

The Global Risks Report 2021

16th Edition

INSIGHT REPORT

The Global Risks Report 2021 16th Edition

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Preface

Klaus Schwab, Founder and Executive Chairman

Saadia Zahidi, Managing Director

In 2006, the *Global Risks Report* sounded the alarm on pandemics and other health-related risks. That year, the report warned that a “lethal flu, its spread facilitated by global travel patterns and uncontained by insufficient warning mechanisms, would present an acute threat.” Impacts would include “severe impairment of travel, tourism and other service industries, as well as manufacturing and retail supply chains” while “global trade, investor risk appetites and consumption demand” could see longer-term harms. A year later, the report presented a pandemic scenario that illustrated, among other effects, the amplifying role of “infodemics” in exacerbating the core risk. Subsequent editions have stressed the need for global collaboration in the face of antimicrobial resistance (8th edition, 2013), the Ebola crisis (11th edition, 2016), biological threats (14th edition, 2019), and overstretched health systems (15th edition, 2020), among other topics.

In 2020, the risk of a global pandemic became reality. As governments, businesses and societies survey the damage inflicted over the last year, strengthening strategic foresight is now more important than ever. With the world more attuned to risk, there is an opportunity to leverage attention and find more effective ways to identify and communicate risk to decision-makers.

It is in this context that we publish the 16th edition of the World Economic Forum’s *Global Risks Report*. Our analysis centres on the risks and consequences of widening inequalities and societal fragmentation. In some cases, disparities in health outcomes, technology, or workforce opportunities are the direct result of the dynamics the pandemic created. In others, already-present societal divisions have widened, straining weak

safety nets and economic structures beyond capacity. Whether the gaps can be narrowed will depend on the actions taken in the wake of COVID-19 to rebuild with a view towards an inclusive and accessible future. Inaction on economic inequalities and societal divisiveness may further stall action on climate change—still an existential threat to humanity.

Growing societal fragmentation—manifested through persistent and emerging risks to human health, rising unemployment, widening digital divides, and youth disillusionment—can have severe consequences in an era of compounded economic, environmental, geopolitical and technological risks. The gap between the “haves” and “have-nots” will widen further if technology access and ability remain disparate. The world’s youth have faced exceptional pressures in the past decade and are particularly vulnerable to missing out altogether on the opportunities of the next.

For business, the economic, technological and reputational pressures of the present moment risk a disorderly shakeout, threatening to create a large cohort of workers and companies that are left behind in the markets of the future. Governments, too, must balance between managing the pandemic and economic contraction, while at the same time creating new opportunities that are fundamental to social cohesion and the viability of their populations. Most critically, if environmental considerations—the top long-term risks once again—are not confronted in the short term, environmental degradation will intersect with societal fragmentation to bring about dramatic consequences. If managed poorly, these disruptions will hamper the ability of policy-makers and other leaders to act on different areas of risk.

The foundation of the report continues to be our annual Global Risks Perception Survey, completed by over 650 members of the World Economic Forum's diverse leadership communities. In addition, the long-standing and deeply committed Global Risks Advisory Board shapes the direction of this report from its earliest stages, and provides insight throughout the writing process. Over the last year, we have also expanded our efforts around risk and resilience for decision-makers and for the broader global community. A new Global Future Council on Frontier Risks capitalizes on its diverse and forward-looking membership to inject fresh thinking into efforts to understand and mitigate future risks and to amplify weak signals of coming disruptions in the decades ahead. Their ideas are featured in the postscript on Frontier Risks. A new Chief Risk Officers community brings together leaders in this role in the private sector and major institutions to share methods and views to collectively enhance capability.

We are ever grateful to our long-standing partners in the report's development, Marsh McLennan and Zurich Insurance Group. We welcomed a new partner this year, SK Group, to whom we owe a debt of gratitude for the valuable inputs provided. We are also grateful to our academic partners: the National University of Singapore, the Oxford Martin School at the University of Oxford, and the Wharton Risk Management and Decision Processes Center at the University of Pennsylvania. Insights from a wide set of experts from the public and private sectors can also be found in these pages.

