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Emerging Risks: Peering Around the Bend

By Max J. Rudolph

Max Rudolph, FSA, CERA, MAAA, is owner of Rudolph Financial Consulting, LLC in Elkhorn, Neb. He can be reached at *max.rudolph@rudolph-financial.com.*

DEALING WITH EMERGING RISKS is a key component of enterprise risk management (ERM). Risk managers should consider risks that develop over a long time horizon, in addition to the short term risks involved with tactical planning and putting out fires. Emerging risks focus on outliers —extreme events that do not occur frequently. Regulatory capital requirements tend to ignore these outliers in their calculations. This does not mean they won't occur, and makes it important for an entity's internal risk team to fill this gap. They use tools like stress tests and qualitative assessments to interpret the impact of these outliers.

This article reviews the sixth survey of Emerging Risks, sponsored by the Joint Risk Management Section and completed in fall 2012. Trends are as important as absolute responses, and the research sees value in comparing against past results. The complete survey can be found at *http://www.soa.org/research/research-projects/risk-management/research-2012-emerging-risks-survey.aspx* .

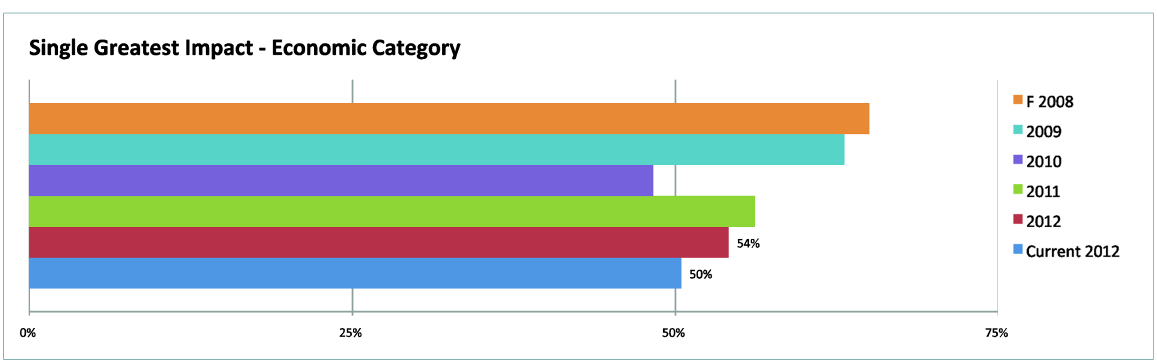
Risk managers reported in the survey that risk tools are being used more frequently to improve decision making. These incorporate quantitative and qualitative methods. Stress testing is being used to supplement economic capital calculations and consider alternative investment strategies and product designs. Scenario drivers include economic factors, improved building codes and rapidly improving cyber risk analysis. They report a balance needed between sophisticated models and simplified techniques based on experience to identify emerging risks and other potential outlier events.

