



HARVARD Kennedy School
BELFER CENTER
FOR SCIENCE AND INTERNATIONAL AFFAIRS

Missing the nose on our face: How critical risk information is sometimes ignored

Matthew Bunn

“Invisible Worlds: Fukushima and the
Legacy of Nuclear Forgetfulness”

March 22, 2019

https://scholar.harvard.edu/matthew_bunn

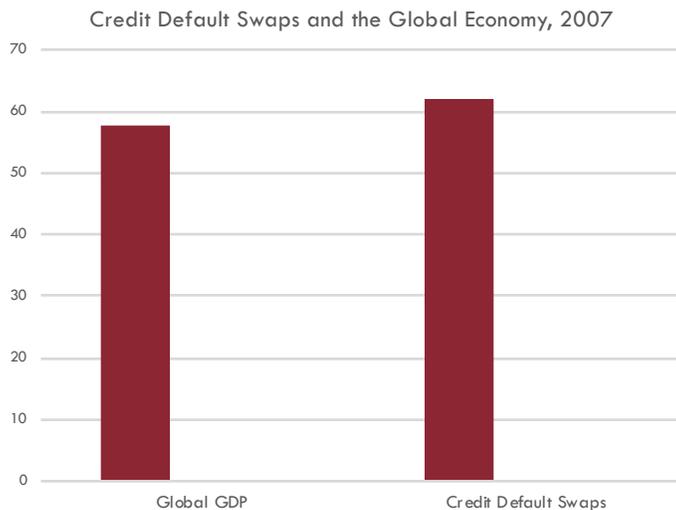
Tsunami stones: “Do not build your homes below this point!”



Source: Ko Sasaki/New York Times

2007: The credit default swap house of cards

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Organizations have a remarkable ability to ignore warnings of insider threats

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- Insiders are authorized, cleared, trusted, known
- People don't want to believe their friends and colleagues could betray the organization
- Wide range of cognitive and organizational biases lead people to understate the threat
- Often even obvious "red flags" go unreported, unaddressed
- Bunn-Sagan book offers case studies, "Worst Practices Guide" on lessons learned from past mistakes

<http://www.belfercenter.org/publication/insider-threats>



Critical risk information is often not shared

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- ❑ Nuclear and aviation safety today have elaborate systems for sharing incident information and lessons learned
 - Was not always that way
- ❑ Three Mile Island
 - Similar incident at Davis-Besse before was controlled – other reactor operators were not told
- ❑ Chernobyl
 - Similar incident at Leningrad plant before – report drafted on steps that should be taken to prevent catastrophe – not distributed to other RBMK operators
- ❑ Nuclear security
 - Even today, virtually no sharing of incident information
 - Little memory of incidents of past decades

Ignorance about incidents contributes to complacency

Thanks to Najmedin Meshkati and Sebastien Philippe for examples!

Risk invisibility and forgetting: Key roles for self-interest, politics

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- ❑ Companies reasonably want to achieve safety and security at minimum cost and inconvenience
 - Genuinely convince themselves that existing efforts are enough
 - Risk to the company often << than risk to society
- ❑ Regulators often heavily influenced by industry
 - Often dependent on industry for most information
 - Staff experts often come from industry
 - Industry often the most likely source of next jobs
 - Staff often live in an industry environment – meetings, conferences, social gatherings...

“It is difficult to get a man to understand something when his salary depends upon his not understanding it!”

— Upton Sinclair, *I, Candidate for Governor, and How I Got Licked*, 1934

Risk invisibility and forgetting: Cognitive, organizational biases contribute

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- ❑ **Avoiding cognitive dissonance**
 - We look for, remember evidence that confirms what we believe
- ❑ **Availability heuristic**
 - If it's hard to call to mind an example of a danger, we understate it
- ❑ **Overconfidence bias**
 - 90% of people believe they are above-average drivers
- ❑ **Affect bias**
 - Something that has one desirable characteristic is believed to have others
- ❑ **Poor understanding of small probabilities**
- ❑ **Putting it off to tomorrow**
- ❑ **Organizational**
 - Incentive is to focus on getting the organization's main mission done
 - "The nail that sticks up gets pounded down"
 - No one gets promoted for making a $1/10^5$ risk into a $1/10^6$ risk
 - Information is in many places – no one sees all of the risk