

Executive Summary

The World Economic Forum's *Global Risks 2013* report is developed from an annual survey of more than 1,000 experts from industry, government, academia and civil society who were asked to review a landscape of 50 global risks.

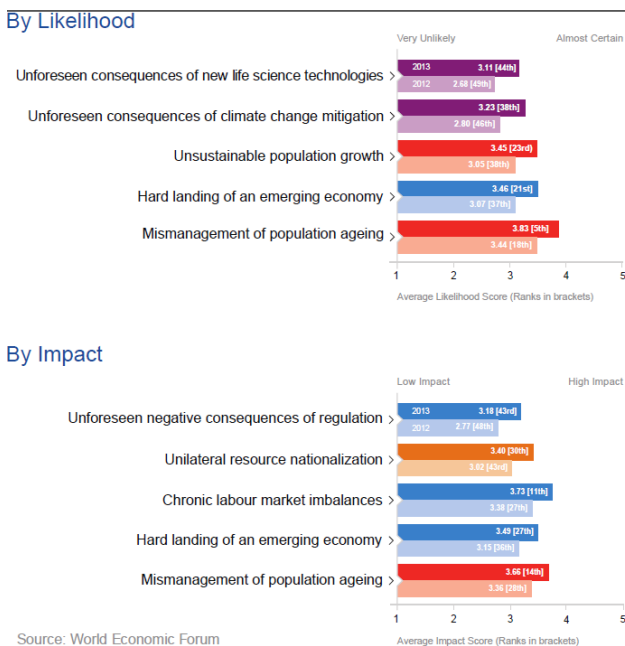
The global risk that respondents rated most likely to manifest over the next 10 years is *severe income disparity*, while the risk rated as having the highest impact if it were to manifest is *major systemic financial failure*. There are also two risks appearing in the top five of both impact and likelihood – *chronic fiscal imbalances* and *water supply crisis* (see Figure 4).

Figure 4: Top Five Risks by Likelihood and Impact



Source: World Economic Forum

Figure 5: Top Five Changes by Likelihood and Impact



Source: World Economic Forum

Source: World Economic Forum

Unforeseen consequences of life science technologies was the biggest mover among global risks when assessing likelihood, while *unforeseen negative consequences of regulation* moved the most on the impact scale when comparing the result with last year's (see Figure 5).

Three Risk Cases

The report introduces three risk cases, based on an analysis of survey results, consultation with experts and further research. Each case represents an interesting constellation of global risks and explores their impact at the global and national levels. The three risk cases are:

Testing Economic and Environmental Resilience

Continued stress on the global economic system is positioned to absorb the attention of leaders for the foreseeable future. Meanwhile, the Earth's environmental system is simultaneously coming under increasing stress. Future simultaneous shocks to both systems could trigger the "perfect global storm", with potentially insurmountable consequences. On the economic front, global resilience is being tested by bold monetary and austere fiscal policies. On the environmental front, the Earth's resilience is being tested by rising global temperatures and extreme weather events that are likely to become more frequent and severe. A sudden and massive collapse on one front is certain to doom the other's chance of developing an effective, long-term solution. Given the likelihood of future financial crises and natural catastrophes, are there ways to build resilience in our economic and environmental systems at the same time?

Digital Wildfires in a Hyperconnected World

In 1938, thousands of Americans confused a radio adaptation of the H.G. Wells novel *The War of the Worlds* with an official news broadcast and panicked, in the belief that the United States had been invaded by Martians. Is it possible that the Internet could be the source of a comparable wave of panic, but with severe geopolitical consequences? Social media allows information to spread around the world at breakneck speed in an open system where norms and rules are starting to emerge but have not yet been defined. While the benefits of our hyperconnected communication systems are undisputed, they could potentially enable the viral spread of information that is either intentionally or unintentionally misleading or provocative. Imagine a real-world example of shouting "fire!" in a crowded theatre. In a virtual equivalent, damage can be done by rapid spread of misinformation even when correct information follows quickly. Are there ways for generators and consumers of social media to develop an ethos of responsibility and healthy scepticism to mitigate the risk of digital wildfires?

The Dangers of Hubris on Human Health

Health is a critical system that is constantly being challenged, be it by emerging pandemics or chronic illnesses. Scientific discoveries and emerging technologies allow us to face such challenges, but the medical successes of the past century may also be creating a false sense of security. Arguably, one of the most effective and common means to protect human life – the use of antibacterial and antimicrobial compounds (antibiotics) – may no longer be readily available in the near future. Every dose of antibiotics creates selective evolutionary pressures, as some bacteria survive to pass on the genetic mutations that enabled them to do so. Until now, new antibiotics have been developed to replace older, increasingly ineffective ones. However, human innovation may no longer be outpacing bacterial mutation. None of the new drugs currently in the development pipeline may be effective against certain new mutations of killer bacteria that could turn into a pandemic. Are there ways to stimulate the development of new antibiotics as well as align incentives to prevent their overuse, or are we in danger of returning to a pre-antibiotic era in which a scratch could be potentially fatal?