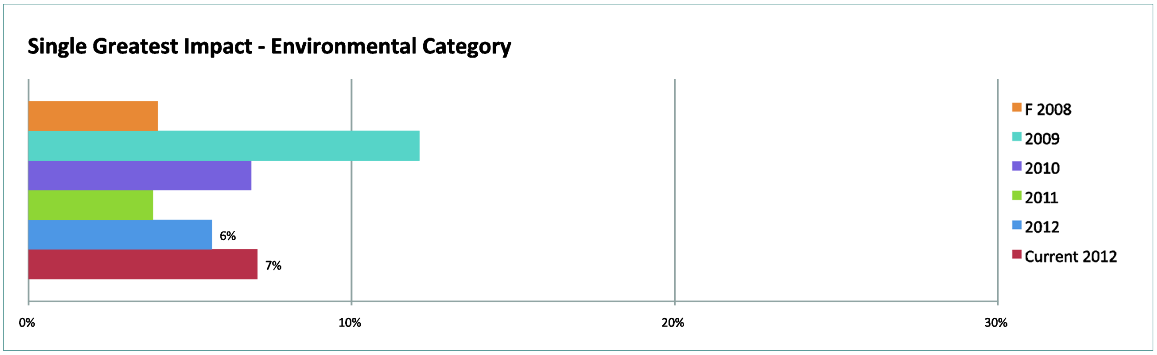
COGNITIVE BIAS

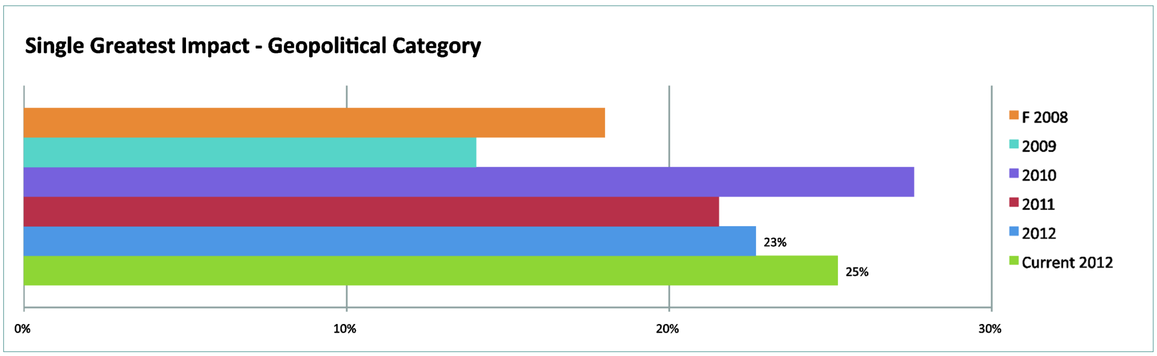
In the past this emerging risks survey has considered anchoring bias as described in Prospect Theory by Daniel Kahneman and Amos Tversky (summarized in Kahneman's Thinking, Fast and Slow).

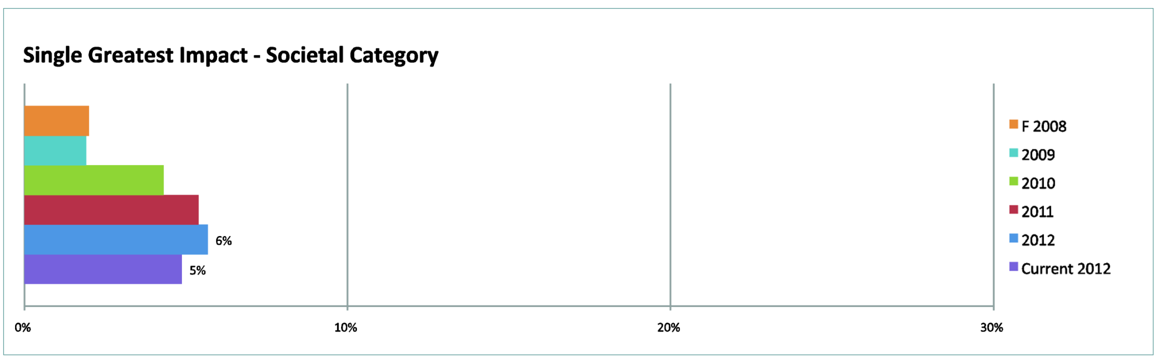
Since the previous iteration of this survey in fall 2011, a number of events have influenced the thinking of risk managers. Reverberations still echo from the 2008 financial crisis, but less so from the 2011 Japanese earthquake/tsunami and Arab Spring. The continuing European financial crisis combined with weather related events like storms and drought, but no event led to wide-spread contagion.

