



14th Annual Survey of Emerging Risks

Key Findings



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Key Findings

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Key Findings

Introduction

The *14th Survey of Emerging Risks* tracks risk-manager thoughts on the topic beyond the normal planning cycle, trending them over time and seeking strategic implications. It is sponsored by the Canadian Institute of Actuaries (CIA), the Casualty Actuarial Society (CAS), and the Society of Actuaries (SOA). Questions are both quantitative and qualitative, enabling consistency from year to year and allowing evolving risk management practices to be shared. The survey responses, especially the comments, give risk managers a way to network anonymously with peers and share the new ways they are thinking about risk.

Respondents are asked to choose the top current risk, top five emerging risks, top emerging risks, and three sets of two-risk combinations from a list of 23 risks that have been allocated to five categories.¹ The categories include economic, environmental, geopolitical, societal, and technological risks. The survey goes on to ask questions about practices related to leading risk indicators, enterprise risk management, and current topics. Open-ended qualitative questions are often used to compile current thoughts about risk management practices directly from risk managers.

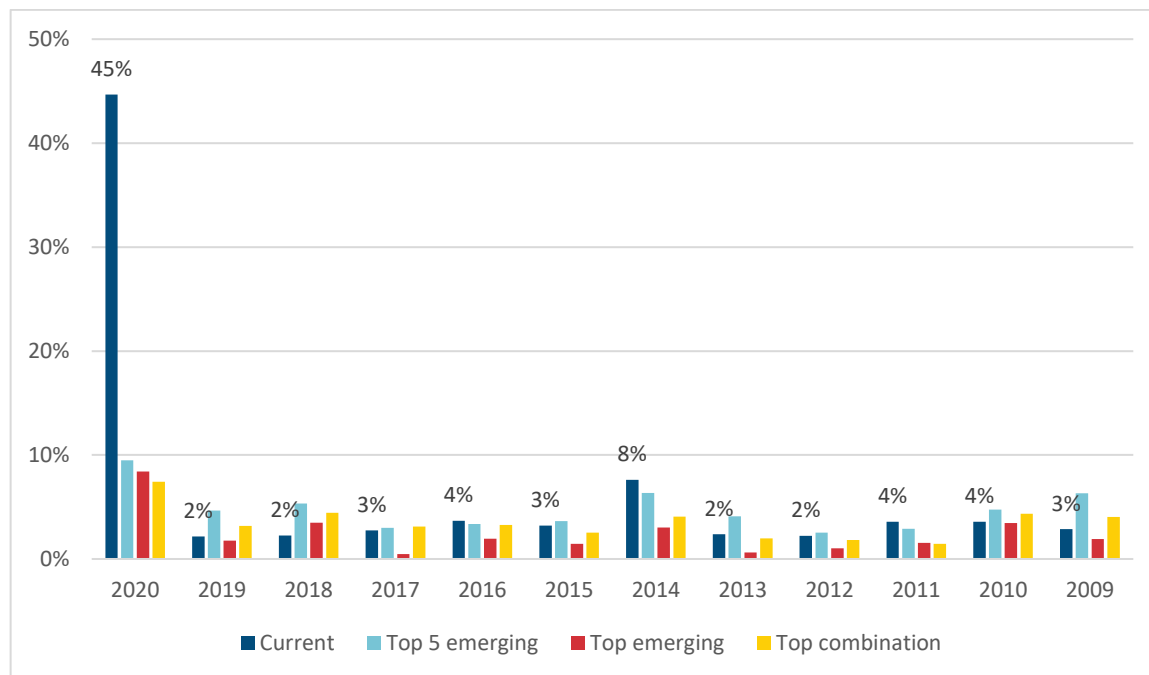
The survey, completed in November 2020, included 188 participants. The anonymous online survey was primarily North America-based (89%), with additional responses from Europe, Asia, Australia/Pacific, South America, Africa, and the Middle East.

