and legitimacy pressures, risk-based governance practices offer bureaucracies defensive decisionmaking rationales that carry the veneer of technocratic legitimacy irrespective of their actual methodological value (Porter 1995). There is certainly no shortage of academics, consultants, and think tanks “selling” risk management solutions to organizations and governments that are seeking to manage wider legitimacy problems.

While such drivers suggest international convergence towards risk-based governance, there are reasons why its adoption might be expected to be institutionally patterned and geographically uneven. After all, governance regimes comprise complex arrays of organizations, practices, and animating ideas that can resist or shape the uptake of governance innovations (Hood *et al.* 2001; Black *et al.* 2005). For example, fear of public pillory can make it difficult for decisionmakers to frame policy in terms of acceptable probabilities of

deaths, financial losses or other adverse governance outcomes. Likewise, private interest groups may advocate risk-based approaches to avoid burdensome rules, but – sometimes together with public groups – may also resist them in order to avoid lowering regulatory barriers to competition (Vogel 1995). Still others have pointed to bureaucratic cultures that resist the prioritisation of the greatest risks facing society (Breyer 1993). Indeed, some commentators argue that changing configurations of private and public pressures, particularly in response to scandals and tragedies, can help explain changing national patterns of risk governance over time (Vogel 2012).

The adoption of risk-based approaches to governance may also depend on their “fit” with deeper institutional contexts, practices, and philosophies of governance (Strang & Meyer 1993). After all, risk-based approaches are not neutral devices, but policy tools, which as Lascombes and Le Galès (2007) argue, embody particular ideas about the purposes of governance and relationships between “governors” and “governed” that may not find universal application. In particular, the extent to, or form in which, risk has emerged as a central organizing concept of governance may be less related to the simple promulgation of a rational normative principle, than to particular institutional contexts in which *ex-ante* risk-based rationalizations of the limits of what governance can, or should, achieve are both institutionally needed and acceptable.

Building on that idea, we have argued elsewhere that the striking “colonization” of governance by risk ideas in the UK and other Anglo-Saxon countries in recent years can be related to enhanced cultures of scrutiny and accountability, which have transformed traditionally opaque governance behaviours into recorded successes and failures and increased the salience of blame (Rothstein *et al.* 2006; see also Hood & Lodge 2006; Hood 2011). We have argued that risk tools are attractive, at least in principle, because they offer decisionmakers a means for limiting potential blame by reframing adverse governance outcomes in more differentiated terms of acceptable and unacceptable risk. Indeed, in contrast to the conventional wisdom that risk is an independent variable on which the character of accountability depends, accountability demands may be an independent variable on which the growth and application of risk ideas depend.

Little attention, however, has been paid to how far such risk-based rationales “fit” the governance contexts across national polities. In the 1980s, pioneering research on environmental regulation observed how the relatively transparent, formalised, and adversarial political system in the US favoured the development of quantitative-risk-analysis, while consensual European governance styles favoured negotiated or paternalistic solutions (Kelman 1981; Brickman *et al.* 1985; Vogel 1986; O’Riordan & Wynne 1987; Jasanoff 1990, 2007). Since then, of course, “risk” concerns have risen up international agendas, the EU has come to dominate many domains of risk regulation, and “good governance” doctrines that emphasize transparency and accountability have become *de rigueur*. Yet, to date, no comparative research has sought to explore whether the emergence of risk-based approaches to governance in the UK has been mirrored in other member state contexts, nor for that matter, at the level of the EC.

In this article, we take a first step in addressing that gap by exploring the extent to which risk-based approaches have penetrated governance regimes in the UK, France, and Germany. All three are “advanced” liberal democracies and EU member states facing similar pressures to adopt risk-based approaches. For example, they have all experienced high profile governance failures, such as bovine spongiform encephalopathy (BSE), *E. coli*, and contaminated blood, that have put pressure on them to improve the rationality

of decisionmaking. They are also all subject to fiscal pressures and neoliberal managerial reforms to promote entrepreneurialism and make governance more economically efficient. All three are also under pressure to improve the transparency and accountability of decisionmaking processes and outcomes from a wide range of societal and government audiences, including international actors, such as the EU, WTO, and rating-agencies.

The three countries, however, are also characterized by different governance traditions that may influence their receptiveness to risk-based approaches. The UK has a managerial orientation in public administration after years of experiments with New Public Management and is characterized by strong transparency and accountability pressures. France, by contrast, has a technocratic tradition of governance with a concentration of decisionmaking power in an opaque executive. Germany, meanwhile, has a juridified and fragmented style of decisionmaking.

As such, the three countries offer interesting cases through which to explore the factors shaping the adoption of risk-based approaches to governance. We should note, however, that although we pay attention to a broad range of governance activities across the three core components of governance control noted above, we do not offer a systematic examination across policy domains in each country. Rather, our exploration is tentative in nature, in order to consider whether it is possible to discern patterns that could be tested in later systematic research.

### 3. Three country case-studies

#### 3.1. UK

Until only relatively recently in the UK, risk-based approaches to governance were confined to just a few policy domains that were dominated by decisionmaking cultures that relied heavily on science, engineering, and economics, such as road safety policy and occupational health and safety. In general, governance across and within policy domains tended to be marked by diverse philosophies and practices towards the management of adverse outcomes (Hood *et al.* 2001). For example, some policy domains were marked by paternalistic doctrines of protection, such as flooding where engineers sought in vain to build enough dams to keep Britain dry. Other policy domains were marked by the discretionary exercise of professional judgment, such as probation, where officials sought to balance the rehabilitation of ex-offenders into the community against public protection. Still other domains were marked by more political and *ad hoc* decisionmaking, such as the control of dangerous dogs (e.g. Hood *et al.* 2000).

In recent years, however, the concepts and tools of risk analysis have increasingly colonized core functions of governance across the public and private sectors; both to better target governance interventions, but also to qualify expectations of what governance can, and should, achieve. There has certainly been no shortage of exhortations by politicians and public commentators that society needs to “learn to live with risk” to ensure that creativity in the private and public sectors is not stifled (e.g. Blair 2005). Risk analysis is regularly used to qualify advice to government and the public about adverse events in probabilistic terms, be it the likelihood of serious flooding, terrorist attacks or changes in GDP. Service delivery, inspection, and enforcement activities across policy domains, from education to social services, are required to be risk-based in determining their priorities and activities. Likewise, risk-based rationales for policymaking are entrenched across regulatory agencies and have even penetrated central government

departments to manage what have been termed “policy risks” (Rothstein & Downer 2012).

