

ISSUE BRIEF

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Risk Management and
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THE FUTURE OF RISK MANAGEMENT

CONTEXT

Over the past 20 years, extreme events have caused numerous fatalities and injuries, devastated communities, destroyed property, imposed significant financial burdens on individuals and firms, and challenged political leadership. Consider the terrorist attacks of 9/11; the financial crisis of 2008-2009; the Deepwater Horizon oil spill in 2010; the Fukushima earthquake, tsunami and Daiichi nuclear accident in 2011; the recent spate of devastating hurricanes, floods and wildfires; and the coronavirus pandemic of 2020. We face major challenges for dealing with natural and technological hazards and global issues which include the emergent threats of cyber risks and climate change. As the world has become more interdependent and interconnected, events have ripple effects across the globe, requiring new approaches to risk management.

Thirty years ago, the study of risk management was limited in scope. Scientists and engineers assessed the likelihood and potential consequences of hazards, and economists assumed that individuals made choices among a set of alternatives by maximizing their expected utility.

Today, however, risk analysis has expanded to encompass fields such as decision science, finance, geography, history, insurance, law, marketing, political science, psychology, and sociology. Researchers and practitioners interact with and challenge each other to design risk management strategies that are likely to be implemented by stakeholders. Significant progress has been made in quantitatively assessing risks, but, moreover, there is now growing recognition that we need to integrate psychological and behavioral elements into our risk management strategies.

The challenges and open questions raised in *The Future of Risk Management*¹ provide the context for developing long-term strategies that address behavioral biases and incentivize adoption of protective measures.

THE FUTURE OF RISK MANAGEMENT

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Since 1985, the Wharton Risk Management and Decision Processes Center has focused on how individuals, organizations and government at all levels can deal with extreme events.

In *The Future of Risk Management*, we invited leading experts to share their latest research and insights and pose open questions for risk management. The book is organized into five sections, each of which addresses avenues for practitioners and researchers to consider.

1. Behavioral Factors Influencing Decision Making under Risk and Uncertainty
2. Improving Risk Assessment
3. Developing Better Risk Communication Strategies
4. The Roles of Risk Mitigation, Risk-sharing and Insurance
5. Government and Risk Management

¹ Kunreuther, H., Meyer, R. J., & Michel-Kerjan, E. O. (Eds.) (2019). *The Future of Risk Management*. University of Pennsylvania Press. To order, visit <http://www.upenn.edu/pennpress/book/13702.html> and enter promo code RISK30.

Behavioral Factors Influencing Decision Making under Risk and Uncertainty

Why do some people invest in protective measures while others do not? What features of catastrophic events or personal losses elicit widespread compassion? What factors influence individuals' risk perceptions and risk management decisions? How might we reframe risk-related problems to appropriately guide decision makers? Many decisions for dealing with low-probability, high-consequence events are guided by intuitive thinking with emotions and past experience playing a key role, without focusing on more systematic approaches that require deliberate thinking, such as the use of decision analysis and cost-benefit analysis. Behavioral and psychological factors that influence decision making in risky situations need more attention in the future.

Improving Risk Assessment

What data should individuals and private/public sector organizations consider when evaluating risk and developing risk management strategies? How do experts and the general public interpret near misses, and in what ways can we learn from their behavior? What role can catastrophe modeling play in setting national targets for disaster loss reduction? What are the opportunities for more effective industry-level collaboration to prevent or mitigate industry-wide risks? By focusing on these questions, key stakeholders and organizations are more likely to reflect on how risk assessment can be used to develop long term risk management strategies for reducing losses from low-probability, high-consequence events.

Developing Better Risk Communication Strategies

How can we improve the accuracy and effectiveness of messages to communicate risk to those affected by specific hazards? How should we frame and communicate uncertainty associated with specific risks so stakeholders will evaluate the relevant costs and benefits of different proposed programs for managing catastrophic risks? Individuals at risk will be more likely to pay attention when policymakers and risk managers can better communicate the likelihood and consequences of potentially catastrophic events and reinforce the relevant lessons from past disasters.

The Roles of Risk Mitigation, Risk-sharing and Insurance

How can the public and private sectors encourage those at risk to undertake loss reduction measures while recognizing needs for affordability and fairness? What is required for communities to adopt well-enforced building codes and land use regulations to reduce future losses? What are the appropriate roles of the private and public sectors in dealing with the costs of catastrophic risk? To prepare for the financial impacts of adverse events, policy makers can evaluate ways to encourage residents and communities at risk to invest in loss reduction measures and purchase insurance now rather than waiting for a disaster to occur.

Government and Risk Management

What are the appropriate roles for the public and the private sectors to play in providing protection against risk? How can local, state and federal governments incentivize or require those at risk to undertake protective measures? How does public sector intervention impact personal responsibility and the demand for protection? Public-private partnerships can address fairness and affordability issues and provide a backstop for catastrophic risks that the private sector cannot cover.