11th Annual Survey of Emerging Risks
Key Findings

Caveat and Disclaimer
The opinions expressed and conclusions reached by the author are his own and do not represent any official position or opinion of the Canadian Institute of Actuaries, Casualty Actuarial Society, and the Society of Actuaries or their members. The Canadian Institute of Actuaries, Casualty Actuarial Society, and the Society of Actuaries make no representation or warranty to the accuracy of the information.

Copyright © 2018 Canadian Institute of Actuaries, Casualty Actuarial Society, and Society of Actuaries
# CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>4</td>
</tr>
<tr>
<td>Key Finding 1: Cyber Concerns Continue</td>
<td>5</td>
</tr>
<tr>
<td>Key Finding 2: Global Economic Outlook Good for 2018</td>
<td>8</td>
</tr>
<tr>
<td>Key Finding 3: Geopolitical Risks Lead among Categories</td>
<td>9</td>
</tr>
<tr>
<td>Key Finding 4: Emerging Risk Prioritization Varies over Longer Time Horizons</td>
<td>10</td>
</tr>
</tbody>
</table>
11th Annual Survey of Emerging Risks

Key Findings

Introduction

The 11th Survey of Emerging Risks tracks risk manager thoughts on the topic beyond the normal planning cycle and trends them over time. It is sponsored by the Joint Risk Management Section, a collaboration of the Canadian Institute of Actuaries (CIA), Casualty Actuarial Society (CAS), and Society of Actuaries (SOA). Questions are quantitative and qualitative, allowing consistency between years and evolving risk management practices to be shared. The survey responses, especially the comments, give risk managers a way to anonymously network with peers and share the new ways they are thinking about risk.

The November 2017 survey included 222 participants, with 50% having at least three years of experience as a risk manager. The anonymous online survey was primarily North America based (89%), with additional responses from Asia, Europe, South America, Africa, the Middle East, and Australia.

This report presents the major findings from the survey. The full report covering the 11th Survey of Emerging Risks with complete updates and analysis of open-ended questions will be released later in the year.
Key Finding 1: Cyber Concerns Continue

The recurring survey questions focus on four ways of looking at risk:

- Top current risk (participants vote for one)
- Top five emerging risks (vote for five)
- Top emerging risk (vote for one)
- Top emerging risk combinations (vote for three combinations of two risks)

A set of 23 risks are presented to the participants, and they can add additional risks except for the combination questions. These are grouped into five categories: Economic, Environmental, Geopolitical, Societal and Technological.

In comparing this year’s results to prior year results (see Figure 1), the Cyber/interconnectedness of infrastructure risk remained strong. This risk continued its position as the number one emerging risk across all forms of the question, staying level at 53% (when listing up to five emerging risks), top current risk (13%), top emerging risk (16%), and top combination risk (10%, in combination with another risk).¹

![Cyber/interconnectedness of infrastructure](Figure 1)

Although general consistency is found among the top risks, each year recent events highlight some while others fade. Those that drop out of the top five are monitored as contrarian indicators. This year, Financial volatility dropped out of the top five (barely), and the regional instability risk has recently

¹ Percentages for the top five emerging risks are based on the number of respondents, and so they add up to more than 100%. Other results, except for rounding, add to 100%.
returned with a vengeance, while Natural catastrophes: tropical storms and Weapons of mass destruction both responded to current events with large increases in the survey (see Table 1).