Not surprisingly, the current survey saw a surge in responses to the Pandemics/infectious diseases risk. It is now top ranked when respondents are asked about the top current risk with 45% selecting it. Going back to 2009, when the question about current top risk was added, Figure 1 shows that previous pandemics of H1N1 influenza in 2009 and Ebola in 2014 did not connect with respondents as strongly as COVID-19. This is not surprising as recent pandemics had little financial impact in the developed world, and lockdowns of various length have been common in 2020.

¹ A glossary of risks and definitions are provided to respondents and are replicated in Appendix I.

Figure 1

PANDEMICS/INFECTIOUS DISEASES – HISTORICAL RESULTS, 2009–2020



This report presents the major findings from the survey. The full report covering the *14th Survey of Emerging Risks*, with complete updates and analysis of open-ended questions, will be released later in the year.

Key Finding 1: Risk managers focus concerns on pandemic, climate, and disruptive technology risks

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); and
- Top emerging risk combinations (vote for three combinations of two risks).

A set of 23 risks is 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.

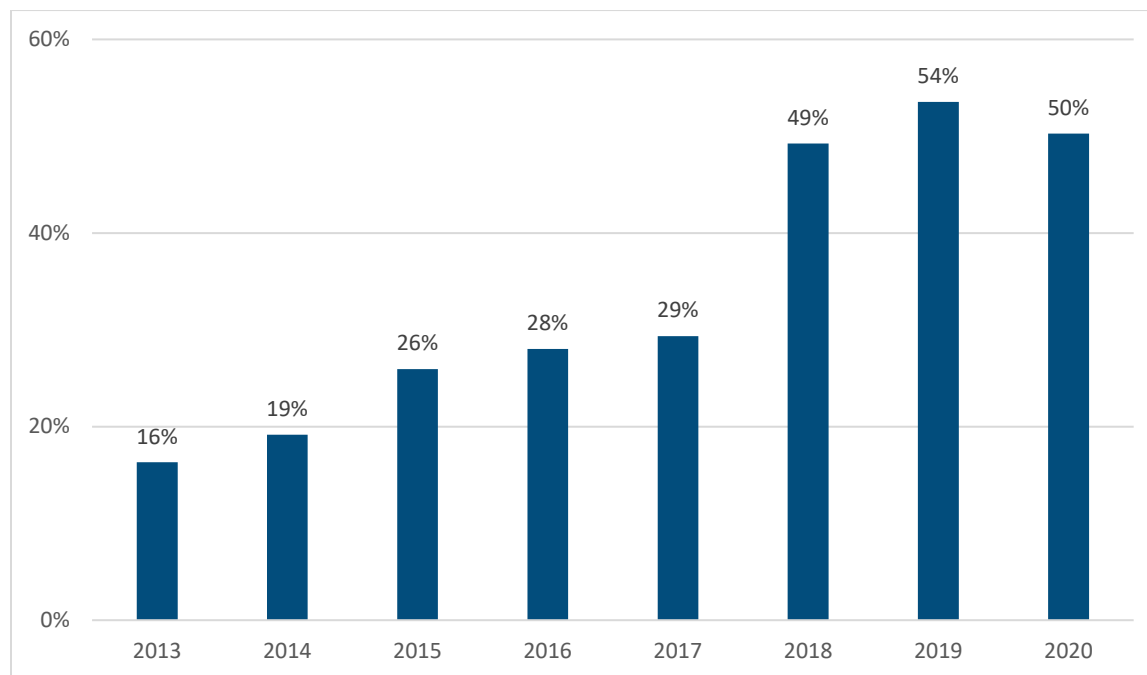
The year 2020 has provided risk managers with much to think about, so much so that the record setting tropical storm and wildfire seasons went virtually unnoticed by respondents, overshadowed by events such as the coronavirus pandemic, market volatility, and one of the warmest years in recent history. Climate change maintained its lead in three of the four survey questions, but Pandemics/infectious diseases increased its current risk result from 2% in the previous survey to a leading result with 45% (second place is Climate change with 11%) and now is in the top five for each question. The Climate change risk has stabilized, as shown for the top five emerging risks question in Figure 2, dropping slightly to 50%. It was also the highest response for top emerging risk (26%) and

combination risk (9% of all the risks chosen, in combination with another risk).² Disruptive technology risk continues its rise and can be found in the top five for all questions except current risk. Its rise for the top emerging risk question, where it ranks second, can be seen in Figure 3. Cyber/networks risk has fallen out of the top five for top emerging risk as risk managers seem more comfortable managing the risk within their recurring process, but it remains a popular choice across all questions.

