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978-0-521-88315-3 - Managing Strategic Surprise: Lessons from Risk Management and Risk Assessment

Edited by Paul Bracken, Ian Bremmer and David Gordon

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1 *Introduction*

PAUL BRACKEN, IAN BREMMER AND DAVID GORDON

The timing couldn't be better for a book on risk management and international affairs. Risks from weapons of mass destruction (WMD) proliferation, terrorism, energy availability, failed states, and from other sources are growing. The failure to anticipate major risks in the Iraq war has had enormous consequences, to say the least. And the continuing debate about how the intelligence community and the executive branch of government assess risk make it central to any discussion of foreign and defense policy.

For all of these reasons it is an opportune time to focus on how risk is assessed and managed in international affairs. But there is a second reason why the timing is right for a book on this subject. Separate from all of the above considerations is the emergence of risk management as a distinctive field of study which has transformed one discipline after another, in finance, business, engineering, environmental protection, and epidemiology. Today, it would be unthinkable for a company to invest money without first putting it through a risk "screen" to see what could go wrong. Assessment of an epidemic, likewise, entails a thorough-going risk analysis to see where interventions to stop it should be made. And analysis of engineering failures like the Columbia shuttle crash make a lot more sense when looked at from a risk management framework than from the customary practice of finding someone to blame it on.

Yet thinking systematically about risk has barely touched the world of national security and international affairs. Whether in the intelligence or defense communities, or in energy policy, non-proliferation, or terrorism, the systematic consideration of risk has hardly advanced beyond truisms. This project brings together for the first time these two clusters of thinking: the risks of international affairs, and the risk management frameworks which have transformed so many other disciplines.

The *need* for better risk management in international affairs is acknowledged by virtually everyone. We find no disagreement either

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that risk management is an important, indeed central, framework for thinking about problems in fields like finance, business, epidemics, or power grid crashes. The rub comes in the next step: that some of the ideas from these fields might have application in international affairs. On this point there is major controversy and resistance. We believe that the resistance to such intellectual trespassing, trying to import ideas from one field into another where they have never been tried before, is itself interesting and revealing.

Our take is that the actual practice of how risks are handled in international affairs by the United States has been in decline since the 1990s. Before that, the stark dangers of the Cold War and the threat of nuclear annihilation enforced a kind of discipline on Washington, and on the international system. On big issues it paid to be cautious. In the 1990s, with the disappearance of the Soviet Union, this “fear constraint” was lifted. The United States in the 1990s was by far the most powerful country in the world. And this one-sided power led to a sloppiness when it came to managing risks. Across ideological lines it was thought that whatever might go wrong, US power could easily make it right. Whether in dollars or military action, power was mistakenly thought to be a substitute for good thinking about risk.

The other source of resistance to importing concepts from risk management in to international affairs comes from the natural tendency of international affairs specialists to stick with what they already know and to hone this to increased specialization.¹ New conceptual frameworks, broadly speaking, are not very welcome. In recent years risk management in international affairs, beyond simple-minded truisms, has become almost an alien concept. In fact, in the many meetings and conversations we had on this project more time was spent with international affairs experts on why risk management “can’t possibly work” in their particular field than on trying to understand how these approaches might be usefully applied.

But the purpose of this book isn’t to criticize anyone. Rather, it’s to start a productive conversation on how risk management can be applied to international challenges in the twenty-first century. For nearly two years we worked with domain experts in various international security

¹ An exception here is the interesting use of risk concepts in M. V. Rasmussen, *The risk society at war, terror, technology and strategy in the twenty-first century* (Cambridge University Press, 2007).

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fields to introduce them to risk management concepts and frameworks from outside fields. The intent was to see how risk management thinking might change the frameworks used in their areas of domain expertise.

But before we describe the mechanics of the project, it's necessary to understand what we mean by the term *risk management*.

Risk management defined

One of our earliest discoveries in this project was that *risk management* means different things to different people. More, that there is relatively little cross-fertilization among specialized fields which do risk management, like finance, environmental protection, and epidemiology.