At least three broad factors have shaped the focus on risk in recent years. The first factor is arguably the legacy of high profile crises across a wide range of policy domains. The most notable crisis was BSE, which spectacularly nailed years of paternalistic reassurances about food safety as hubris and contributed to the downfall of the Conservative government in 1997. The subsequent New Labour administration was likewise shaken by the fuel protests in 2000 that almost brought the country to a halt, the 2001 foot-and-mouth crisis that closed down swathes of the countryside, and a number of disastrous floods. These crises focused government attention on risk analysis to help build what management consultants like to call a “no surprises culture,” in which adverse events can at least be better anticipated, if not avoided. Indeed, the Cabinet Office established a National Risk Register in 2008 that used “probability-x-impact” frameworks to assess a wide range of national security threats; effectively framing the UK as a vast risk management project.

Second, risk-based approaches have emerged in an ideological climate that has favored greater economic rationality in governance. In particular, the UK’s variously incarnated “deregulation,” “better regulation,” and “modernizing government” agendas have promoted risk-based approaches as a means of making regulatory interventions more “targeted” and “proportionate.” In the 1990s, for example, the Health and Safety Executive, as a leading advocate of risk-based regulation, took a major role in a series of cross-government reviews of risk assessment in government (e.g. see ILGRA 1996). That work most notably culminated in the Hampton Review (Hampton 2005), which led to the mandatory adoption of risk-based approaches to regulatory inspection and enforcement across policy domains.

In parallel, a number of government initiatives from the late 1990s sought to apply lessons from private sector risk management standards and practices – which had themselves emerged following a series of corporate failures such as the collapse of Bank for Credit and Commerce International – to the management of government business itself (e.g. ICAEW 1999; UK Cabinet Office 1999, 2002; Hood & Rothstein 2000). Risk management was seen as providing a check against bureaucratic cultures that swung too readily between the reckless and the risk averse, and in so doing, could help build entrepreneurialism within government (BRC 2006). Indeed, as Black has observed, risk became a central motif of attempts to rationally structure the management of public organizations in the absence of “the discipline of competition, profits or share prices” (Black 2006, p. 2).

A third factor concerns structural reforms to UK government that have increased pressures on decisionmakers to find ways of accounting explicitly for decisionmaking processes and outcomes (Power 1997; Hood *et al.* 1999). Historically, the traditional opaque and informal “club-culture” of UK government – as Moran (2003) has characterized it – tended to screen the limits and failures of governance from view, with Ministers only expected to take responsibility for their own and their civil servants’ actions when failures became manifest. In recent decades, however, the introduction of managerial approaches to the control of public services, exemplified by New Public Management philosophies, has routinized the forensic examination of decisionmaking processes and outcomes and, in so doing, amplified the salience of failure (Hood *et al.* 1999). For example, within central government, civil servants are increasingly held to account for

their actions, while marketization and contractual models of public service delivery have put greater pressure on front-line services to account for outcomes. Likewise, greater external public scrutiny, such as through Freedom of Information legislation and performance indicators, has enhanced accountability pressures on decisionmaking processes.

In that context, risk management offers decisionmakers a means for reconciling competing pressures in modern UK government to be accountable while limiting potential blame, by reframing and differentiating between adverse governance in terms of “acceptable” and “unacceptable” risk. For example, regulatory agencies have reframed the objects of regulation as risks as a way of rationalizing their aims, trade-offs, and performance as bureaucratically rational and defensible in the absence of electoral mandate. The UK’s Health and Safety Executive, for example, elaborated a risk-based model for regulatory action when it was called to justify its decisionmaking to a public inquiry into the building of Sizewell-B nuclear power station in the 1980s (HSE 1998). In central ministries, risk management offers civil servants a strategy for limiting their enhanced “blame-ability” if the Minister’s red briefcase fails to shield them. Likewise, risk-based decisionmaking provides a means for front-line services to rationalize the inevitable limits and failures of policy implementation and service delivery, be it in enforcing food safety law, regulating social care, or managing public housing.

As a consequence, risk discourses have increasingly displaced traditional policy discourses, such as “safety” and “security,” and, in so doing, subtly reshaped the social contract between government and public about their respective expectations and responsibilities. For example, the environment ministry’s euphemistic phrase “making space for water” captures a conceptual shift from “flood defense” to “flood risk management,” in which government has explicitly sought to define the limits of its flood management responsibilities (Defra 2005). Similarly, terrorism is discussed increasingly in terms of risk management, rather than national security, as the security services have become increasingly accountable for their actions. Likewise, at the sharp end of policy implementation, risk-based practices have been shaping expectations of enforcement and service delivery. For example, when violent criminals have committed offences on release from prison, probation officers have notably defended their actions in terms of “managing risk” rather than securing public safety.

Of course, it is important to qualify the impact of risk ideas in the UK, given that governance activities are held to account through multiple bureaucratic, legal, and social mechanisms (see Black 2008). Civil servants are rarely confident that their managers, the public or the courts will accept that they took a calculated risk if something goes wrong. There is certainly no shortage of examples of politicians demanding zero tolerance of failure, from scapegoating social services following child abuse tragedies, to demands for expensive train safety systems following multiple-fatality train accidents (e.g. Butler 27 May 2011). Equally, risk-based rationalizations of governance action that tolerate failure can conflict with the reputational needs of regulated sectors. For example, risk-based regulation of the medical profession has the potential to undermine the Hippocratic Oath’s “guarantee” of professional conduct (Hutter & Lloyd-Bostock 2008). Likewise, risk-based governance rationales can conflict with public demands for equal treatment, be it protection from flooding irrespective of location or protection from intrusive state population-profiling techniques to detect potential terrorists.

While it is beyond the scope of this article to examine how such conflicts are managed in practice, it is worth noting that they have not diminished the spread and penetration

of risk ideas (e.g. Rothstein *et al.* 2006). Anticipated *ex post* judgments of failure are themselves increasingly reconceived in terms of *ex-ante* risk rationalizations. For example, government lawyers are increasingly framing anticipated adverse legal judgments as “legal risks” that have defined probabilities and costs (Rothstein & Downer 2012). Likewise, the UK’s Health and Safety Executive factors what it terms “societal concerns” into its risk calculations to respond to public anxiety around issues, such as children’s adventure centres, that they consider adequately regulated, but create reputational problems for the agency (HSE 2002). The absorption of such “institutional risks” that threaten government itself into risk calculations strongly suggests that risk management’s euphemistic displacement of “failure” from the rhetoric of governance may go a long way to explain its popularity in the UK.

### 3.2. France

Over the last twenty years or so, France, like the UK, has been hit by a number of crises and scandals – particularly in the public health domain – that have dented confidence in the capacity of the state to protect its population. In 1986, for example, government officials attempted to claim that the radioactive cloud from Chernobyl had not crossed the French border (Liberatore 1999). In 1999, a former prime minister and several ministers were prosecuted for negligence in permitting haemophiliacs to be given HIV-contaminated blood products. Then came the high economic toll on French farmers of BSE; the asbestos scandal that revealed decades-long government failures to prevent exposures that may result in 100,000 deaths; and the 2003 heat wave that claimed 15,000 lives and left the government accused of providing inadequate warnings. These crises became public symbols of state failure, creating both external and internal pressures for governance reform (Borraz 2008).