The top current risk is Pandemics/infectious diseases (45%), followed by Climate change (11%) and Financial volatility (6%), with Wars (including civil wars) tied with Cyber/networks (4%). Respondents have spread out the top five current risks across all five categories.

Figure 2

CLIMATE CHANGE – TOP FIVE EMERGING RISKS, 2013–2020

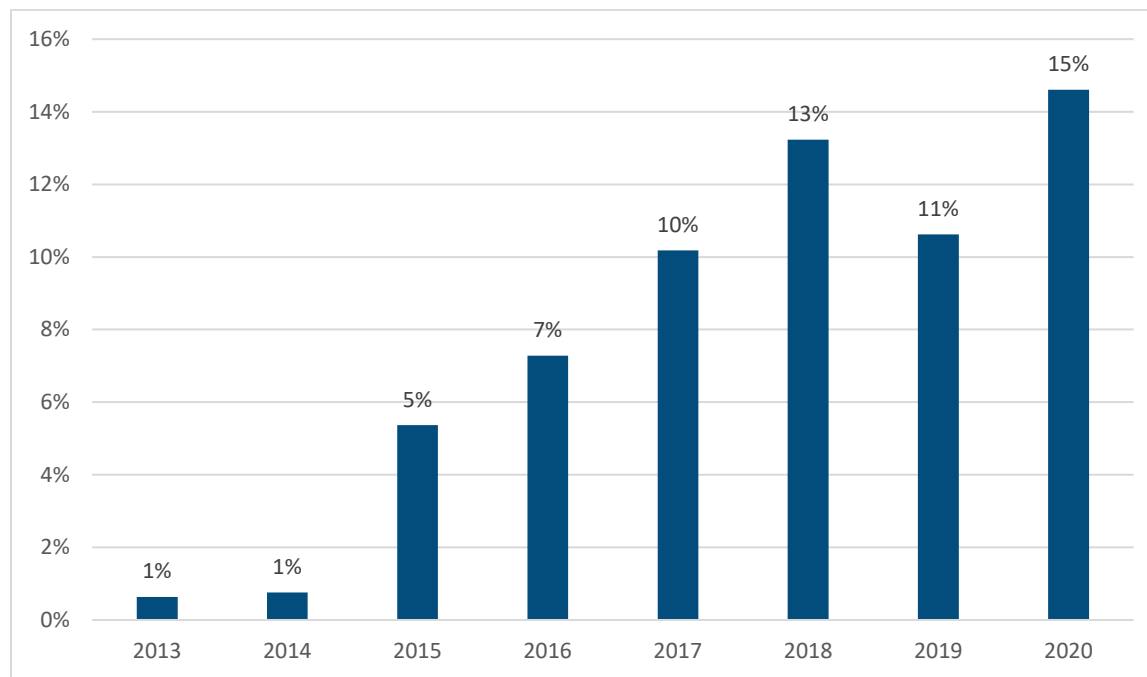


As a risk manager might expect when thinking about emerging risks, the Pandemic/infectious diseases response spiked most for the current risk question, while the responses for most questions changed less than prior surveys. For the top emerging risk question increases of at least 3% were tallied by only Pandemics/infectious diseases and Disruptive technology, while decreases of at least 3% were recorded by Asset price collapse and Cyber/networks.

² Percentages for the top five emerging risks are based on the number of respondents, so they add up to more than 100%. Other results, except for rounding, total 100%.