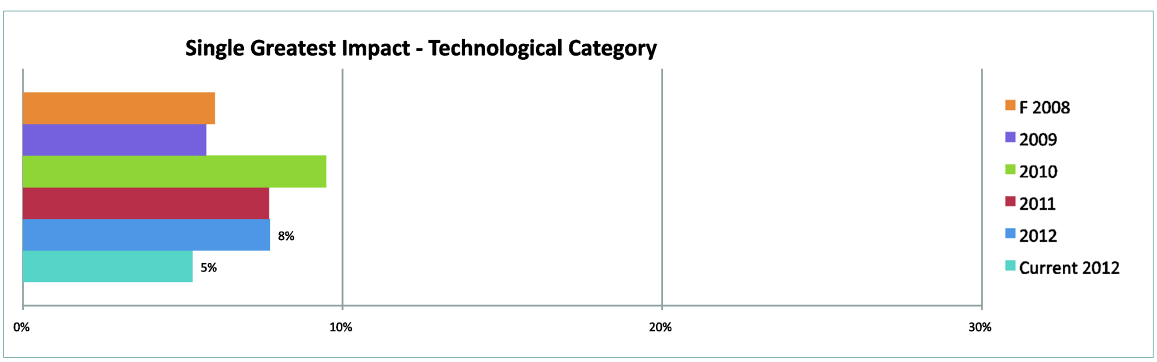
The evolving field of behavioral finance describes anchoring as the tendency to let recent events influence our thinking about potential events. Previous survey reports discussed the impact on results when the Mumbai terrorist attacks occurred while the survey instrument was open and *International terrorism* became a popular choice. In 2012 the survey closed shortly before Hurricane Sandy came ashore in the U.S. Northeast, avoiding what would have been another interesting data point. We continue to see evidence of anchoring. Three risk categories show strong results that move percentages from last year's survey results toward today's top current risk, as seen in the charts describing Economic, Environmental and Geopolitical categories.











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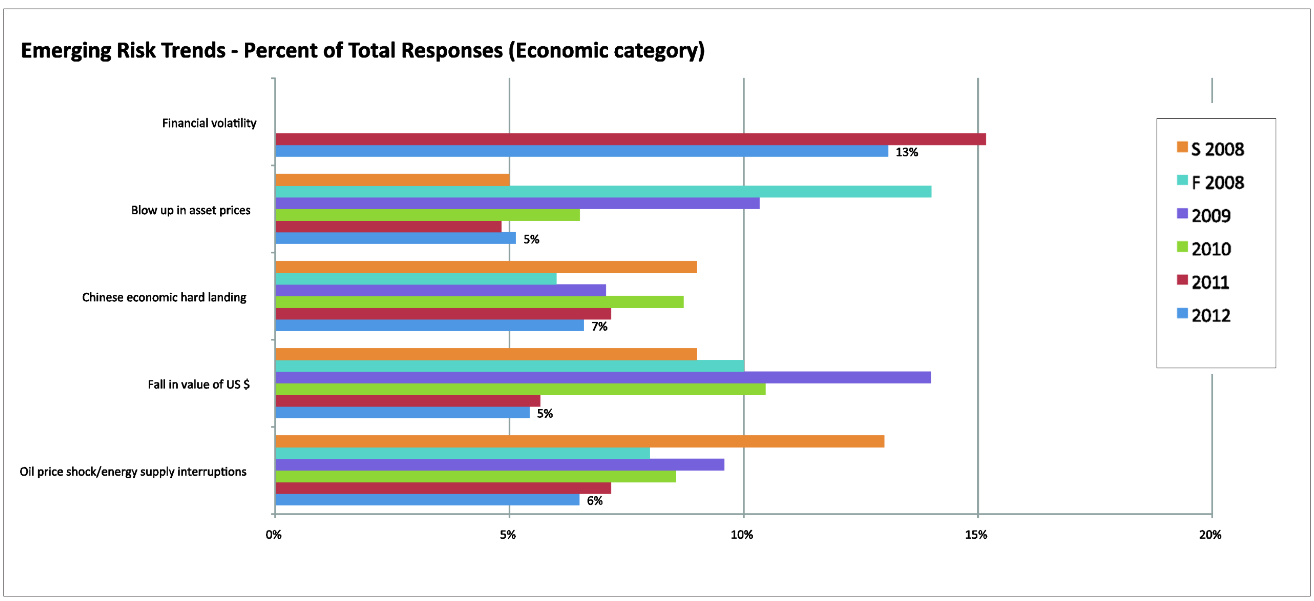
There were some interesting shifts in the 2012 survey results. The Economic category of risks continues to be the top emerging risk choice (respondents could pick up to five), ahead of the Geopolitical, Societal, Technological and Environmental categories. As time passes from the financial crisis, the Economic category's importance is fading. Finishing a strong number two (32% versus 37% for the Economic category), Geopolitical risks increased. Risks with new highs across the survey history were *Loss of freshwater services* (11%), *Interstate and civil wars* (14%), *and Liability regimes* (8%). New lows were recorded by *Oil price shock* (31%)*, Chinese economic hard landing* (31%), *Pandemic/infectious diseases* (12%)*, Natural catastrophes: Inland flooding* (1%)*, and Natural catastrophes: Earthquakes* (2%). Despite recording new lows, some of these risks remain in the top ten overall.