Complementing the Global Risks Practice, the World Economic Forum hosts major platforms dedicated to action on building a new economy and society, mobilizing for the climate, managing and disseminating Fourth Industrial Revolution technologies, shaping industry transformations, and enhancing global and regional cooperation. These platforms, and the leaders, networks and organizations they host, apply the findings of this report in their efforts to tackle the world's greatest challenges—managing risks, building resilience and leveraging new opportunities. Such an integrated approach has never been more critical than at present, as the world moves beyond managing the pandemic to resetting our current systems and building back better economies and societies with people and the planet at the centre of our efforts.

Executive Summary

The immediate human and economic cost of COVID-19 is severe. It threatens to scale back years of progress on reducing poverty and inequality and to further weaken social cohesion and global cooperation. Job losses, a widening digital divide, disrupted social interactions, and abrupt shifts in markets could lead to dire consequences and lost opportunities for large parts of the global population. The ramifications—in the form of social unrest, political fragmentation and geopolitical tensions—will shape the effectiveness of our responses to the other key threats of the next decade: cyberattacks, weapons of mass destruction and, most notably, climate change.

In the *Global Risks Report 2021*, we share the results of the latest Global Risks Perception Survey (GRPS), followed by analysis of growing social, economic and industrial divisions, their interconnections, and their implications on our ability to resolve major global risks requiring societal cohesion and global cooperation. We conclude the report with proposals for enhancing resilience, drawing from the lessons of the pandemic as well as historical risk analysis. The key findings of the survey and the analysis are included below.

Global risks perceptions

Among the highest likelihood risks of the next ten years are extreme weather, climate action failure and human-led environmental damage; as well as digital power concentration, digital inequality and cybersecurity failure. Among the highest impact risks of the next decade, infectious diseases are in the top spot, followed by climate action failure and other environmental risks; as well as weapons of mass destruction, livelihood crises, debt crises and IT infrastructure breakdown.

When it comes to the time-horizon within which these risks will become a critical threat to the world, the most imminent threats – those that are most likely in the next two years – include employment and livelihood crises, widespread

youth disillusionment, digital inequality, economic stagnation, human-made environmental damage, erosion of societal cohesion, and terrorist attacks.

Economic risks feature prominently in the 3-5 year timeframe, including asset bubbles, price instability, commodity shocks and debt crises; followed by geopolitical risks, including interstate relations and conflict, and resource geopolitization. In the 5-10 year horizon, environmental risks such as biodiversity loss, natural resource crises and climate action failure dominate; alongside weapons of mass destruction, adverse effects of technology and collapse of states or multilateral institutions.

Economic fragility and societal divisions are set to increase

Underlying disparities in healthcare, education, financial stability and technology have led the crisis to disproportionately impact certain groups and countries. Not only has COVID-19 caused more than two million deaths at the time of writing, but the economic and long-term health impacts will continue to have devastating consequences. The pandemic's economic shockwave—working hours equivalent to 495 million jobs were lost in the second quarter of 2020 alone—will immediately increase inequality, but so can an uneven recovery. Only 28 economies are expected to have grown in 2020. Nearly 60% of respondents to the GRPS identified “infectious diseases” and “livelihood crises” as the top short-term threats to the world. Loss of lives and livelihoods will increase the risk of “social cohesion erosion”, also a critical short-term threat identified in the GRPS.

Growing digital divides and technology adoption pose concerns

COVID-19 has accelerated the Fourth Industrial Revolution, expanding the digitalization of human

interaction, e-commerce, online education and remote work. These shifts will transform society long after the pandemic and promise huge benefits—the ability to telework and rapid vaccine development are two examples—but they also risk exacerbating and creating inequalities. Respondents to the GRPS rated “digital inequality” as a critical short-term threat.

A widening digital gap can worsen societal fractures and undermine prospects for an inclusive recovery. Progress towards digital inclusivity is threatened by growing digital dependency, rapidly accelerating automation, information suppression and manipulation, gaps in technology regulation and gaps in technology skills and capabilities.