Engineers studying the safety of nuclear power plants have developed a high art of risk management. They look at complex processes, flows of information and materiel, through large networks of pipes and reactors. Wall Street financial analysts have a different notion of risk management. They focus on changes in currency values and stock prices using probability and stochastic processes. Each does risk management. And each has its own frameworks, vocabulary, and set of distinctions.

There is nothing wrong with this. Each field, whether engineers interested in nuclear plant safety or Wall Street analysts worried about the value of their portfolios, has certain recurrent tasks that they have to manage. They develop techniques and distinctions which work for them.

Yet this diversity makes defining risk management across disciplines an important thing to get right if we are to raise the level of conversation about risk in international affairs.

Our solution to this problem was to go back to the historical development of risk management, because all of the specialized risk management done today in finance, engineering, and environmental protection emerged from the same intellectual roots. Modern risk management grew out of the application of statistical methods in mass production in the 1920s and 1930s.² It later developed in World War II, with the application of mathematical concepts in the military effort,

² A classic book in this regard was W. A. Shewhart, *Statistical method from the viewpoint of quality control* (Washington, DC: Graduate School of the Department of Agriculture, 1939). (Republished in 1986 by Dover Publications, Mineola, NY.)

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called operations research. By the 1950s a distinct discipline of decision sciences had developed, and within this a common conception of risk management emerged.³

Stated simply, risk is defined as the product of two things: likelihood and consequences. Risk separates out the *likelihood* that some event will take place from the *consequences* if it does. This is the definition of “risk” used throughout the book.⁴

This definition allows for three conversations. One about likelihood. One about consequences. And a third about the management of the two. Each of these conversations can quickly get complicated. But since the world is complicated, this isn’t much of a surprise. Still, the simple act of recognizing that there are three conversations has proven to be extraordinarily useful. It means that a financial institution doesn’t focus its risk management attention only on predicting currency and stock prices. The track record for doing this is poor, and has been known to be so for decades. Instead a financial institution will bundle its total exposure in to a portfolio, and then stress test this against different shocks to see what the overall effect is on its value. One method for doing this is called value at risk (VaR). But the choice of methods for doing these calculations is less interesting for our purposes than is borrowing the insight from finance that there are better ways to manage risk than trying to predict the future. We think that bundling a number of foreign policy strategies together, and subjecting them to stress testing, is a very useful insight. It would highlight interactions. It would focus attention on important consequences, leaving aside for the moment their likelihood, which is often a matter of dispute. And it would provide an overall way to structure alternatives which are rarely clear in advance.

Risk management necessarily involves how risk is perceived, and how it’s processed by individuals, groups, and organizations. This is a very complicated and interesting subject. Not only do different

³ See, for example, L. J. Savage, *The foundations of statistics* (New York: Wiley & Sons, 1954); and R. D. Luce and H. Raiffa, *Games and decisions, introduction and critical survey* (New York: Wiley & Sons, 1957).

⁴ In economics there is a distinction between risk and uncertainty. Risk is used if there is a known probability distribution about a likelihood. Uncertainty describes cases where there isn’t such a distribution. We do not take this as our fundamental definition, although we think it an important distinction and use it in the project.

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individuals assess likelihood in different ways, they often also see the consequences of what could take place differently as well. No methodology will ever overcome these tendencies. But being able to lay them out for clear discussion, with an appropriate vocabulary, is a step toward a more productive discussion.

Our project

Recognizing the need to incorporate risk management in to some very important fields we conceived the idea to connect the diverse areas of risk management to the fields of national security and international affairs. With the financial support from the National Intelligence Council, part of the Director of National Intelligence (DNI), we held meetings over two years bringing together experts in risk management together with domain experts from various fields of international affairs. Small group conversations were held as well. Meetings were held in New York, New Haven, Washington, DC, and Tel Aviv.

Paul Bracken, Professor of Management and Political Science at Yale University, brought management and operations research skills to the project. Ian Bremmer, President of the Eurasia Group and an academic political scientist by training, brought expertise on emerging markets and global political risk as it applies to financial, corporate, and government entities. And David Gordon, from the national intelligence community brought real world experience in national security risk management to the table. To identify risk management concepts we spent many days in meetings and discussions with experts, selecting those that might be salient to security problems.