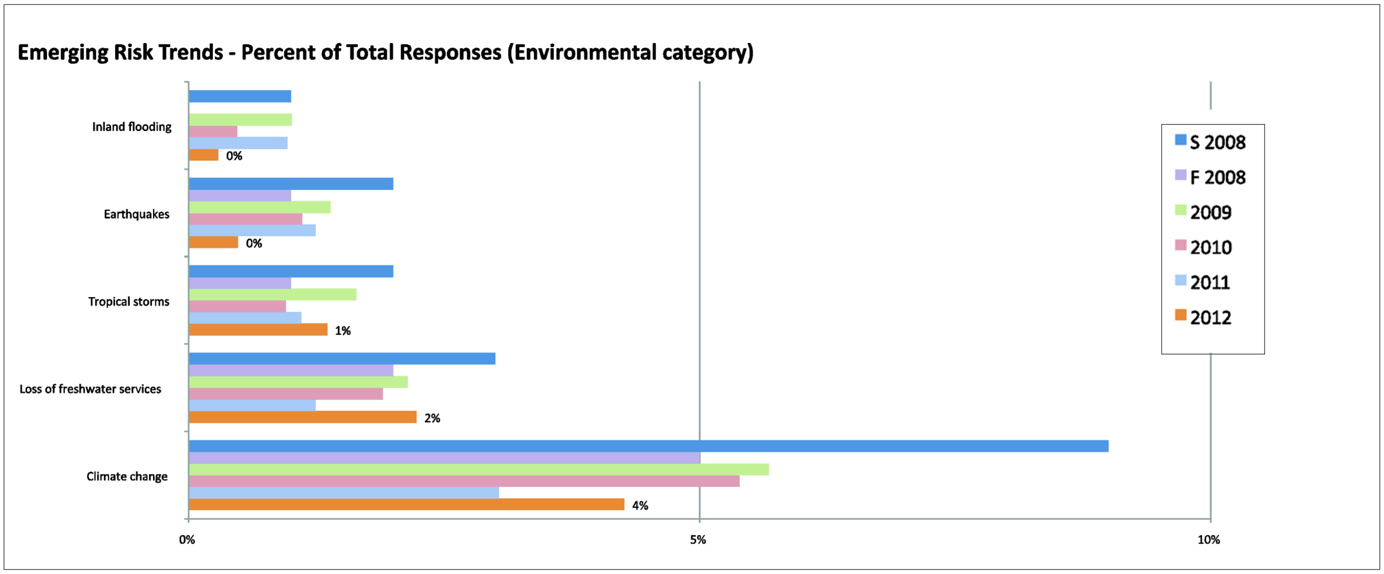
Top Results from 2012 Survey

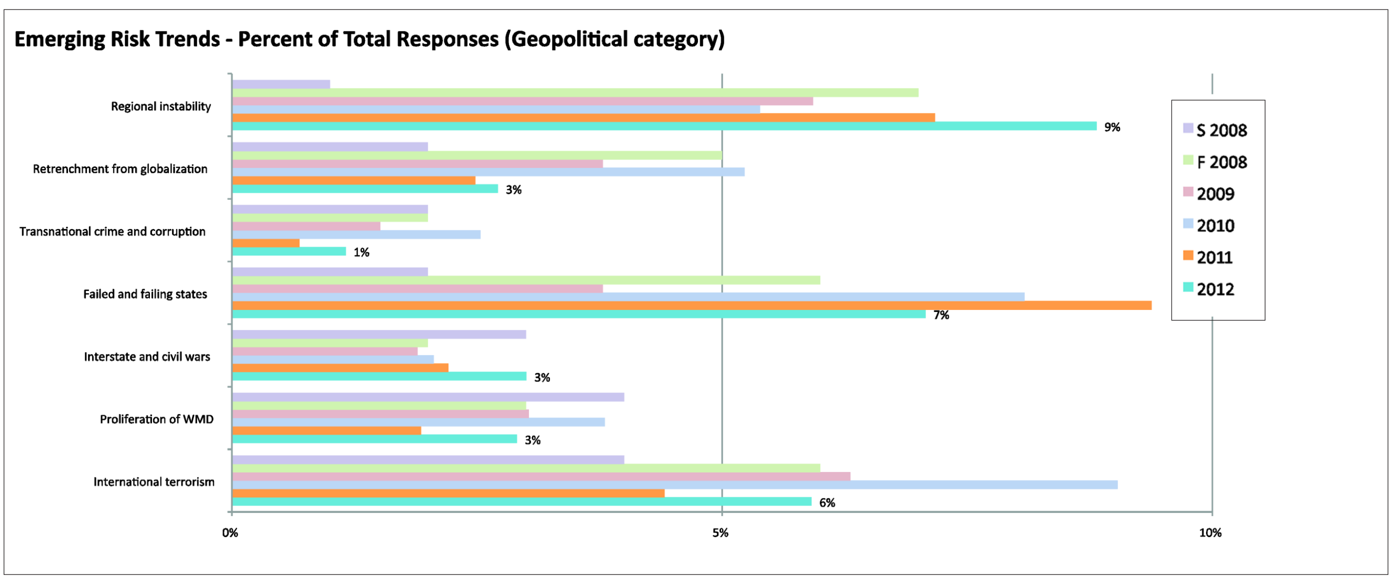
1. *Financial volatility (62%)*
2. *Regional instability (42%)*
3. *Cyber security/interconnectedness of infrastructure (40%)*
4. *Failed and failing states (33%)*
5. *Chinese economic hard landing (31%)*

The following charts show historically the results by category and risk.



> “The Economic category of risks continues to be the top emerging risk choice …”