Figure 3

DISRUPTIVE TECHNOLOGY – TOP EMERGING RISK, 2013–2020



The top two choices were stable for the top five emerging risks question. The names of the risks evolved slightly when compared to 2019 results, with Demographic shift replaced in the top five by Pandemics/infectious diseases (see Table 1).

Table 1

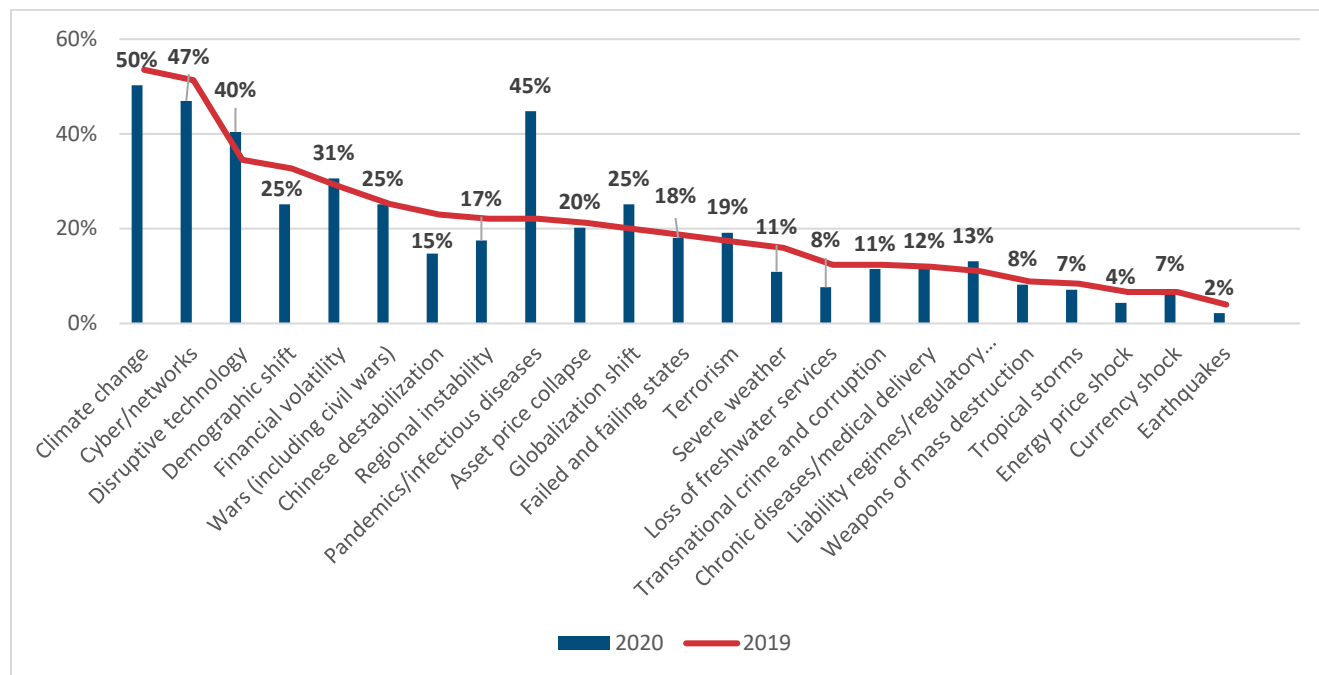
TOP FIVE EMERGING RISKS, 2017–2020

Year	2017	2018	2019	2020
1	Cyber/networks	Cyber/networks	Climate change	Climate change
2	Terrorism	Climate change	Cyber/networks	Cyber/networks
3	Disruptive technology	Disruptive technology	Disruptive technology	Pandemics/infectious diseases
4	Regional instability	Demographic shift	Demographic shift	Disruptive technology
5	Asset price collapse	Financial volatility	Financial volatility	Financial volatility

Results for the top five emerging risks in Figure 4 have been sorted based on the previous survey (2019) to highlight the differences in the most recent survey. Labels reflect the 2020 results. As shown in Figure 4, the largest move in this iteration of the survey was the Pandemics/infectious diseases move discussed earlier.