A word about objectives is in order. Using risk management in international affairs is an exceedingly ambitious goal, and we recognize this. Our view was that a search for *the solution* to the myriad challenges in international affairs was futile. We had no expectation of finding a computing formula for stopping the spread of WMD or for stopping terrorist attacks. Rather, we believe that it is possible to understand the processes associated with these dynamics better, and define alternatives for managing them.

Our goal was to raise the level of conversation about important subjects using a risk management framework. Major decisions always have an element of risk in them, and decision makers and their staff acknowledge this. But too frequently there is only the lightest

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consideration given to its systematic assessment and management. Reference is often made, for example, to taking “calculated risks,” or to the “risk of not acting.” One of our favorite questions in carrying out this project came from hearing these two truisms so many times; it was to ask the decision maker, and their staff, to show us the calculations that underlie their calculated risks. Usually there were none.

The casual invocation of the “calculated risk” is often a cover for not thinking about risk at all. Likewise, frequent reference to “the greater risk of not taking any risk” is often a mask for actions a decision maker is going to take anyway. It often represents a thinly disguised justification for going ahead with an action with little or no consideration for its upside or downside consequences. We have no doubt that not taking any risk can be a great mistake. On the other hand we believe that its blanket application regardless of context represents a serious misunderstanding of how risks should be assessed and managed.

The purpose of project meetings was cross-fertilization: to have security domain experts listen to and speak with risk management experts drawn from finance, operations research, political risk, epidemiology, and environmental risk. We leaned toward conversation rather than PowerPoint briefs. In addition, articles drawn from risk management disciplines were circulated to the international affairs experts, and the three of us interposed into each of the experts’ fields to keep the conversation going.

One of the key findings coming from our conversations with risk management practitioners can be described as follows: *Risk management is about insight, not numbers*. It isn’t the predictions that matter most but the understanding and discovery of the dynamics of the problems.

Another way of saying this was nicely put by one mathematically inclined risk analyst, an authority on the reliability of engineering systems: *You don’t need data to think statistically*. Statistics is valuable for the terminology, distinctions, and frameworks that it introduces. In the real world, even in a field where there exists rigorous data, one often finds that the data is unavailable, or too messy to put much stock in. Still, formulating the problem as if one had data is an extraordinarily useful exercise.

The charge given to each of the international affairs experts was to “think like risk management” in describing the current issues and

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challenges in their fields. They were to sample from what they had learned about risk management and apply its line of thinking to their subject. We felt that it was important to allow each of these experts to make their own judgment about which concepts to use, because one of the lessons of good risk management is that it is as much an art as a science. Rather than application of rigid methodologies to a subject which might not be appropriate, the authors were free to pick and choose risk management concepts that fit their problem. Instead of making the problem fit risk management, we tried to make risk management fit the problem.

Related perspectives

Over the past few years a large literature devoted to the subject of risk has appeared. Some of this overlaps with our project in that it tries to tackle “big” problems. Seeing how our project fits in with these efforts gives a useful intellectual positioning to what we are trying to do.

One strand of work, from Kahneman, Slovic and Tversky, as well as others, gives many examples where reaction to both likelihood and consequences depends less on actual probabilities than it does on behavioral factors.⁵ Insights drawn from psychology are used in place of the assumption that decision makers behave rationally according to the laws of economics. In other words, most people don’t maximize their expected utility using probability. They hang on to investments too long even when they shouldn’t, a particular tendency so prevalent that experts in behavioral finance have even given it a name, the disposition effect.

What this literature points to are systematic ways in making bad decisions, e.g., hanging on to an investment too long. These patterns of bad decisions seem to be especially prevalent for high and low probability events. In addition, an individual’s initial approaches to a problem have a powerful enduring influence on their later decisions. Generally, they stick with these predispositions for too long.