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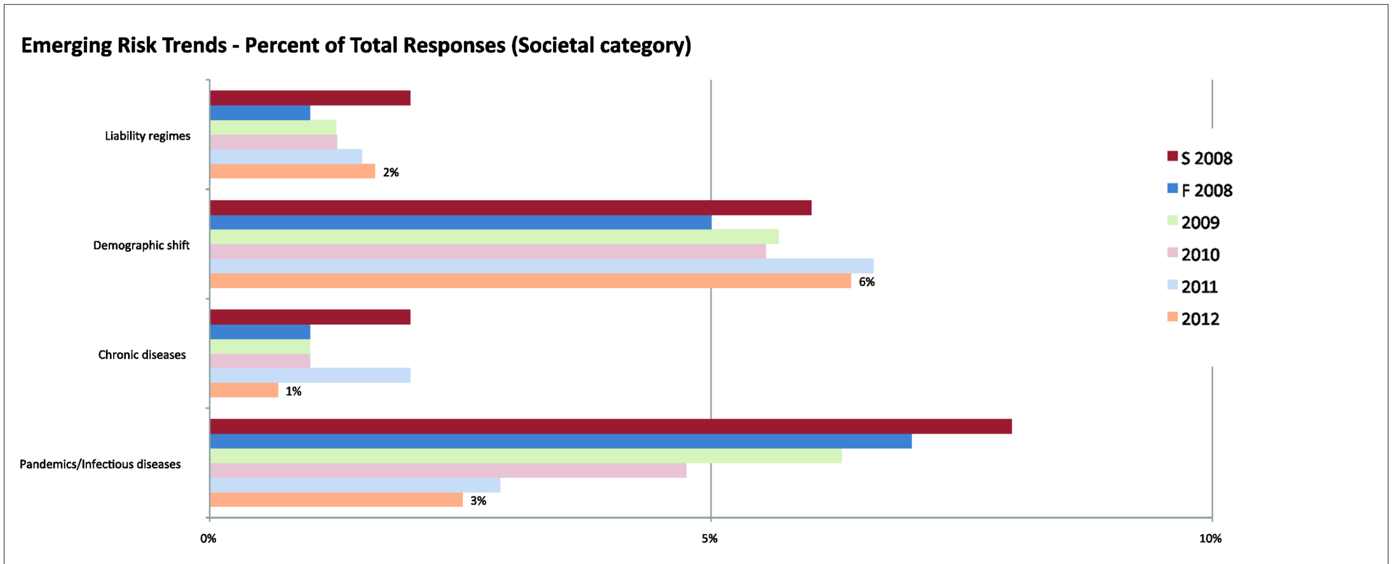
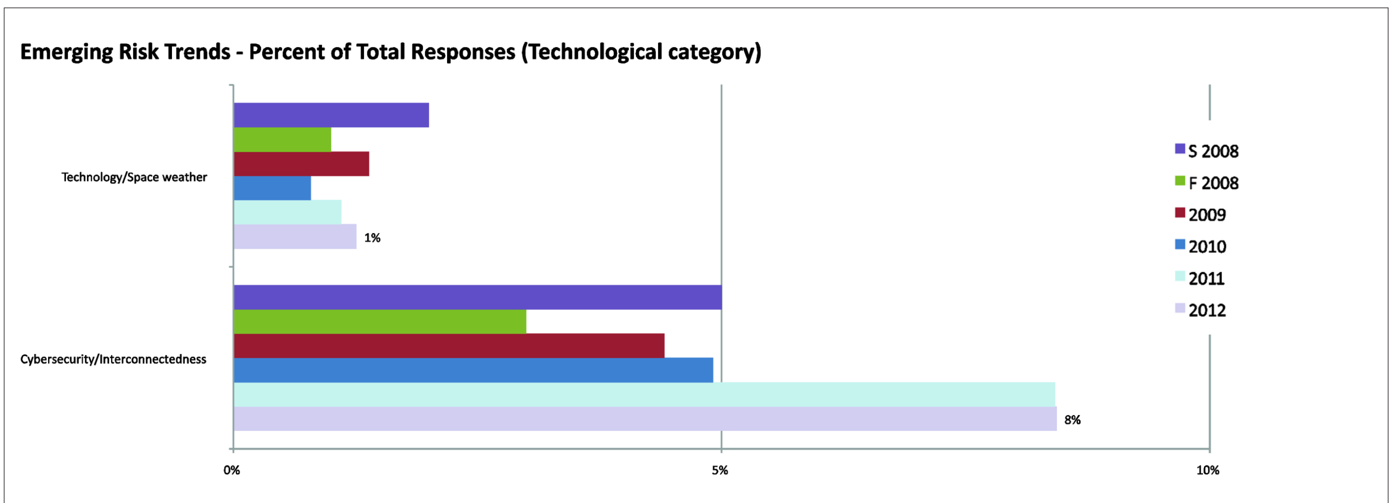




RISK COMBINATIONS

One of the more interesting debates among ERM practitioners is how to consider interactions between risks. To enhance knowledge in this area the survey asks about concerns due to combinations of two risks. Five of the top six combinations included *Financial volatility,* chosen with *Oil price shock* (5%)*, Blow up in asset prices* (5%)*, Chinese economic hard landing* (4%), *Failing and failing states* (3%)*, and Fall in value of US $* (3%). The top combination not including *Financial volatility* was *International terrorism and Proliferation of weapons of mass destruction (WMD)* with 4%, third overall.