Table 1
Top Five Emerging Risks, 2014–2017

<table>
<thead>
<tr>
<th>Year</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cybersecurity/interconnectedness of</td>
<td>Cybersecurity/interconnectedness of</td>
<td>Cyber²/interconnectedness of</td>
<td>Cyber/interconnectedness of</td>
</tr>
<tr>
<td></td>
<td>infrastructure</td>
<td>infrastructure</td>
<td>infrastructure</td>
<td>infrastructure</td>
</tr>
<tr>
<td>2</td>
<td>Financial volatility</td>
<td>Financial volatility</td>
<td>Financial volatility</td>
<td>Terrorism</td>
</tr>
<tr>
<td>3</td>
<td>Terrorism</td>
<td>Terrorism</td>
<td>Terrorism</td>
<td>Technology</td>
</tr>
<tr>
<td>4</td>
<td>Regional instability</td>
<td>Asset price collapse</td>
<td>Technology</td>
<td>Regional instability</td>
</tr>
<tr>
<td>5</td>
<td>Asset price collapse</td>
<td>Regional instability</td>
<td>Retrenchment from globalization</td>
<td>Asset price collapse</td>
</tr>
</tbody>
</table>

Among other questions, the top five risks for the current survey are as follows:

**Top Current Risk**

1. Cyber/interconnectedness of infrastructure (13%)
2. Climate change (11%)
3. Asset price collapse (10%)
4. Financial volatility (9%)
5. Terrorism (6%)

² Beginning with the tenth emerging risk survey, based on respondent feedback, terminology was changed to cyber/interconnectedness of infrastructure from cybersecurity/interconnectedness of infrastructure.
Top Emerging Risk

1. Cyber/interconnectedness of infrastructure (16%)
2. Asset price collapse (12%)
3. Technology (10%)
4T. Climate change (7%)
4T. Regional instability (7%)

Top Risk Combinations

1. Cyber/interconnectedness of infrastructure and Technology
2. Asset price collapse and Financial volatility
3. Terrorism and Cyber/interconnectedness of infrastructure
4. Terrorism and Regional instability
5. Climate change and Natural catastrophe: severe weather

Results for the top five emerging risks in Figure 2 have been sorted based on the previous survey (2016) to highlight the differences in the most recent surveys.

Figure 2
Key Finding 2: Global Economic Outlook Good for 2018

Global economic expectations are higher than in the recent past, with more than 40% of respondents expecting 2018 to be good or strong (see Figure 3).

![Figure 3](image_url)

**Global Economic Expectations**

- **Strong**: 7%
- **Good**: 35%
- **Moderate**: 54%
- **Poor**: 4%
Key Finding 3: Geopolitical Risks Lead among Categories

Geopolitical category risks are higher than in 2016. Previously, surveys in this category had alternated between increases in even-numbered years and decreases in odd-numbered years. It is hypothesized that the U.S. national election cycle, the fall survey timeline, and recency bias drive these results. The increase in the category was led by Weapons of mass destruction, Regional instability, and Transnational crime and corruption.

Several risks in the economic category were materially lower than 2016, including Financial volatility (declined from 43% in 2016 to 29% in the current survey) and Energy price shock (10% to 5%).

Technology risk continues to move up the rankings, landing at number three with 38% of respondents choosing it in their top five emerging risks (see Figure 4).

![Figure 4](image-url)
**Key Finding 4: Emerging Risk Prioritization Varies over Longer Time Horizons**

Risk managers believe that Geopolitical risks are the leading category of emerging risks when asked to look out a generation, to 2050, but other categories vary materially. Both Environmental and Societal risks are considered relatively more important over longer time horizons than over shorter time horizons, likely due to longer-term trends among those categories. The Economic category is relatively less important because these risks trend to cycle over longer time periods. This result shows the importance of time horizon to the emerging risk question, encouraging respondents to think beyond the three-to-five-year period typical in tactical business planning (see Figure 5).

![Figure 5](image-url)

**Emerging Risks over a long time horizon**

- **2050:**
  - Economic: 7%
  - Environmental: 23%
  - Geopolitical: 30%
  - Societal: 16%
  - Technological: 23%
  - Other: 1%

- **2017 top:**
  - Economic: 22%
  - Environmental: 16%
  - Geopolitical: 33%
  - Societal: 10%
  - Technological: 18%
  - Other: 1%

- **2017 top 5:**
  - Economic: 18%
  - Environmental: 15%
  - Geopolitical: 34%
  - Societal: 13%
  - Technological: 19%
  - Other: 1%