Across the problems analyzed in our project we found these tendencies to be pervasive. This raises some controversial issues which are

⁵ A classic book here is D. Kahneman, P. Slovic and A. Tversky, *Judgment under uncertainty: heuristics and biases* (Cambridge University Press, 1982) which has inspired a wide ranging follow-on literature.

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better dealt with by the domain experts in the individual chapters. Suffice it to say here that this line of thinking adds an important dimension to risk management in international affairs, namely that there really are systematic patterns in making good and bad risk judgments. While it can often be difficult to apply this insight operationally, simply knowing that it is the case can provide a useful checklist of errors to keep in mind.

A second literature, from sociology, explores how the late modern societies such as Western Europe and the United States have become increasingly structured around the ideas of risk and risk management. For Anthony Giddens (1991),⁶ the concept of risk gained its centrality due to the great increase in human security in the modern world. “It is a society increasingly preoccupied with the future (and also with safety), which generates the notion of risk.”⁷ The development of new technologies, drugs and the existence of strong markets and states have resulted in longer life spans and reduction of basic dangers, while at the same time generating a new class of unknown or unknowable “manufactured” risks.

For Ulrich Beck, the “risk society” is precisely concerned with mitigating the risks and uncertainty generated by modernization and globalization.⁸ These “manufactured” risks are argued to be “reflexive,”⁹ meaning that they are inadvertently caused by modernity’s attempts at mitigating older, classical risks, such as disease, market fluctuations or strategic issues. “Manufactured” risks, with a low probability but potentially catastrophic consequences, are becoming the main concern of all the modern industrialized societies, which are increasingly transforming themselves into “risk societies.”¹⁰

The “risk society” approach has been increasingly applied to the field of international relations and national security by a number of writers,

⁶ See A. Giddens, *Modernity and self-identity: self and society in the late modern age* (Cambridge: Polity Press, 1991).

⁷ A. Giddens, “Risk and responsibility,” *Modern Law Review*, 62, No. 1 (1999), 3.

⁸ U. Beck, *Risk society: towards a new modernity*, trans. by M. Ritter (London: Sage, 1992), p. 26.

⁹ See U. Beck, W. Bons and C. Lau, “The theory of reflexive modernization problematic, hypotheses and research programme,” *Theory, Culture & Society*, Vol. 20(2) (2003), 1–33.

¹⁰ Beck, *Risk society*, as cited in note 8.

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especially in the context of terrorism,¹¹ contemporary warfare,¹² and security in the West, especially in relation to NATO.¹³

Faced with asymmetrical risks, such as terrorism, governments can no longer aim for “the concept of complete security.”¹⁴ In the past, national security dealt with meeting security threats, which was a finite process in which the aim was to eliminate the threats faced.¹⁵ However, risks, as opposed to threats, can only be managed or controlled. In practical terms, this means that modern states are learning to cope with problems,¹⁶ rather than aiming for a solution, so risks tend to be of long duration (if not infinite) and often managing one risk gives rise to a set of others, given the reflexivity of the risk society.¹⁷ In the case of post 9/11 terrorism, the proponents of the “risk society” generally argue that the main development has been the rise of pre-emptive governmental action.

¹¹ See C. Aradau and R. Van Munster, “Governing terrorism through risk: taking precautions, (un)knowing the future,” *European Journal of International Relations*, 13, No. 1 (2007); U. Beck, “The terrorist threat: world risk society revisited,” *Theory, Culture & Society*, 19, No. 4 (2002); M. V. Rasmussen, “Reflexive security: NATO and the international risk society,” *Millennium: Journal of International Studies* 30, No. 2 (2001); Rasmussen, *The risk society at war*, as cited in note 1; K. Spence, “World risk society and war against terror,” *Political Studies*, 53, No. 2 (2005).