"One of the more interesting debates among ERM practitioners is how to consider interactions between risks."

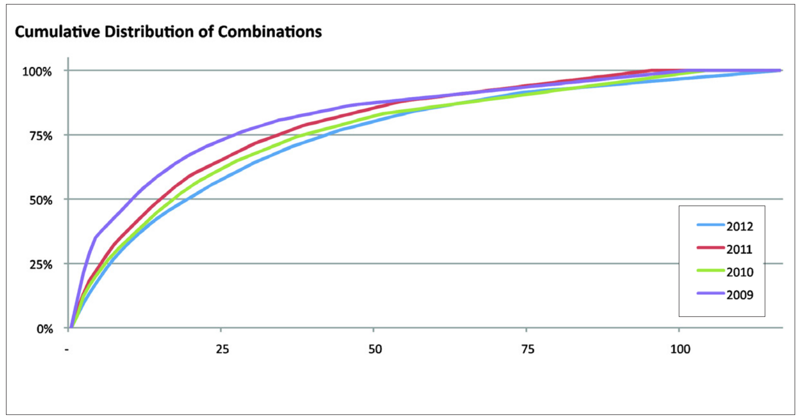
There are 253 possible two-risk combinations. The spread of results was the least concentrated so far, as can be seen in the accompanying chart. It is interesting to see that *Oil price shock*, which continues to receive less attention as an isolated risk, moved up to second place when considering its importance in combination with other risks behind financial volatility.

The period immediately following the financial crisis might be the most extreme we will see, so 2009 is used as the base year with a 100% Risk concentration ratio. Comparisons are made at the 25th percentile, median (50th percentile) and the 75th percentile, and then combined. A higher number reflects greater concerns. As a relative measure, the Risk Concentration Ratio represents the current feeling among the risk management community. The survey respondents seem to be less focused on a potential crisis this year.

LEADING INDICATORS

Best practice approaches to incorporate leading indicators in action plans improved this year. A lagging key risk indicator uses information such as quarterly revenue. A leading indicator provides information earlier in the process. Examples would include instances of longer than expected lines on the first day of a holiday shopping season reflecting retailer success or a spike in the credit default spread for a supplier reflecting credit risk. Over half (57%) reported having at least some leading indicators around emerging risks. Examples reflected a move to incorporate triggers and thresholds, such as to help manage a liquidity crisis by putting in place mitigating actions well in advance of the event.

Respondents said that a blend of quantitative sophistication and qualitative analysis is needed. One respondent reflected the general tone of comments by stating: *We have come to the conclusion that for emerging risks it is far more informative and worthwhile to do stress tests based on scenarios developed specifically for the risk. Trying to use stochastic processes on a risk that is not well understood can lead to a false sense of security and can be misleading.*



CONCLUSIONS

Emerging risks can be difficult to effectively manage. Unintended consequences and interactions with other risks are only understood in hindsight, so risk "experts" who profess complete knowledge and a cookie cutter approach should be treated with suspicion. Behavioral finance is a key to interpret emerging risks, especially the impact of anchoring. Recent concerns greatly influence future concerns. For example, as the time since the worst of the financial crisis passes, respondents seem to broaden their focus.

According to survey results, ERM is at a crossroads. Many are being asked to do more without additional funding. Some complete the bare minimum to deflect external stakeholders. Others find their efforts receiving more exposure but not in ways that add value. Happily, some best practice firms have incorporated risk into their strategic planning process. By extending their time horizon and seeking out alternative perspectives as they analyze their risk profile, this creates a competitive advantage. Current challenges like low interest rates may create an opportunity to identify bubbles and other mispriced assets and liabilities by being skeptical and studying history. As they say, history may not repeat but it often rhymes. ■