Figure 4

YEAR-OVER-YEAR EMERGING RISKS (UP TO FIVE RISKS CHOSEN PER SURVEY)



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

Top Current Risk

1. Pandemics/infectious diseases (44.7%)
2. Climate change (11.2%)
3. Financial volatility (5.9%)
4. Wars (including civil wars) (4.3%)
4. Cyber/networks (4.3%)

Top Emerging Risk

1. Climate change (25.8%)
2. Disruptive technology (14.6%)
3. Pandemics/infectious diseases (8.4%)
4. Financial volatility (6.7%)
5. Wars (including civil wars) (5.1%)
6. Globalization shift (5.1%)

Top Risk Combination (respondents are asked to provide three combinations of two risks – ranking shows which risks were chosen most)

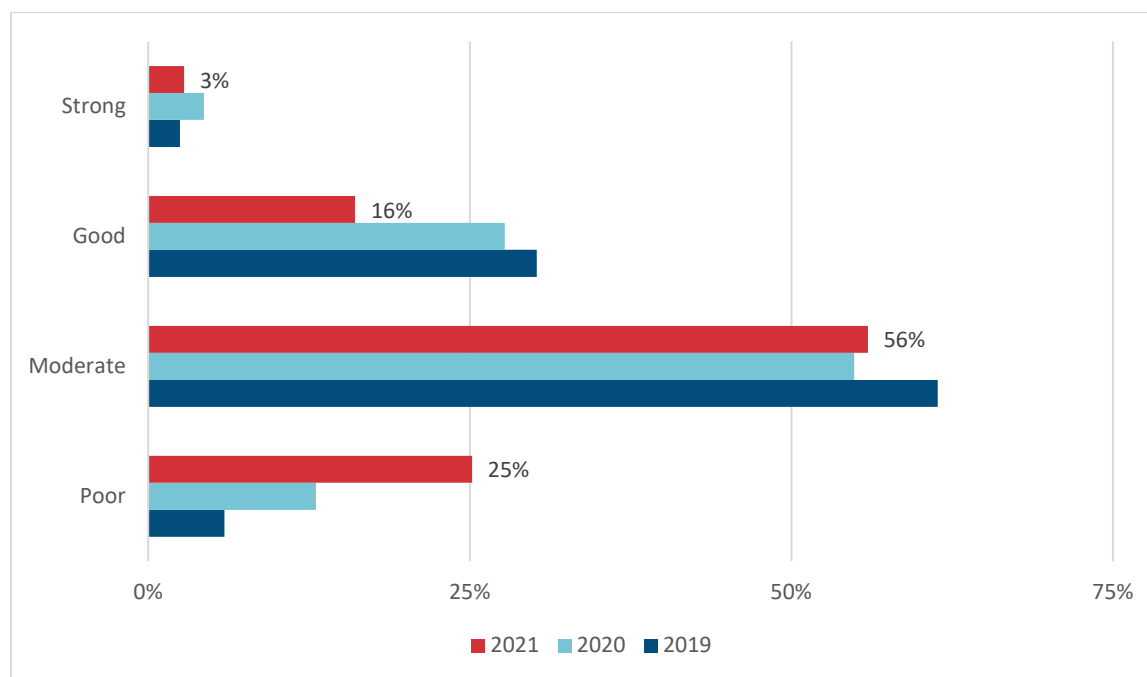
1. Climate change (9.2%)
2. Financial volatility (8.9%)
3. Cyber/networks (8.3%)
4. Pandemics/infectious diseases (7.4%)
5. Disruptive technology (6.7%)
5. Wars (including civil wars) (6.7%)

Key Finding 2: Global Economic Outlook – Challenges Continue in 2021

Global economic expectations are down, with more respondents having negative views compared to the previous survey. Nearly 20% of respondents expect 2021 to be good or strong (see Figure 5), but 25% have poor expectations for the global economy. This could reflect the economic uncertainty resulting from the pandemic as well as high debt levels.