A doubly disrupted generation of youth is emerging in an age of lost opportunity

While the digital leap forward unlocked opportunities for some youth, many are now entering the workforce in an employment ice age. Young adults worldwide are experiencing their second major global crisis in a decade. Already exposed to environmental degradation, the consequences of the financial crisis, rising inequality, and disruption from industrial transformation, this generation faces serious challenges to their education, economic prospects and mental health.

According to the GRPS, the risk of “youth disillusionment” is being largely neglected by the global community, but it will become a critical threat to the world in the short term. Hard-fought societal wins could be obliterated if the current generation lacks adequate pathways to future opportunities—and loses faith in today’s economic and political institutions.

Climate continues to be a looming risk as global cooperation weakens

Climate change—to which no one is immune—continues to be a catastrophic risk. Although lockdowns worldwide caused global emissions to fall in the first half of 2020, evidence from the 2008–2009 Financial Crisis warns that emissions could bounce back. A shift towards greener economies cannot be delayed until the shocks of the pandemic subside. “Climate action failure” is the most impactful and second most likely long-term risk identified in the GRPS.

Responses to the pandemic have caused new domestic and geopolitical tensions that threaten stability. Digital division and a future “lost generation” are likely to test social cohesion from within borders—exacerbating geopolitical fragmentation and global economic fragility. With stalemates and flashpoints increasing in frequency, GRPS respondents rated “state collapse” and “multilateralism collapse” as critical long-term threats.

REUTERS/ISMAIL



Middle powers—influential states that together represent a greater share of the global economy than the US and China combined—often champion multilateral cooperation in trade, diplomacy, climate, security and, most recently, global health. However, if geopolitical tensions persist, middle powers will struggle to facilitate a global recovery—at a time when international coordination is essential—and reinforce resilience against future crises. GRPS respondents signal a challenging geopolitical outlook marked by “interstate relations fracture”, “interstate conflict” and “resource geopolitization”—all forecasted as critical threats to the world in three to five years.

A polarized industrial landscape may emerge in the post-pandemic economy

As economies emerge from the shock and stimulus of COVID-19, businesses face a shakeout. Existing trends have been given fresh momentum by the crisis: nationally focused agendas to stem economic losses, technological transformation and changes in societal structure—including consumer behaviors, the nature of work and the role of technology both at work and at home. The business risks emanating from these trends have been amplified by the crisis and include stagnation in advanced economies and lost potential in emerging and developing markets, the collapse of small businesses, widening the gaps between major and minor companies and reducing market dynamism, and exacerbation of inequality; making it harder to achieve long-term sustainable development.

With governments still deliberating how to pivot away from emergency to recovery, and with companies anticipating a changed business landscape, there are

opportunities to invest in smart, clean and inclusive growth that will improve productivity and delivery of sustainable agendas.

Better pathways are available to manage risks and enhance resilience

Despite some remarkable examples of determination, cooperation and innovation, most countries have struggled with aspects of crisis management during the global pandemic. While it is early to draw definitive lessons, this edition of the *Global Risks Report* reflects on global preparedness by looking at four key areas of the response to COVID-19: institutional authority, risk financing, information collection and sharing, and equipment and vaccines. It then looks to national-level responses—acknowledging the varied starting points for individual countries—and draws lessons from five domains: government decision-making, public communication, health system capabilities, lockdown management and financial assistance to the vulnerable.