At first sight, one might expect that the French “technocratic” tradition of public administration would be well suited to the adoption of risk-based rationales because of its concentration of power in an elite corps of civil servants who work within institutional safeguards designed to insulate them from political pressures. Indeed, Breyer (1993) – a US Supreme Court judge and leading advocate of risk-based governance – has argued that the French *Conseil d’Etat*, which acts as a supreme arbiter of the “general interest,” should serve as an institutional model for combating the often observed irrationalities of risk governance in the US.

Certainly, the French administration responded to these crises in the late 1990s by adopting the NRC’s “gold standard” of risk analysis as the cornerstone of reforms, with four new agencies created to assess risks in the domains of food, pharmaceuticals, environment, workplace safety, and disease control. Unlike the UK, however, risk-based approaches remained limited to those policy domains in which the government had been seen to fail (Borraz 2008). Moreover, reforms were restricted to the assessment of risk: they did not extend to policymaking, enforcement, and inspection, which remained the responsibility of central ministries and their field services. The only major exceptions have been where risk-based approaches have been internationally mandated, such as the EU regime for food safety inspections.

In order to explain the limited penetration of risk-based approaches to governance in France, it is worth considering the way in which they conflict with four entrenched institutional features of the French state. The first feature is the culturally established commitment or “promise” by the French state to provide security for its population.

Security has always been a key concern of the French state; indeed, failure to provide protection would imply significant weakness. In recent years, however, that commitment has come to embrace a wide set of issues where the competence of the state has been questioned. For example, following the health crises of the 1980s and 90s, French authorities used the health domain to demonstrate their willingness and capacity to act to protect the public. An unintended effect, however, was that while there was extensive effort to assess health risks, the commitment to public security left no room for compromise with other objectives, such as employment or economic development (Borraz & Gilbert 2008). This feature of the French state works against risk-based approaches, which explicitly eschew absolute principles, such as security or safety.

A second significant feature of the French state is the priority given to maintaining “public order;” a principle that is defined in administrative law, has been interpreted by the courts, and is given great significance by state officials (Worms 1966). This principle underpins a core role of state officials in preventing any event that could create disorder and undermine the authority of the Republic. From this perspective, risk-based approaches pose problems because they explicitly reveal and seek to define the limits of what governance can achieve. For example, as health concerns have become a source of public controversy, so they have become an issue on which the state has sought to assert its capacity to govern and to avoid conflicts evolving into crises. As a consequence, the results of routine state monitoring and enforcement of hazardous industrial activities are not made public for fear of revealing gaps between the law and actual practices (Bonnaud 2005). Indeed, in the early 2000s, the French Ministry of Agriculture refused to share performance information on its field services with the food safety agency, because it neither wanted the agency to supervise its activities, nor run the risk of having the results publicised (Besançon *et al.* 2006).

A third feature that works against risk-based governance is the Republican interpretation of “equal rights.” The French constitution prevents the state making distinctions between citizens according to specific characteristics in order to treat all in the same way; a principle which is strongly upheld by the *Conseil Constitutionnel* and administrative courts. The principle of equal treatment for all, however, can conflict with risk-based approaches to setting priorities and allocating scarce resources. For example, while the application of cost-benefit analysis to infrastructure projects was largely developed in France (Porter 1995), the Anglo-Saxon practice of explicitly valuing life is regarded as a cultural anathema. Another vivid demonstration was the Minister of Health’s decision to vaccinate everyone during the 2009 H1N1-flu pandemic rather than the third of the population needed to provide herd immunity, having no legal grounds to decide which third should get preferential treatment (Assemblée Nationale 2010).

Finally, a fourth feature of the French state relates to the concept of the “general interest,” which civil servants are expected to represent and defend, under the supervision of the *Conseil d’Etat*. In essence, this concept precedes any type of ideological or private interest, relying instead on civil servants and elected officials working for the “general good” on the basis of their personal ethics and rigorous use of evidence. However, risk-based approaches, as calculative modes of accountability, conflict with this paternalistic tradition, which is sustained by the absence of freedom-of-information legislation. Indeed, civil servants and elected representatives have resisted pressures to introduce more open and deliberative styles of decisionmaking because they undermine their privileged role in defining the general interest (Callon *et al.* 2009).

These entrenched institutional philosophies and cultures have limited the extent to which risk-based governance reforms have taken root in France. Instead, the inevitable limits of governance are dealt with in at least three different ways. A first approach has been opacity. Rather than explicitly acknowledge the inevitable compromises and trade-offs between security, economic, social, and organizational concerns in designing and implementing regulation, officials prefer to keep their actions veiled in secrecy. For example, cases of non-compliance or regulatory implementation failure in the domains of food safety and dangerous industrial activities are regularly negotiated behind closed doors (Lascoumes 1994). In so doing, the state can maintain the illusion that it is offering security, as long as failure to deliver on that security does not become public.

Indeed, even where risk-based approaches have been internationally mandated, actual practice has subtly elided trade-offs between risks to society and institutional risks posed to the state itself. In the case of EU-mandated risk-based food safety inspection, for example, local state services complement the assessment of food safety risks posed by businesses with an additional “fudge” risk factor that takes into account the “sensibilities” of the *département* (Bonnaud & Coppalle 2010). Such factors can undermine the value of risk-based approaches in protecting public health if the field-services or the *préfet* decides that inspection resources should be directed towards maintaining public order or protecting their own reputation.

A second approach has been to acknowledge failures, but then identify individuals that can be held politically or legally accountable. Examples range from the trial of ministers for their role in the contaminated blood scandal, to the dismissal of the head of the general health directorate after the 2003 heat wave. But there are many other less-publicized cases where local *préfets* or heads of administrative services have been demoted after mishandling a crisis, such as the 1999 storm that swept through France (Dedieu 2007). In other words, institutional dysfunctions may account for the crisis, but in a long established bureaucratic tradition, the focus is on finding public officials accountable for either tolerating such dysfunctions or not preventing the failures becoming public.

A third approach has been to put considerable effort into reactive crisis management to maintain or restore public order and manage the reputation of Ministries. In an age of increasing media attention, Ministries from health to education have installed early warning systems, contingency plans, and dedicated crisis units to catch and respond quickly to weak signals of impending crises (Fourès 2011). Indeed, the Ministry of Interior, as the ministry responsible for maintaining public order, takes the lead for crisis management whatever the nature of the crisis. Increasingly, in situations of uncertainty or under pressure from social movements, Ministries prefer to be risk averse or invoke the precautionary principle, even if it means facing later criticism for over-reaction. So far, no public official in France has ever been sanctioned for being too cautious.

