

Too big to ignore: Global risk perception gaps between scientists and business-leaders

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Abstract

As we enter a critical decade that will define our planetary security, two major surveys on the global risks humanity faces have been published just recently. Together these surveys highlight the magnitude and interconnectedness of risks unfolding over the coming years. But what is most striking between these surveys is the wide divergence in the way the two different expert communities surveyed for the respective reports perceive the urgency of key risks (i.e. their likelihood and potential impact). As risk perceptions shape decisions, it's critical to understand why they diverge and how this diversity can foster collective action.

The World Economic Forum (WEF) has just released its Global Risk Report for 2019-2020, based on a survey of global leaders, primarily from business, on their perceptions of global risks spanning environmental, societal, geopolitical, technological, and economic dimensions. For the past 15 years these reports have proven central to shaping narratives on global risks at the highest echelons as world leaders and private sector CEOs convene each year in Davos, Switzerland to discuss ways to address increasingly complex, interconnected global risks. Most notably, these WEF reports have shown a steady rise in risk perceptions related to climate and water, which are ranked among the most likely threats with the biggest impact. Yet, a new global survey suggests that the business community perceives these risks as significantly less urgent than the scientific community. This gap in risk perception may be hampering collective action.

Future Earth, an international network of researchers for sustainability, recently completed a large-scale survey of global change scientists from around the globe on their perceptions of global risks. This survey was designed to complement the WEF report by expanding the circle of perspectives and expertise, an effort we believe is critical for addressing the increasingly complex global risks of today. Together, these parallel surveys raise important questions for decision-makers seeking to design risk-mitigating actions: Why is there such disagreement on global risks among scientists and business leaders? How should policy most effectively respond given these differences in perceptions?

Mind the Gap: Differences in the current perception of global systemic risks

Comparing results from our new survey of scientists (Future Earth 2020, *forthcoming*) with those of the WEF 2020 Global Risks Report (WEF 2020) reveals striking similarities and important differences that together highlight challenges society faces in its efforts to build resilience. Across the two surveys¹, both business leaders and global change scientists perceived many of the top global risks to be the same – climate change, extreme weather, biodiversity loss, and water crises. This agreement is in itself noteworthy. Concern about environmental risks has increased significantly among respondents to the WEF Global Risk Perception Surveys in recent years (Nature Climate Change 2016). In both surveys, environmental risks are followed in importance by more mixed perceptions of risk around geopolitical, economic, and technological dimensions (see Figure 1 for individual risks within each category), although societal risks are also highly ranked in the Future Earth survey. This general agreement in relative ranking of different risks provides an important common starting point for joint priority- and agenda-setting within broader societal and political debates. *However*, a closer look at how each community perceives these risks shows that there are strong differences. Specifically, global change scientists perceive the likelihood and impact of global risks as significantly higher compared to perceptions of business leaders (see Figure 1).

¹ In order to achieve comparability, Future Earth used the scale and identified risks from the WEF's Global Risk Report as starting point for the survey. See <https://grsp2019.futureearth.org/> for more details on the Future Earth survey and http://www3.weforum.org/docs/WEF_Global_Risk_Report_2020.pdf on the WEF survey.