Special Report: National Resilience to Global Risks

This year's Special Report examines the difficult issue of how a country should prepare for a global risk that is seemingly beyond its control or influence. One possible approach rests with "systems thinking" and applying the concept of resilience to countries. The report introduces five components of resilience – robustness, redundancy, resourcefulness, response and recovery – that can be applied to five country subsystems: the economic, environmental, governance, infrastructure and social. The result is a diagnostic tool for decision-makers to assess and monitor national resilience to global risks.

X Factors from *Nature*

Developed in partnership with the editors of *Nature*, a leading scientific journal, the chapter on "X Factors" looks beyond the landscape of 50 global risks to alert decision-makers to five emerging game-changers:

- **Runaway climate change:** It is possible that we have already passed a point of no return and that Earth's atmosphere is tipping rapidly into an inhospitable state.
- **Significant cognitive enhancement:** Ethical dilemmas akin to doping in sports could start to extend into daily working life; military arms races could also ensue.
- **Rogue deployment of geoengineering:** Technology is now being developed to manipulate the climate; a state or private individual could use it unilaterally.
- **Costs of living longer:** Medical advances are prolonging life, but long-term palliative care is expensive. Covering the costs associated with old age could be a struggle.
- **Discovery of alien life:** Proof of life elsewhere in the universe could have profound psychological implications for human belief systems.

The *Global Risks* report is the flagship research publication of the World Economic Forum's Risk Response Network, which provides an independent platform for stakeholders to explore ways to collaborate on building resilience to global risks. Further information can be found at www.weforum.org/risk.

The Evolving Risk Landscape

How do the top risks as identified by the annual Global Risks Perception Survey change over time? Figure 6 shows how this list changed over the past seven years. The average ratings of the risks have changed slightly, as described in detail in Section 4 of the report, but the relative ranking of the risks according to their impact or their likelihood is less affected. Interestingly, the *diffusion of weapons of mass destruction* has moved into the top five risks in terms of impact.¹

Figure 6: Top Five Global Risks in Terms of Impact and Likelihood, 2007-2013

Top 5 Global Risks in Terms of Likelihood

	2007	2008	2009	2010	2011	2012*	2013*
1st	Breakdown of critical information infrastructure	Asset price collapse	Asset price collapse	Asset price collapse	Meteorological catastrophes	Severe income disparity	Severe income disparity
2nd	Chronic disease in developed countries	Middle East instability	Slowing Chinese economy (<6%)	Slowing Chinese economy (<6%)	Hydrological catastrophes	Chronic fiscal imbalances	Chronic fiscal imbalances
3rd	Oil price shock	Failed and failing states	Chronic disease	Chronic disease	Corruption	Rising greenhouse gas emissions	Rising greenhouse gas emissions
4th	China economic hard landing	Oil and gas price spike	Global governance gaps	Fiscal crises	Biodiversity loss	Cyber attacks	Water supply crises
5th	Asset price collapse	Chronic disease developed world	Retrenchment from globalization (emerging)	Global governance gaps	Climatological catastrophes	Water supply crises	Mismanagement of population aging

Top 5 Global Risks in Terms of Impact

	2007	2008	2009	2010	2011	2012*	2013*
1st	Asset price collapse	Asset price collapse	Asset price collapse	Asset price collapse	Fiscal crises	Major systemic financial failure	Major systemic financial failure
2nd	Retrenchment from globalization	Retrenchment from globalization (developed)	Retrenchment from globalization (developed)	Retrenchment from globalization (developed)	Climatological catastrophes	Water supply crisis	Water supply crisis
3rd	Interstate and civil wars	Slowing Chinese economy (<6%)	Oil and gas price spike	Oil price spikes	Geopolitical conflict	Food shortage crisis	Chronic fiscal imbalances
4th	Pandemics	Oil and gas price spike	Chronic disease	Chronic disease	Asset price collapse	Chronic fiscal imbalances	Food shortage crisis
5th	Oil price shock	Pandemics	Fiscal crises	Fiscal crises	Extreme energy price volatility	Extreme volatility in energy and agriculture prices	Diffusion of weapons of mass destruction

Key: ■ Economic ■ Environmental ■ Geopolitical ■ Societal ■ Technological

Source: World Economic Forum

¹ *The survey methodology changed significantly after the 2011 report. In contrast to the years 2007 to 2011, the list of 50 risks that was assessed by the survey did not change in 2012 and 2013.