### 3.3. Germany

“Risk” is certainly no stranger to German political debate, figuring as a central concern of debates in many policy domains, such as nuclear safety, food safety, the environment, biotechnology or financial services. Beyond being an object of governance concern, however, risk-based ideas have also started to play a greater role in framing governance processes. For example, risk assessment plays an important role in climate change policy, following the probabilistic, scenario-based approach championed by the Intergovernmental Panel on Climate Change (IPCC). In food safety debates, risk assessment plays a

key role in informing food safety decisionmaking, drawing on risk assessments from the European Food Safety Agency and corresponding national agencies. Indeed, in 2002, a new agency was created – the Federal Institute of Risk Assessment (BfR) – whose task is to provide risk-based scientific advice to the public, government, and other stakeholders on consumer related issues, ranging from BSE to toys and lipsticks.

However, risk-based approaches have only colonized the core functions of a few regulatory regimes completely – that is, the processes of risk assessment, policymaking, and implementation – principally because of international demands. For example, the Basel-II Accords turned the previously opaque world of financial services regulation into a risk-based approach under the supervision of BaFin, which was established as one of the few fully-fledged regulatory agencies in Germany. Like the UK Financial Services Authority, BaFin institutionalized risk-based regulatory approaches to information gathering, decisionmaking, and enforcement across the financial sector.

Instead, in most domains, risk-based approaches to policymaking and enforcement fit uneasily with entrenched governance arrangements and practices, for three main reasons. The first reason concerns the juridified character of German policymaking, which is heavily constrained both by the interpretation of constitutional and administrative law by the courts and by a traditionally lawyer-dominated civil service. The problem is that risk-based “probability-x-impact” frameworks fit awkwardly with the historically important legal concept of “danger.” As Peter Huber (2009) has discussed, 19th century liberal conceptions of the Prussian state regarded the protection of people from “dangers” to life, freedom, and property, as one of the few legitimate grounds for state interference in individuals’ lives. “Dangers” were conceived as those harms that were *likely* to occur, and were broadly dealt with in binary terms; if there was no danger then there were no grounds for state action. The post-war German constitution enshrined that constraint on state action, albeit qualified by the principle of proportionality. Over time, however, the state’s “duty of protection” from dangers (*Schutzpflicht*) came to be understood as forming the constitutional basis for legislation across policy domains, from nuclear safety to rented accommodation.

While the courts regard dangers as unacceptable, they also recognize that some degree of “residual risk” is an inevitable condition of life and should be legally tolerated. Legal doctrine, however, has great difficulty in using “probability-x-impact” frameworks to define the boundary between unacceptable “dangers” and acceptable “risks.” For example, the law is ambiguous when it comes to dealing with what are known as “nuisances,” which have adverse impacts that do not infringe individuals’ rights, and with “suspected dangers” on which further information is needed (Huber 2009). Within environmental law, for example, the precautionary principle (*Vorsorgeprinzip*) was famously established in the 1970s for acting in the face of scientific uncertainty, but the principle has had more uneven application in wider fields of social regulation (Bora 2007). Likewise, while the concept of danger has a probabilistic dimension to it, legal doctrine has few tools at its disposal to set numerically acceptable probabilities as a means of balancing the rights of those creating risks and those exposed to risks.

Consequently, legal attempts to define the concept of acceptable risk have readily fallen prey to intractable adversarial conflicts between stakeholders seeking to protect their conflicting, but constitutionally enshrined, rights to economic activity and health protection. For example, conflicts over acceptable risk thresholds were central to a

complex legal conflict that lasted throughout the 1970s–80s, when the anti-nuclear movement challenged the authorities over the risks from nuclear radiation or accidents. Some administrative courts attempted to define an acceptable probability of an accident as  $10^{-7}/\text{yr}$ , while the federal constitutional court attempted to define it in terms of being “practically unimaginable” and “irrelevant” (Proske 2004, p. 466). Such irresolvable disputes led the federal constitutional court to decide that it should abstain from decisions on scientific conflicts or disagreements.

That is not to say that acceptable probabilities are never set. Flood protection, for example, relies on a probabilistic definition of the boundary between unacceptable “danger” and acceptable “risk.” That boundary has been historically defined as providing protection against floods that occur once or more in 100 years; that is, just more than the average lifespan. As Krieger (2012) has pointed out, however, the state’s “duty to protect” citizens from dangers to life, health, and property, gives rise to expectations that properties and publics will be protected equally up to that standard, be they in urban centres or rural areas. The expectation of equal treatment, therefore, works against flood protection becoming risk-based insofar as it is blind to impact (c.f. Huber 2011).

The second factor that works against risk-based approaches to governance is the fragmented federal system that distributes competences – depending on policy domain – across at least three levels of political decisionmaking of Communities, *Länder*, and the federal state, as well as across the courts and other actors. Such multi-level political and legal processes can amplify fundamental uncertainties about the use of risk in decision-making because of the presence of multiple decisionmakers with varying philosophical approaches to governing risks and often contradictory interests in the distribution of risks, costs, and benefits (Lodge 2001). In the case of flood protection, for example, the veto power of *Länder* has made Federal resource allocations dependent on *Länder* populations, rather than flood risk (Krieger 2012). Even internationally mandated risk-based approaches to governance can fall foul of constitutional arrangements for their implementation. One example was resistance by *Länder* to EU rules on risk-based food safety inspection on the grounds that they contravened constitutional expectations (Lodge & Wegrich 2011). Similarly, fragmentation of the German legal system can inhibit the establishment of common understandings of acceptable risk. For example, according to the Industrial Code (*Gewerbeordnung* GewO§24-IV), conditions for licensing industrial plants should normally involve experts and stakeholders, but as noted in the nuclear case, consensus over what constitutes acceptable risk has not always been easy to achieve and disputes have readily spilt over into regional courts that have reached inconsistent decisions (Huber 1998).

The third factor constraining the emergence of risk-based rationales is the form that transparency and accountability takes in Germany. While transparent legal oversight is central to decisionmaking, as already discussed, the courts are ill equipped to reconcile risk ideas with constitutional demands. Under these circumstances, Germany’s corporatist traditions have played an important role in trying to find solutions through negotiations between stakeholder representatives, such as between employers and employees on workplace safety. Such approaches may go hand-in-hand with risk-based rationales if they assist stakeholders in achieving their various objectives. However, such approaches may equally work against risk-based rationales when they strongly rely on established relationships of trust, strategic bargaining and an emphasis on consensual solutions, all of which resist formulaic justifications.

Where social movements have challenged decisionmaking on more intractable, risk-related issues, it has become customary since the 1980s to hold public hearings that attempt to bring together scientific expertise – latterly in the form of the BfR – and a wide range of “civil society” representatives. In such public contexts, risk-based rationales have become sorely tested, with groups often speaking past each other, rather than seeking consensus. For example, public hearings on nuclear power and biotechnology have been marked by social movements placing an emphasis on potential dangers, rather than their probabilities (Jasanoff 1996; Hocke & Renn 2009). Attempts to address such issues through regular, but more narrowly constituted expert hearings (*Experten-Anhörung*) at the federal or regional level, have equally proved infertile terrain as the concept of expert has expanded to include ethicists and other professionals who are hostile to risk-based decisionmaking logics (Bogner 2011).