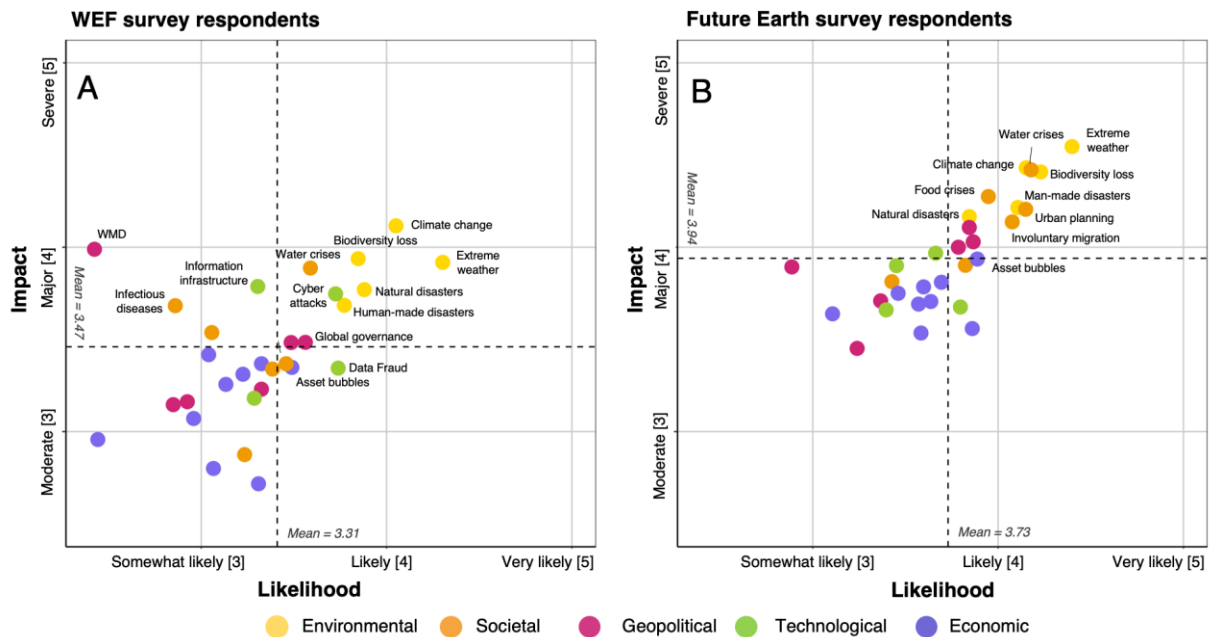


Figure 1. Perceived impact and likelihood of risks over the next 10 years in the (A) WEF and (B) Future Earth surveys (own figure, using data published in WEF 2020, left panel, and Future Earth 2020, *forthcoming*, right panel). Only the top 10 risks for likelihood and impact are labelled from each survey.

The 2019 and 2020 Global Risk Report found were surprising similar in their composition of respondents and analysis of the risk landscapes. Drawing on available disaggregated data from the 2018-2019 Global Risk Report (WEF 2019a) to unpack findings by sector clearly shows that, overall, business respondents assume a lower likelihood and impact of risks as compared to their non-business peers within the WEF survey (i.e. civil society, academia, NGOs and government), and the differences are even greater when compared to global change scientists' perceptions from the Future Earth survey (see Figure 2). This difference between the business community and global change scientists is particularly significant for the environmental, societal risks, geopolitical, and economic risks.

These are concerning findings. They show that decision-makers, particularly business leaders, in particular tend to perceive environmental and societal risks as less urgent than global change scientists, and thus may be less likely to take measures to address and mitigate them.

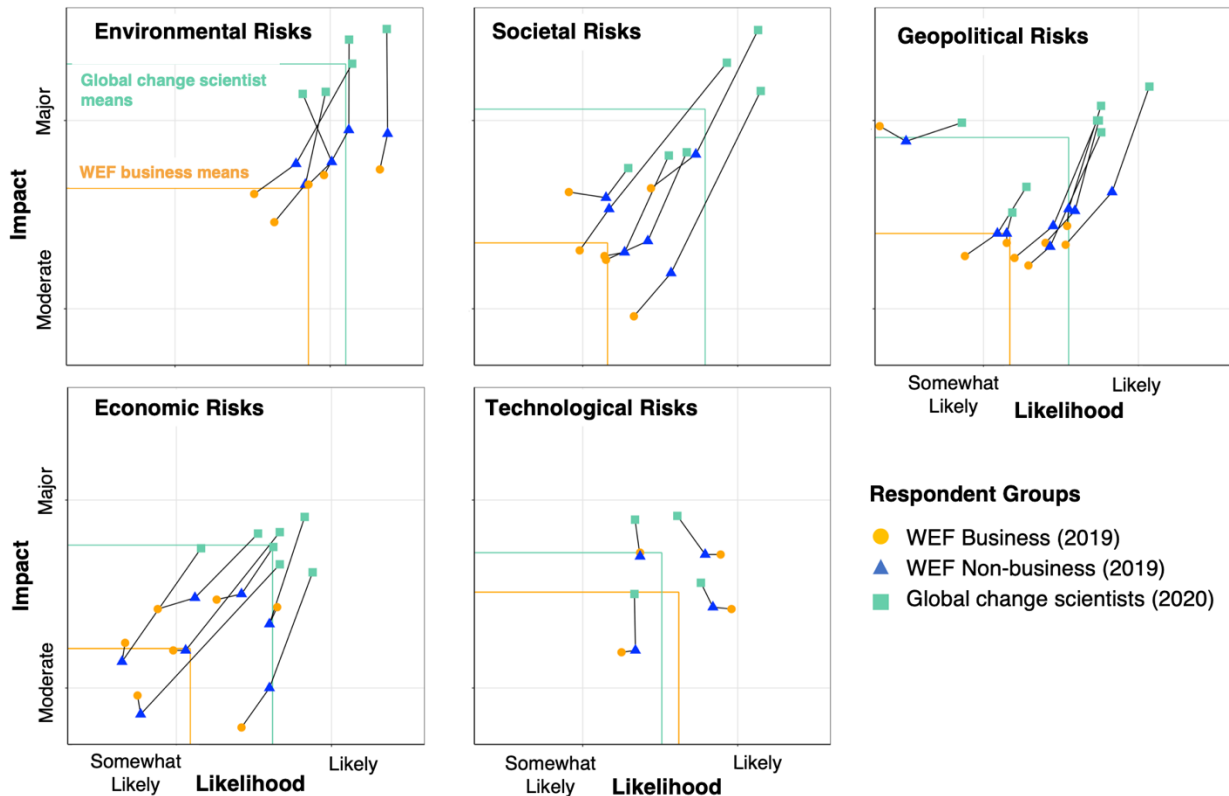


Figure 2. Comparison of mean ranking of WEF Business respondents (orange circle), WEF Non-business respondents (blue triangle), and Future Earth Global change scientists (turquoise square) for the 30 global risks, disaggregated by environmental, societal, geopolitical, economic, and technological risk types. We contrast data from the Future Earth 2020 survey with disaggregated data available from the WEF 2018-2019 Global Risk Report (WEF 2019b). Across almost all risks, the WEF Non-business respondents and Future Earth Global change scientists rank the likelihood and the impact of risks higher than Business respondents. Colored lines indicate averaged scores for different respondent groups.