¹² See U. Beck, “War is peace: on post-national war,” *Security Dialogue*, 36, No. 1 (2005); M. Shaw, “Risk-transfer militarism, small massacres and the historic legitimacy of war,” *International Relations*, 16, No. 3 (2002); M. Shaw, *The new western way of war: risk transfer and its crisis in Iraq* (Cambridge: Polity Press, 2005); Y.-K. Heng, “The ‘transformation of war’ debate: through the looking glass of Ulrich Beck’s *World risk society*,” *International Relations*, 20, No. 1 (2006); C. Coker, “Security, independence and liberty after September 11: balancing competing claims,” introductory paper presented to the 21st Century Trust, Klingenthal Castle, near Strasbourg, France, 12–18 May, 2002, www.21stcenturytrust.org/post911.htm (accessed 22 January 2008); C. Coker, *Waging war without warriors? the changing culture of military conflict*, IISS Studies in International Security (London: Lynne Rienner, 2002); V. Jabri, “War, security and the liberal state,” *Security Dialogue*, 37, No. 1 (2006).

¹³ See C. Coker, “Globalisation and insecurity in the twenty-first century: NATO and the management of risk,” *Adelphi Papers*, No. 345 (London: International Institute for Strategic Studies, 2002); Rasmussen, “Reflexive Security,” as cited in note 11.

¹⁴ Aradau and Munster, “Governing terrorism through risk,” 93, as cited in note 11.

¹⁵ See Rasmussen, “Reflexive security,” as cited in note 11; Heng, “The ‘transformation of war’ debate,” as cited in note 12.

¹⁶ See Spence, “World risk society and war against terror,” as cited in note 11.

¹⁷ See Rasmussen, “Reflexive security,” as cited in note 11.

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Overall, the “risk society” approach to national security tends to be highly conceptual, given that its origins are in the theoretical debate between “modernity” and “post-modernity”.¹⁸ A significant part of the literature is aimed at a methodological re-conceptualization of international affairs as a “transnational science”.¹⁹ The literature is also often driven by normative concerns, be they critiques of the neo-liberal underpinnings of globalization and desire for the formation of “cosmopolitan states,”²⁰ or a desire to reinforce pacifist positions and delegitimize certain types of warfare.²¹ That said, with a few exceptions,²² the literature does not offer concrete solutions to policy makers, and it is unclear how the literature on “risk society” can be practically employed by policy makers for dealing with risks and strategic surprises.

A much smaller literature deals with the way *organizations*, as distinct from individuals, process information about risk. Partly in response to 9/11 a number of studies have focused on the shape of the US intelligence community, including the Report of the 9/11 Commission itself.²³ Organizations turn out to be different from people, and understanding their dynamics in processing risk is critically important. This literature, and the following two chapters in this book (by Bracken and Arad) take organizations as central for improving risk management. In finance, epidemiology, and the environment, the systems built to support risk management – the warning, communication, and IT systems – have become extremely important. Factoring them in to risk management is critical from this perspective.

¹⁸ See M. Shaw, “The development of ‘common risk’ society: a theoretical overview,” Paper delivered at seminar on ‘Common Risk Society,’ Garmisch-Partenkirchen (1995), www.sussex.ac.uk/Users/hafa3/crisksoocs.htm (accessed June 8, 2007).

¹⁹ Beck, “The terrorist threat,” 53, as cited in note 11. ²⁰ *Ibid.*, 13.

²¹ See Shaw, “Risk-transfer militarism, small massacres, and the historic legitimacy of war,” as cited in note 12; Shaw, “The development of ‘common risk’ society,” as cited in note 18.

²² See C. Coker, “NATO as a post-modern alliance,” in S. P. Ramet and C. Ingebritsen (eds.) *Coming in from the Cold War: changes in US–European interactions since 1980* (Lanham, MD: Rowman and Littlefield, 2002).

²³ For examples see Charles Perrow, *The Next catastrophe: reducing our vulnerabilities to natural, industrial, and terrorist disasters* (Princeton University Press, 2007); R. A. Posner, *Preventing surprise attacks: intelligence reform in the wake of 9/11* (Roman and Littlefield, 2005); Diane Vaughan, *The Challenger launch decision: risky technology, culture, and deviance at NASA* (University of Chicago Press, 1996); and Amy B. Zegart, *Spying Blind, The CIA, the FBI, and the origins of 9/11* (Princeton University Press, 2007).