One consequence of the institutionalization of such iterative, but often failing, attempts to deal with risk has been the decoupling of these processes from actual decisionmaking, and ultimately a greater emphasis on political decisionmaking (Bora 1999). One recent example was the government decision to abandon nuclear power following the Fukushima accident, which was announced a week before the hearings on the risks from nuclear power were concluded (Spiegel Online 2011a, b). Likewise, the 2002 devastating floods caused by the river Elbe prior to a Federal election led to a political decision to compensate the victims irrespective of their vulnerability to flooding through the largest disaster relief fund in German history (Schwarze & Wagner 2004).

These considerations suggest that while risk is a familiar concept in Germany, a set of institutional factors impede the extent to which it has become an organizing principle of governance. These factors have little to do with ideological or cultural factors, as is often argued when British neo-liberalism and the continental provisional state are compared (Ewald 1986). Rather, resistance appears to be located in the struggles of the German Rechtsstaat to cope with risk ideas; problems which are amplified by horizontal and vertical fragmentation of policy responsibilities and accountabilities, and attempts to find solutions by drawing on corporatist decisionmaking traditions.

#### 4. Examining the institutional logics of risk-based governance

These country sketches provide the basis on which to reflect tentatively on the factors shaping the adoption of, or resistance to, risk-based approaches to governance across these national contexts. It is noticeable that risk-based approaches have a much greater salience in the UK, than in France or Germany. In the UK, risk has become the conceptual prism through which government has increasingly sought to negotiate its mandate by subtly shaping the distribution of both rights to protection and responsibilities for failure. To that end, the language and methods of risk analysis are being used to reframe the acceptability of adverse outcomes across governance functions in a wide range of policy domains and organizational contexts. In France and Germany, however, risk analysis is more narrowly operationalized in terms of identifying adverse outcomes to be avoided than providing a “better governance” rationale for their tolerance; either in setting policy goals or in the practical implementation of policy. Moreover, in those two latter countries, such approaches tend to be confined to traditional policy domains of the environment and human health and safety, except where they have been internationally mandated.

The case studies suggest that there are some common pressures shaping the use of risk analysis as a means of framing *information-gathering* activities across all three countries. In particular, the need to develop better techniques to anticipate future adverse outcomes has been driven in response to notable governance controversies and failures. Such contexts have created fertile opportunities for the institutionalization and diffusion of risk analysis as a way of gaining normative legitimacy for new organizational forms of knowledge production. In so doing, risk provides, at least in principle, a *lingua franca* for developing common understandings and approaches across regimes. One example has been the adoption of international standards of risk analysis by all three governments when they established new food safety agencies in the aftermath of the BSE crisis (Ansell & Vogel 2006).

The adoption of risk-based approaches to information gathering as a means of establishing policy legitimacy is also linked to globalization pressures through the institutionalization of hard mandate and soft expectations within international contexts. For example, risk analysis has become a prerequisite for countries to uphold their national interests at the WTO on matters concerning human health and safety. Likewise, the enforcement of food, environmental, and financial regulation is, in principle, risk-based across the EU. More generally, as policy issues such as pharmaceuticals, chemicals, global warming, financial regulation, and even security threats are increasingly framed as risks in international arenas, so national authorities are likewise under pressure to adopt similar organizational forms and operating procedures to tackle them.

Lastly, the emergence of risk as a means of better predicting the future can be seen as a response to enhanced transparency and accountability pressures by limiting the associated enhanced liabilities when adverse outcomes inevitably materialize. Certainly in the domains of the environment and human health and safety, for example, the last two decades have seen expert advisory processes that were traditionally regarded as opaque and secretive replaced by more transparent and accountable processes. Examples include the creation of dedicated risk agencies across Europe that have accountability and transparency built into their guiding missions, and transparency initiatives such as the Aarhus Convention on freedom of access to environmental information. Under these circumstances, framing advice to the government and the public within the language of risk serves to emphasize the limits of expert knowledge and deflect liabilities for adverse outcomes, such as unpredicted terrorist threats, financial products that fail to deliver hoped-for returns, or medical interventions that cause more harm than good.

While those common pressures help explain the adoption of risk-based approaches to information-gathering activities across all three countries, they struggle to explain the more patterned emergence of risk-based approaches to optimizing both governance goals and the achievement of those goals in practice. Rather, the case studies suggest that the adoption of risk-based approaches for those latter dimensions of governance depend on their “fit” with governance *norms* and *accountability demands* that are deeply entrenched within national polities.

As far as *governance norms* are concerned, the case studies show how risk-based philosophies can conflict with hard-wired constitutional demands and culturally engrained expectations. In France, the implicit expectation that the state will provide security for its citizens is antithetical to the explicit tolerance of adverse outcomes. Indeed, the French state’s emphasis on security in recent years is in striking contrast to the

UK's emphasis on risk. Likewise, the norms of risk-based governance conflict with the rights for equal treatment for all citizens that are enshrined in the French constitution. What appears to make rational sense from a "risk" perspective, such as vaccinating those at greatest risk of contagious disease or targeting anti-terrorist activities on groups in society deemed to pose the greatest threat, is difficult to operationalize in a state that formally refuses to differentiate between its citizens.

German constitutional expectations create similar normative conflicts with risk-based approaches to governance. Most obviously, and in an echo of the French emphasis on "security," the increasingly widely applied doctrine of *Schutzpflicht* has emphasized the state's "duty of protection" of the public from dangers. That emphasis sits uneasily with risk-based governance norms, particularly in the absence of a clear means for the German Rechtsstaat to set a boundary between unacceptable danger and acceptable risk. Likewise, the "duty of protection" carries with it expectations of equality of treatment, which, as seen in the flood management case, work against the inherently differentiated nature of risk-based interventions.

It is worth, however, observing that it is not juridification *per se* that creates problems for risk-based governance in Germany. In the US, which is known for its adversarial legal culture (Kagan 2001), quantitative risk assessment has proved invaluable in navigating legal conflicts between stakeholders across many environmental and human health and safety domains. A key difference to note, however, is that while the German judiciary finds it difficult to balance irreconcilable constitutional rights to life, freedom, and property, in terms of risk, the US constitution does not present such conflicts, focusing on prohibiting constraints on individuals, such as the right to bear arms, rather than the protection of their health and welfare.

In contrast to France and Germany, UK governance norms can cope with the idea that the state can sanction activities that may entail harms or adverse outcomes. That is not to say that demands for safety and equal treatment are not important policy considerations; indeed, they are often central to policy debate. The difference, however, is that in the UK, such considerations are not founded in a written constitution. Rather they are contingent political considerations that depend, for example, on the configuration and mobilization of interest group pressures, public attitudes, and bureaucratic traditions that vary from issue to issue. It may well be that any of those groups may have expectations of security or equality which may ultimately undermine the establishment of risk-based practices by government or non-state actors in a particular sector. However, the navigation of those expectations hinges in the end on politics, rather than any conflict with deeply entrenched governance norms within the UK polity.