Figure 5

GLOBAL ECONOMIC EXPECTATIONS

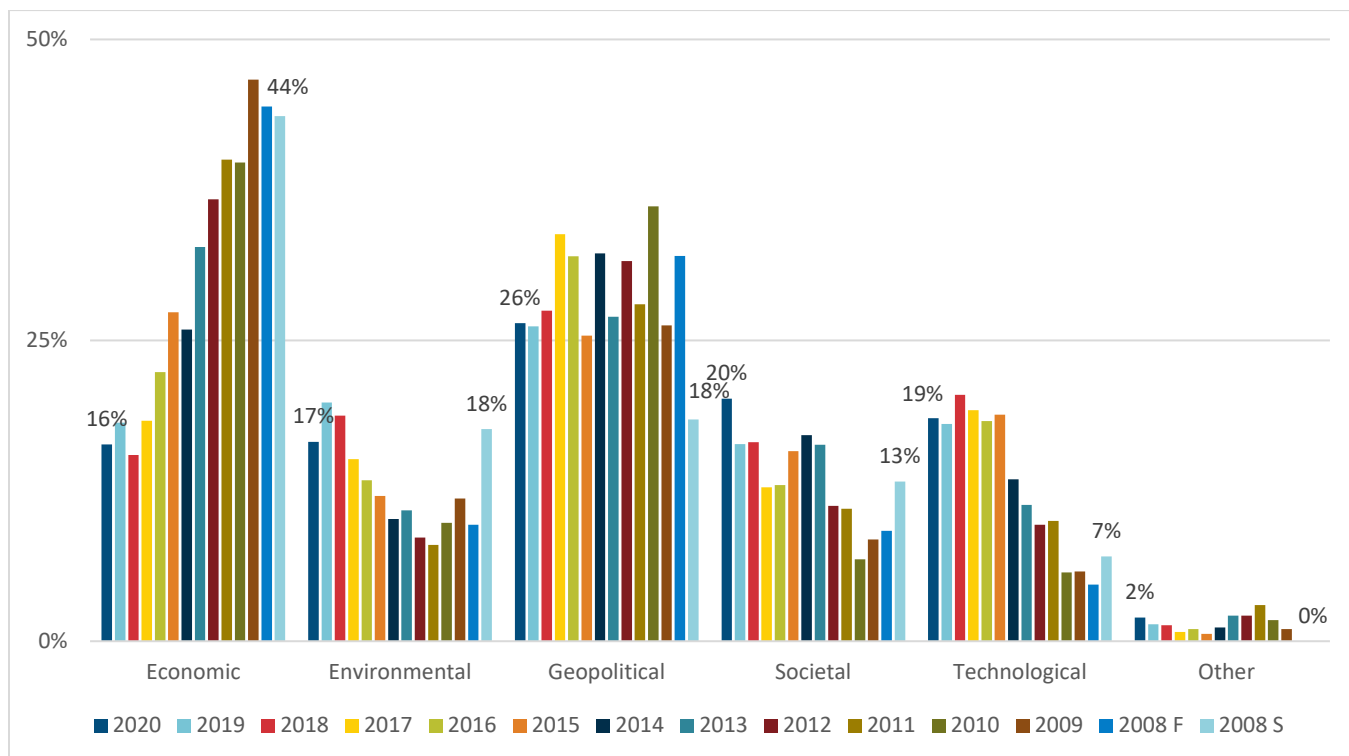


Key Finding 3: Geopolitical Risks Lead among Categories, Societal Risks Trend Up

Emerging risks in the geopolitical category were stable compared to 2019 when choosing five emerging risks (see Figure 6), but it remains the leading risk category while the societal category had the only material increase (led by Pandemics/infectious diseases). Risks in the economic and environmental categories were both lower (only Chinese destabilization decreased by as much as 2%), and technological risks increased (due to a 2% increase in the Disruptive technology risk).³ Including all data points in this figure helps to put survey trends into perspective against the time frame. For example, the economic category peaked during the global financial crisis and has generally fallen since then, while technological-, societal-, and environmental-category risks have increased.

