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Emerging Risks

By Max J. Rudolph, FSA CFA CERA

Each year since 2008 I have conducted a survey sponsored by the Joint Risk Management Section covering Emerging Risks. While it is interesting to compile the results and see what the group thinks, at the same time it always causes me to focus my own thoughts about emerging risks and how they should be analyzed and utilized. This year is no different.

Emerging Risks and Enterprise Risk Management

Emerging risks are a subset of enterprise risk management (ERM). There are two distinct characteristics that segment emerging risks from other ERM topics. While ERM considers all time horizons, emerging risks focus on tackling events and risks that are expected to play out over longer periods. Fire calls have short time horizons, and it is easy to spend all of our attention there. It takes discipline, and aligned incentives, to make time for issues that take years to develop. Tactical business plans may go out 3-5 years, and the risks prioritized for this time horizon differ from those with immediate needs. Emerging risks extend out to 10 years or more and interact with other risks. Correlations vary over time and occasionally spike. Incentive plans that pay bonuses that must accrue for several years are better than those with immediate payouts. Clawback options can also improve efforts to create value over longer time horizons.

Many risks are projected based on recent data, assuming that this practice does a good job of anticipating the future. This practice often ignores extreme events except in the hard market periods right after one of those extreme events occur. Emerging risks focus on the outliers of a distribution. Regulatory requirements often do not incorporate these uncommon events, cutting off their distributions and excluding extreme events, or adding something to their process in order to accommodate it.

Some will suggest that a shorter way to present this is to say that emerging risks include anything not in your model, but I think there are qualitative factors to consider as well. There also is an argument that only recent historical events are included in quantitative models, so trends and distant events are glossed over. Not everything can be measured.

Models and Regulatory Requirements

A list of emerging risks often resembles a set of current risks, but the analyst must extend the definition beyond “normal” distributions utilized by regulatory requirements. Both Basel and ORSA focus on outlier results, but use distributions that ignore extreme events. Examples would include events tied to atmospheric rivers, pandemics and other spillover diseases, as well as events that have not happened previously. We saw a great example of this when the seawall where the Japanese tsunami struck in 2011 was built to withstand the highest wall of water previously received there, and was easily surpassed.

These emerging risks could be due to evolving conditions driven by climate change (e.g., drought or more severe hurricanes) or new events like a cure of certain cancers that extend life. Events assumed to be independent can occur simultaneously (e.g., heavy rains above and an earthquake below), and deterministic stress scenarios should consider this possibility. The study of emerging risks deals primarily with extreme events as well as trends over a long time horizon. It also considers how events interact, and how that could vary and lead to unintended consequences. Today's regulatory requirements will not pick up emerging risks and so capital requirements are really anything but conservative. The problem is that most people don't know that and consider required capital to consider these tail events. They don't.

Stress Tests

Stress tests run internally by companies rarely go far enough either. There is immense political pressure to play down or ignore any scenarios that bankrupt a company and put in into insolvency. Some go so far as to use this as a reason to avoid principle-based approaches to reserves and capital. I heard about one company that designed a variable annuity hedging strategy to meet the regulatory requirements of a large drop in equity returns. They looked very well matched at that level but apparently never tested, or their management did not allow them to hedge, at levels worse than this. When markets dropped a few points more than had been tested it became a severe stress that impacted their rating. Risk managers do not go far enough in their scenarios to capture negative events. Events like the failure of antibiotics, a return of tuberculosis, melting sea ice resulting in the long sought Northwest Passage and the unexpected implications of climate change are examples of the types of scenarios that should be considered. The world is not linear. A good risk manager should look for risk and event combinations that have unintended consequences, being open to considering odd results. Some of these will be positive, but only for those who are prepared for change.

How to Succeed

The company that creates a competitive advantage through emerging risk analysis has sought out unintended consequences through correlated risks. They perform continuous environmental scanning internally, using a team with multiple perspectives toward risk and seek out external contrarians for peer review. They research historical events that have not occurred recently and interpret them in today's environment. They focus on their firm's concentrated risks, prioritizing efforts around those with the biggest potential downside while also looking at opportunities that might be presented. They avoid talking about end of the world asteroid strikes and focus on exposures they can do something about. The goal is not to predict the actual course of history but to generate potential outcomes, remaining flexible and using common sense.

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