Second, the case studies also suggest that the patterned emergence of risk-based approaches to governance is also functionally dependent on *accountability demands*. In France, while a number of dedicated risk agencies were created with transparency built into their guiding missions, their role has been constrained to giving expert advice. Responsibilities for policymaking and routine monitoring and enforcement, however, have been firmly retained by opaque and weakly accountable central government departments. That institutionalized opacity has reduced the need for explicit risk-based rationales to justify the limits of state intervention or implementation failure. Indeed, explicit acknowledgment of the limits of the French state to provide security and meet policy goals potentially conflicts with the important principle of maintaining "public order." Moreover, risk-based policymaking rationales actively threaten the authority of civil

servants and elected officials to embody and represent the “general interest” based on their respective professional judgement or democratic mandate.

Consequently, where *ex-ante* identification of potential failure has been mandated, such as in food safety inspection, “fudge factors” have been introduced to direct governance attention to those issues most likely to tarnish the reputation of the state. Otherwise, effort is put into horizon scanning for weak signals of failure, or *ex-post* crisis management style interventions that tend to externalize blame onto individual officials rather than the state itself. It is conceivable that moves towards devolution in France may compound the problems of adopting risk-based approaches if the regions use security as a means to gain political power at the expense of Paris, but that hypothesis needs testing through systematic research.

In Germany, dedicated and transparent risk agencies have similarly been generally constrained to giving expert advice. However, German accountability demands work against risk-based approaches for setting policy goals and implementation in different ways to France. Explicit recognition of the limits of what governance can, or should achieve, do not create the kind of reputational problems for the state or threaten officials as they do in France, because the German constitution is more focused on the protection of the individual than the state. However, in place of the mystique underpinning the authority of civil servants and elected officials in France, the Rechtsstaat places the courts in a central position to more openly oversee decisionmaking, which amplifies normative uncertainties in applying risk-based approaches. Indeed, the fragmentation of political and legal accountabilities across different levels of the state and courts can lead to wide inconsistency in approaches to policymaking, implementation, and enforcement, and can constrain the emergence of risk-based approaches to governance. It is not, perhaps, surprising that solutions have been sought through Germany’s corporatist traditions or political fixes.

In the UK, however, the institutionalization of transparent systems of scrutiny, performance, and accountability has encouraged the reconception of ever more governance domains and practices in terms of risk. This development was starkly pronounced with the adoption of risk as a rationalizing logic for policymaking and enforcement by regulatory agencies across policy domains in the absence of direct electoral mandate. Likewise, in the face of performance measurement regimes, local government and other public services have adopted risk-based approaches to help account for the limits of policy implementation and service delivery. Even in traditionally opaque UK central government departments, civil servants have been taking an interest in risk-based decisionmaking as a way of navigating enhanced accountability demands while limiting blame for failure. It is possible, as in France, that more nuanced patterns of risk-based governance will emerge with limited regional devolution. That possibility would need systematic investigation, but in the absence of a written constitution, it might be expected that such patterns will be driven by contingent political considerations from issue to issue.

This examination of the patterned emergence of risk-based approaches to governance reaches deep into, what might be termed, the “psychopathologies” of how national polities deal with their limits and failure. Indeed, put in psychoanalytic terms, if the UK solution to the problem of accountability is an *ex-ante* rationalisation of the limits of the possible, the French solution is to deny that failure is possible, but to neurotically search for signals of failure that could damage the authority of the state. By contrast, Germany

appears to be in a state of inner conflict, with accountabilities diffused through a highly fragmented administrative and legal system that is unable to reach consistent agreement on what constitutes acceptable and unacceptable failure. Such categorization may verge on crude humour, but it does suggest that if we want to explain the varied adoption of risk-based approaches to regulation across these three countries, we need to go beyond a simplistic argument that there are inevitable leaders and laggards with any reforms to the tools of government. Instead, we need to examine the institutional contexts in which risk can do more than simply serve as a synonym for hazard, but also serve as a way of reframing the limits of what governance can, and should, achieve.

## 5. Conclusions

While risk has been promulgated as a major organizing concept for governance reform, much of the discussion has been normative in character. This article is only a first step towards greater reflection on the factors driving or hindering its emergence in different national contexts. Systematic empirical analysis across policy domains is needed if the hypothesis developed in this article is to be fully tested. Nonetheless, the country overviews point towards a distinct set of factors shaping or constraining the emergence and institutional patterning of risk-based governance across the three countries. In particular, we draw five conclusions.

First, far from being a universal phenomenon, the emergence of risk as an organizing concept of governance varies across countries. In the UK, risk has both come to dominate a wide range of policy domains far removed from traditional risk concerns, as well as shape information-gathering, policymaking, and implementation processes. In France and Germany, however, the tools of risk analysis have generally been confined – albeit with some notable exceptions – to traditional policy domains associated with risk and to processes of risk assessment, rather than policymaking and implementation.

Second, the analysis suggests that emerging patterns of risk-based governance are closely related to the extent to which *ex-ante* rationalisations of adverse governance outcomes are compatible with entrenched governance norms and accountability structures of national polities. For example, risk-based approaches to governance have a poor fit in those polities where the state has “hard-wired” constitutional responsibilities to provide security for its citizens or where the definition or identification of adverse outcomes creates irreconcilable constitutional conflicts. Indeed, the analysis suggests that it is not so much the character of risk problems that determine their method of governance, but rather, the character of the polity that determines whether or how problems are framed as “risks” to be governed in the first place.

Third, while we have tried to develop a strong institutional argument for the emergence of risk-based philosophies of governance, we also recognise that the trends are slow, complex, and often contradictory. We could not hope to capture inevitably complex and varied governance norms and accountability demands across policy domains and country contexts given our limited evidence base. Moreover, we anticipate that well-rehearsed factors, such as the demands of international markets, interest group pressures, public attitudes, bureaucratic preferences, and supranational governance regimes may also play a significant role in shaping the adoption of risk-based rationales from case to case.

Fourth, and relatedly, our analysis raises the question of the role of the EU, given the putative variety that we have identified within just three member states. As we note above,

the EC is increasingly promoting risk-based approaches in some policy domains, but their adoption has so far proved to be uneven, and, of course, the EU has only limited competencies in many policy domains. Detailed empirical research is needed to better understand the factors shaping the adoption or otherwise of risk-based approaches by the EU and consequent impacts on member states. This article, however, does point to some hitherto ignored factors that may contribute to conflicts between member states in the formulation of Directives, as well as the ways in which Directives are implemented in practice in member states.