Figure 6

EMERGING RISKS BY CATEGORY (UP TO FIVE RISKS CHOSEN PER SURVEY)



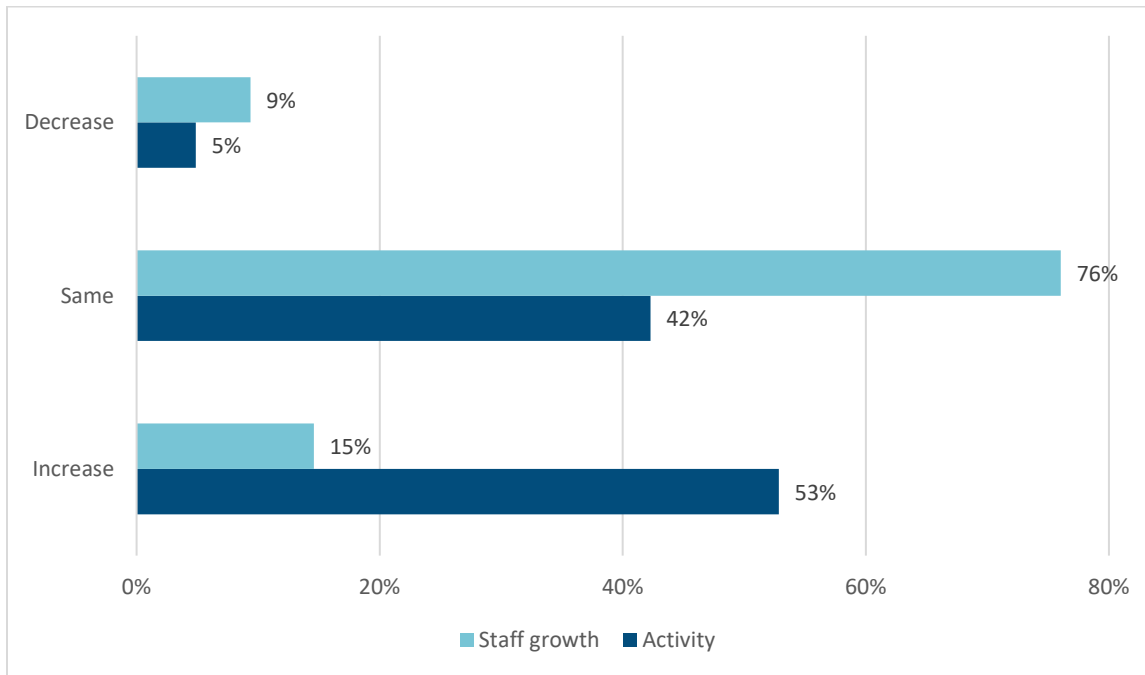
³ The current survey is the 14th version of the survey. The survey was completed twice in 2008 (spring, fall) and then annually.

Key Finding 4: Risk Managers asked to do more with fewer resources

Risk managers, like many employees in 2020, were asked to accomplish more with less. While 53% of the respondents, as shown in Figure 7, reported increased activity (and only 15% saw their staff size grow) in 2020, 38% expected that trend to continue into 2021. Despite the challenging risk environment, 9% experienced reduced staff in 2020 and 10% expect funding to fall in 2021. Risk managers are being asked to cut corners at the very time their skill set is most needed.

Figure 7

2020 RISK MANAGER WORKLOAD



Appendix I: Glossary of 23 Risks and 5 Categories

Economic Risks

- Energy price shock—Energy prices change abruptly.
- Currency shock—Material disruptions to currency equilibrium. Central banks may engage in currency wars.
- Chinese destabilization—China’s economic growth slows, potentially as a result of protectionism, demographics, internal political, or economic difficulties.
- Asset price collapse—The value of assets such as housing and equities collapses.
- Financial volatility—Price instability and extremes of sectors, including commodities, equities, or interest rates.