Shared sense of risk as prerequisite for collective action

Significant research has shown that risk perception is a key determinant of action for risk reduction (Renn 2017; Ostrom 1990). Due to the scale and scope of impact presented by global risks, collective action involving multiple stakeholders across sectors, scales, and countries is needed for effective global risk reduction and resilience-building. This will only come about when stakeholders have a shared sense of risk and jointly consider these risks to be urgent problems (Ötcher-Robe 2014). We have witnessed how global collective action and coordinated efforts have succeeded, for example in reversing the ozone hole (Strahan 2018). This success happened through the engagement of scientists in the identification of the causes and effects of the global problem, the coordinated effort of governments in developing policies and implementation instruments, business efforts to create acceptable alternatives to ozone-destroying chlorofluorocarbons, and the leadership of the United Nations Environment Program.

We argue that without a common and shared sense of urgency among business leaders, scientists, and other stakeholder groups, it will continue to be difficult to mobilize the joint action needed, at scale, to address global risks and build long-term resilience. This is because policy-makers design interventions based on a combination of scientific understanding as well as societal pressure and the economic viability of alternative pathways. Inputs across these sectors are therefore critical to co-creating knowledge and designing robust and acceptable action plans.

Call to Action: Co-create more robust risk assessments and strategic futures analysis to facilitate collective action

As global risks become increasingly complex, the world cannot rely on a single community to accurately and legitimately appraise the risks to people and the planet. A diversity of perspectives is needed when identifying and weighing alternative pathways to deal with new types of anthropogenic risks – those that “emerge from human-driven processes; interact with global social–ecological connectivity; and exhibit complex, cross-scale relationships” (Keys et al. 2019). It is essential, however, that multiplicity not simply lead to a cacophony of diverging risk perceptions which could actually impede action. Rather, a range of perspectives must be collected to better understand challenges and to drive strategies to converge around solutions. We argue here for two areas to enable convergence on robust solutions for mitigating global risks.

First, there is a need to **co-create more robust multi-stakeholder risk perception assessments**. To this end, new arenas are needed in which political decision-makers who set frameworks for collective risk reduction can work together with other stakeholders to assess risk perceptions and articulate visions of the future. The WEF survey has a long history of engaging a diverse group of global leaders, primarily from the business community. The new Future Earth survey expands this assessment by convening the multiplicity of voices within the global change research community. It is clear, however, that we must move beyond synthesizing different perspectives and begin learning and co-creating a path forward, as recent IPCC and IPBES reports have shown.

Breaking down barriers erected by community silos will be essential to co-creating more robust risk assessments. In order to support multi-stakeholder risk perception assessments, we need to better understand why business leaders and global change researchers agree on ranking of different risk types but have different perceptions on the urgency of risks, namely their impact and likelihood. Does the private sector discount future risks differently from scientists? Are available risk assessments, such as those published by the IPCC and IPBES, differently perceived and contextualized? And is one perception more accurate or more compelling than the other? A significant body of research on the predictors of risk perceptions exists which can provide important insights on these questions (e.g. Slovic, 1987; Fischhoff, 1995; Renn, 2017).

Secondly, we must **develop and support approaches to enable diverse stakeholders to collaborate in futures analyses**. Global risks are unfolding quickly and tapping into different perspectives and perceptions is critical to building effective strategies for collective action. Research suggests that foresight processes that include more diverse perspectives on the future can have stronger impacts on political and policy choices in the near-term (Vervoort and Gupta, 2018).

New qualitative approaches to futures analyses that include scenarios, strategic foresight, and online collaboration processes have proven to be promising avenues for bringing together pluralistic perspectives needed to tackle global risks (Pendleton-Jullian and Seely Brown 2018). One innovative example in this area is Futures CoLab, a project that brings together an international network of diverse experts to collaborate in online facilitated dialogues to better understand and explore solutions to global risks. Recently, Futures CoLab teamed up with the ClimateWorks Foundation to leverage the collective intelligence of over 150 experts, from a range of sectors and world regions, to explore possible futures that could influence philanthropic investments in climate mitigation strategies (Futures CoLab and ClimateWorks Foundation, 2018). Multi-stakeholder approaches to strategic foresight present opportunities to view alternative futures through the diversity of perspectives on the risks and opportunities needed to co-create robust risk mitigation strategies.

Risk perception is a key determinant of action for risk reduction (Renn 2017; Ostrom 1990). Yet, the precise level of shared risk perception that is needed to tip society towards collective action remains unknown. What is clear, however, is that the gaps observable in current risk perceptions among key sectors of society are too wide to simply ignore. We urgently need to unpack these gaps. And when we do, we may find opportunities to learn from them to co-create our future.

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