Finally, our analysis offers a new research direction for thinking critically about the extent to which risk-based rationales for coping with the limits of what governance interventions can, and should, seek to achieve, are compatible with alternative rationalities that are deeply embedded within national polities. There is, therefore, a need for comparative case studies to study how far the emergence of risk-based approaches is related to how the identification and acceptance of adverse governance outcomes are handled across policy domain and country contexts. Indeed, further study may find that in the psychoanalytic spectrum between the “rationalising” and the “neurotic” state, there are other psychopathologies of handling adverse outcomes that the logics of risk-based governance could reveal.

## References

- Ansell C, Vogel D (eds) (2006) *What's the Beef?: The Contested Governance of European Food Safety*. MIT Press, Cambridge, MA.
- Assemblée Nationale (2010) Rapport fait au nom de la Commission d'Enquête sur la manière dont a été programmée, expliquée et gérée la campagne de vaccination contre la grippe A(H1N1) n°2698.
- Baldwin R, Black J (2010) Really Responsive Risk-Based Regulation. *Law & Policy* 32, 181–213.
- Besançon J, Borraz O, Clergeau C (2006) Is It Just About Trust? The Partial Reform of French Food Safety Regulation. In: Ansell C, Vogel D (eds) (2006) *What's the Beef?: The Contested Governance of European Food Safety*, pp. 125–152. MIT Press, Cambridge, MA.
- BRC (Better Regulation Commission) (2006) *Risk, Responsibility and Regulation*. Cabinet Office, London.
- Black J (2006) Managing Regulatory Risks and Defining the Parameters of Blame: A Focus on the Australian Prudential Regulation Authority. *Law & Policy* 28, 1–30.
- Black J (2008) Constructing and Contesting Legitimacy and Accountability in Polycentric Regulatory Regimes. *Regulation & Governance* 2, 137–164.
- Black J (2010) Risk-Based Regulation: Choices, Practices and Lessons Learnt. In OECD (2010) *Risk and Regulatory Policy: Improving the Governance of Risk*. OECD, Paris.
- Black J, Baldwin R (2012) When Risk-Based Regulation Aims Low: Approaches and Challenges. *Regulation & Governance* 6, 2–22.
- Black J, Lodge M, Thatcher M (eds) (2005) *Regulatory Innovation: A Comparative Analysis*. Edward Elgar, Cheltenham.
- Blair T (2005) *Common Sense Culture Not Compensation Culture*. IPPR, London.
- Bogner A (2011) *Die Ethisierung von Technikkonflikten. Studien zum Geltungswandel des Dissenses*. Velbrück Wissenschaft, Weilerswist.
- Bonnaud L (2005) Au nom de la loi et de la technique: L'évolution de la figure de l'inspecteur des installations classées depuis les années 1970. *Politix* 1/69, 131–161.
- Bonnaud L, Coppalle J (2010) Les inspecteurs vétérinaires face aux normes privées. *Revue d'Etudes en Agriculture et Environnement* 90(4), 399–422.

- Bora A (1999) *Differenzierung und Inklusion: Partizipative Öffentlichkeit im Rechtssystem moderner Gesellschaften*. Nomos, Baden-Baden.
- Bora A (2007) Risk, Risk Society, Risk Behavior, and Social Problems. In: Ritzer G (ed) *The Blackwell Encyclopedia of Sociology*, vol. VIII, pp. 3926–3932. Blackwell, Oxford, NY.
- Borraz O (2008) *Les politiques du risque*. Presses de Sciences Po, Paris.
- Borraz O, Gilbert C (2008) Quand l'Etat prend des risques. In: Borraz O, Guiraudon V (eds), *Politiques Publiques 1. La France dans la gouvernance européenne*, pp. 337–357. Presses de Sciences Po, Paris.
- Braithwaite J, Coglianese C, Levi-Faur D (2007) Can Regulation and Governance Make a Difference? *Regulation & Governance* 1, 1–7.
- Breyer S (1993) *Breaking the Vicious Circle: Toward Effective Risk Regulation*. Harvard University Press, Cambridge, MA.
- Brickman R, Jasanoff S, Ilgen T (1985) *Controlling Chemicals: The Politics of Regulation in Europe and the United States*. Cornell University Press, Ithaca.
- Butler P (2011) Sharon Shoemith tells of her anger at being dismissed by Ed Balls on live TV. [Last accessed 23 August 2012.] Available from URL: <http://www.guardian.co.uk/society/2011/may/27/sharon-shoemith-court-win-baby-p>.
- Callon M, Lascoumes P, Barthe Y (2009) *Acting in an Uncertain World: An Essay on Technical Democracy*. MIT Press, Cambridge, MA.
- Dedieu F (2007) La sécurité civile dans la tempête. Autopsie organisationnelle de la catastrophe du 27 décembre 1999. PhD, Paris: Sciences Po.
- DEFRA (Department for Environment, Food and Rural Affairs) (2005) *Making Space for Water: Taking Forward a New Government Strategy for Flood and Coastal Erosion Risk Management in England*. Defra, London.
- Ewald F (1986) *L'Etat Providence*. Bernard Grasset, Paris.
- Fourès F (2011) De l'urgencitisation des routines à la routinisation des urgences: vieilles maladies, nouvelles crises, simples alertes. PhD, Paris: Sciences Po.
- Gathmann VF, Medick V, Wittrock P (2011) *Wettlauf Der Atom-Aussteiger*. Spiegel Online 20. May 2011. [Last accessed 18 May 2012.] Available from URL: <http://www.spiegel.de/politik/deutschland/energiewende-wettlaufder-atom-aussteiger-a-763790.html>
- Graham DJ (2010) Why Governments Need Guidelines for Risk Assessment and Management. In: *Risk and Regulatory Policy: Improving the Governance of Risk*. OECD, Paris.
- Hampton P (2005) *Reducing Administrative Burdens: Effective Inspection and Enforcement*. HM Treasury, London.
- Hocke P, Renn O (2009) Concerned Public and the Paralysis of Decisionmaking: Nuclear Waste Management Policy in Germany. *Journal of Risk Research* 12, 921–940.
- Hood C (2011) *The Blame Game: Spin, Bureaucracy and Self-preservation in Government*. Princeton University Press, Princeton.
- Hood C, Lodge M (2006) *The Politics of Public Service Bargains: Reward, Competency, Loyalty – and Blame*. Oxford University Press, Oxford, NY.
- Hood C, Rothstein H (2000) Business Risk Management in Government: Pitfalls and Possibilities. In: National Audit Office (ed) *Supporting Innovation: Managing Risk in Government Departments*, pp. 21–32. HMSO, London.
- Hood C, James O, Scott C, Jones G, Travers T (1999) *Regulation Inside Government: Waste-Watchers, Quality Police and Sleaze-Busters*. Oxford University Press, Oxford, NY.
- Hood C, Baldwin R, Rothstein H (2000) Assessing the Dangerous Dogs Act: When Does a Regulatory Law Fail? *Public Law* Summer 2000, 282–305.
- Hood C, Rothstein H, Baldwin R (2001) *The Government of Risk: Understanding Risk Regulation Regimes*. Oxford University Press, Oxford, NY.