Environmental Risks

- Climate change—Change in climate patterns generates both extreme events and gradual changes, impacting infrastructure, agricultural yields, ecosystem biodiversity (e.g., insects, shellfish), and human lives. (Drivers include, but are not limited to, space weather and human influence.)
- Loss of freshwater services—Water shortages impact agriculture, businesses, and human lives. (Drivers include, but are not limited to, climate change and human influence.)
- Natural catastrophe: tropical storms—Hurricanes and typhoons lead to disruption, catastrophic economic losses, and/or high human loss of life.
- Natural catastrophe: earthquakes—Strong seismic/volcanic activity leads to disruption, catastrophic economic losses, and/or high human loss of life.
- Natural catastrophe: severe weather—Meteorological phenomena lead to disruption, catastrophic economic losses, and/or high human loss of life. Includes inland flooding, tornados, thunderstorms, drought, wildfires, high winds, snowstorms, and dust storms.

Geopolitical Risks

- Terrorism—Attacks lead to disruption, catastrophic economic losses, and/or high human loss of life.
- Weapons of mass destruction—Nuclear, biological, radiological, or chemical technologies are held by unstable groups, leading to disruption, catastrophic economic losses, and/or high human loss of life.
- Wars (including civil wars)—Wars erupt between or within countries, leading to disruption, catastrophic economic losses, and/or high human loss of life.
- Failed and failing states—The trend of a widening gap between order and disorder, or widening social rifts.
- Transnational crime and corruption—Corruption continues to be endemic, and non-state entities successfully penetrate the global economy.
- Globalization shift—Preference changes to imports and immigration. Populism, political uncertainty, and trade wars. Countries retrench and become more nationalistic and protectionist, or open up their economies to outsiders. Inequality and food insecurity challenge the concept of fairness and egalitarianism.
- Regional instability—Certain unstable areas may cause widespread political and other crises.

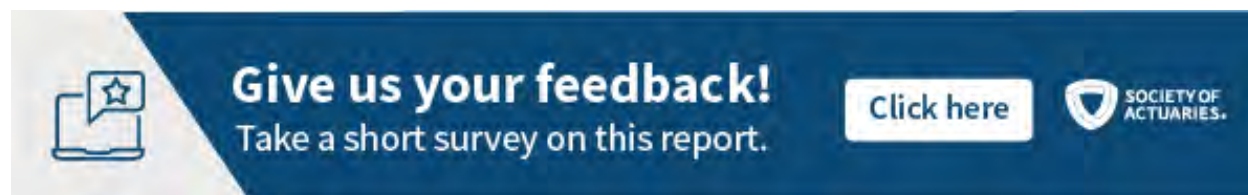
Societal Risks

- Pandemics/infectious diseases—A pandemic emerges with high mortality/incidence of diseases such as HIV/AIDS, Ebola, coronavirus, or influenza. Antimicrobial resistance becomes common.
- Chronic diseases/medical delivery—Diseases such as obesity, diabetes and cardiovascular become widespread. Material changes to medical delivery.
- Demographic shift—Evolving populations (e.g., age, size, race, migration trends) drive changes in economic growth and levels of government intervention.

- Liability regimes/regulatory framework—Costs increase faster than GDP, with increases in the spread and size of litigiousness (i.e., social inflation) and speed of regulatory revisions.


Technological Risks

- Cyber/networks—A major disruption of the availability, reliability and resilience of critical information infrastructure caused by cyber risks, terrorist attack, or technical failure. Results are felt in major infrastructure: power distribution, water supply, transportation, telecommunication, emergency services, and finance.
- Disruptive technology—Unintended consequences of technology lead to disruption and/or catastrophic economic losses (e.g., drones, self-driving cars, additive manufacturing, the internet of things, nanoparticles).



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