- HSE (Health and Safety Executive) (1998) Changing Times. *Nuclear Safety Newsletter*. Issue 15. HSE, London.
- HSE (2002) *Understanding and Responding to Societal Concerns*. Research Report 34. HSE, London.
- Huber M (1998) *Das Regulative Netzwerk: Risiko Und Regulative Politik Im Bundesdeutschen Kernenergiekonflikt*. Lang, Frankfurt/Main.
- Huber M (2011) Insuring climate change: Managing Political and Economic Uncertainties in Flood Management. In: Gramelsberger G, Feichter J (eds) *Climate Change and Policy: The Calculability of Climate Change and the Challenge of Uncertainty*, pp. 145–158. Springer, Heidelberg.
- Huber P (2009) Risk Decisions in German Constitutional and Administrative Law. In: Woodman G, Klippel D (eds) *Risk and the Law*, pp. 23–34. Routledge-Cavendish, Oxford, NY.
- ICAEW (Institute of Chartered Accountants in England and Wales) (1999) *Internal Control: Guidance for Directors on the Combined Code*. ICAEW, London.
- ILGRA (Interdepartmental Liaison Group on Risk Assessment) (1996) *Use of Risk Assessment within Government Departments*. HSE, London.
- Jasanoff S (1990) *The Fifth Branch: Science Advisers as Policymakers*. Harvard University Press, London.
- Jasanoff S (1996) The Dilemma of Environmental Democracy. *Issues in Science and Technology* 13(1), 63–70.
- Jasanoff S (2007) *Designs on Nature: Science and Democracy in Europe and the United States*. Princeton University Press, Princeton.
- Jessop B (2000) Governance Failure. In: Stoker G (ed) *The New Politics of British Local Governance*, pp. 11–32. Macmillan, London.
- Kagan RA (2001) *Adversarial Legalism: The American Way of Law*. Harvard University Press, Cambridge, MA.
- Kelman S (1981) *Regulating America, Regulating Sweden*. MIT Press, Cambridge, MA.
- Krieger K (2012) Putting Varieties of Risk-Based Governance into Institutional Context: The Case of Flood Management Regimes in Germany and England in the 1990s and 2000s. PhD. London: King's College London.
- Lascoumes P (1994) *L'Eco-pouvoir, environnements et politiques*. La Découverte, Paris.
- Lascoumes P, Le Galès P (2007) Introduction: Understanding Public Policy Through Its Instruments – From the Nature of Instruments to the Sociology of Public Policy Instrumentation. *Governance* 20, 1–2.
- Liberatore A (1999) *The Management of Uncertainty: Learning from Chernobyl*. Gordon & Breach, Amsterdam.
- Lloyd-Bostock S, Hutter B (2008) Reforming Regulation of the Medical Profession: the Risks of Risk-Based Approaches. *Health, Risk & Society* 10, 69–83.
- Lodge M (2001) Barking Mad? Risk Regulation and the Control of Dangerous Dogs in Germany. *German Politics* 10(3), 65–82.
- Lodge M, Wegrich K (2011) Governance as Contested Logics of Control: Europeanized Meat Inspection Regimes in Denmark and Germany. *Journal of European Public Policy* 18, 90–105.
- Lofstedt R (2011) Risk Versus Hazard—How to Regulate in the 21st Century. *European Journal of Risk Regulation* 2, 149–168.
- Medick V, Schwägerl C (2011) *Ethikkommission Empfiehlt Ausstieg Binnen Zehn Jahren*. Spiegel Online. 27 May 2011 [Last accessed 18 May 2012.] Available from URL: <http://www.spiegel.de/politik/deutschland/atomkraft-ethikkommission-empfoehlt-ausstieg-binnen-zehn-jahren-a-765388.html>
- Moran M (2003) *The British Regulatory State: High Modernism and Hyper-Innovation*. Oxford University Press, Oxford, NY.

- NRC (National Research Council) (1983) *Risk Assessment in the Federal Government: Managing the Process*. National Academy Press, Washington, DC.
- Nosengo N (2012) New Twists in Italian Seismology Trial. [Last accessed 23 August 2012.] Available from URL: <http://www.nature.com/news/new-twists-in-italian-seismology-trial-1.10049>.
- O’Riordan T, Wynne B (1987) Regulating Environmental Risks: A comparative perspective. In: Kleindorfer PR, Kunreuther HC (eds) *Insuring and Managing Hazardous Risks: From Seveso to Bhopal and Beyond*, pp. 389–410. Springer, Berlin.
- OECD (Organisation for Economic Co-operation and Development) (2010) *Risk and Regulatory Policy: Improving the Governance of Risk*. OECD, Paris.
- Porter TM (1995) *Trust in Numbers: The Pursuit of Objectivity in Science and Public Life*. Princeton University Press, Princeton.
- Power M (1997) *The Audit Society: Rituals of Verification*. Oxford University Press Oxford, NY.
- Power M (2007) *Organized Uncertainty: Designing A World of Risk Management*. Oxford University Press, Oxford.
- Proske D (2004) *Catalogue of Risks: Natural, Technical, Social and Health Risks*. Springer Verlag, Berlin.
- Rothstein H, Downer J (2012) “Renewing DEFRA:” Exploring the Emergence of Risk-Based Policymaking in UK Central Government. *Public Administration* 90 (3). doi: 10.1111/j.1467-9299.2011.01999.x.
- Rothstein H, Huber M, Gaskell G (2006) A Theory of Risk Colonization: The Spiralling Regulatory Logics of Societal and Institutional Risk. *Economy and Society* 35, 91–112.
- Schwarze R, Wagner GG (2004) In the Aftermath of Dresden: New Directions in German Flood Insurance. *The Geneva Papers on Risk and Insurance – Issues and Practice* 29, 154–168.
- Strang D, Meyer JW (1993) Institutional Conditions for Diffusion. *Theory and Society* 22, 487–511.
- Sunstein CR (2002) *Risk and Reason: Safety, Law, and the Environment*. Cambridge University Press, Cambridge, UK.
- UK Cabinet Office (1999) *Modernising Government*. Cm4310. HMSO, London.
- UK Cabinet Office (2002) *Risk: Improving Government’s Capability to Handle Risk and Uncertainty*. UK Cabinet Office, London.
- Viscusi WK (1995) *Fatal Tradeoffs: Public and Private Responsibilities for Risk*. Oxford University Press, New York, NY.
- Vogel D (1986) *National Styles of Regulation: Environmental Policy in Great Britain and the United States*. Cornell University Press, Ithaca.
- Vogel D (1995) *Trading Up: Consumer and Environmental Regulation in A Global Economy*. Harvard University Press, Cambridge, MA.
- Vogel D (2012) *The Politics of Precaution: Regulating Health, Safety, and Environmental Risks in Europe and the United States*. Princeton University Press, Princeton.
- Worms J-P (1966) Le préfet et ses notables. *Sociologie du Travail* 66(3), 249–275.