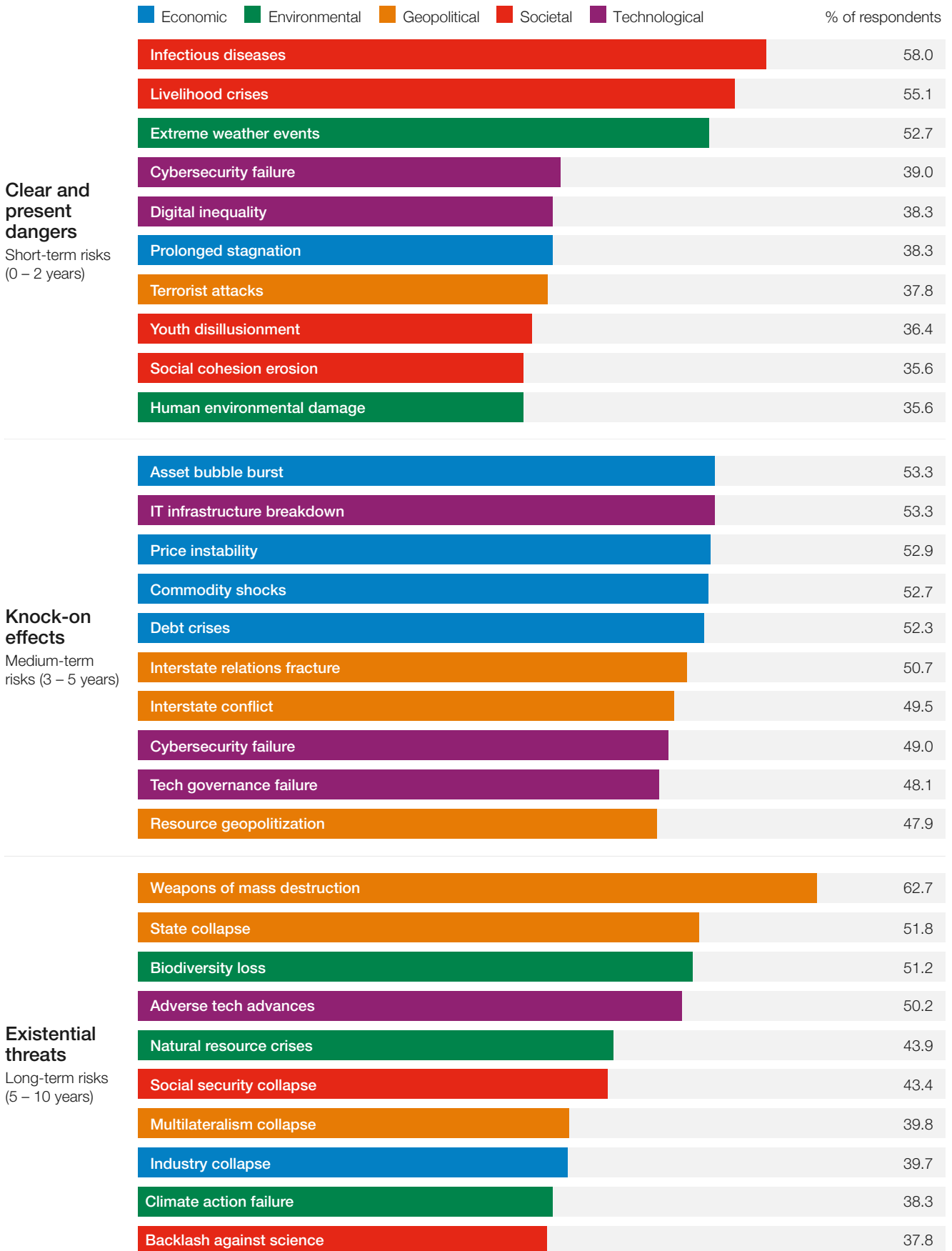
However, if lessons from this crisis only inform decision-makers how to better prepare for the next pandemic—rather than enhancing risk processes, capabilities and culture—the world will be again planning for the last crisis rather than anticipating the next. The response to COVID-19 offers four governance opportunities to strengthen the overall resilience of countries, businesses and the international community: (1) formulating analytical frameworks that take a holistic and systems-based view of risk impacts; (2) investing in high-profile “risk champions” to encourage national leadership and international co-operation; (3) improving risk communications and combating misinformation; and (4) exploring new forms of public-private partnership on risk preparedness.



Global Risks Perception Survey 2020 Results

FIGURE I Global Risks Horizon

When do respondents forecast risks will become a critical threat to the world?

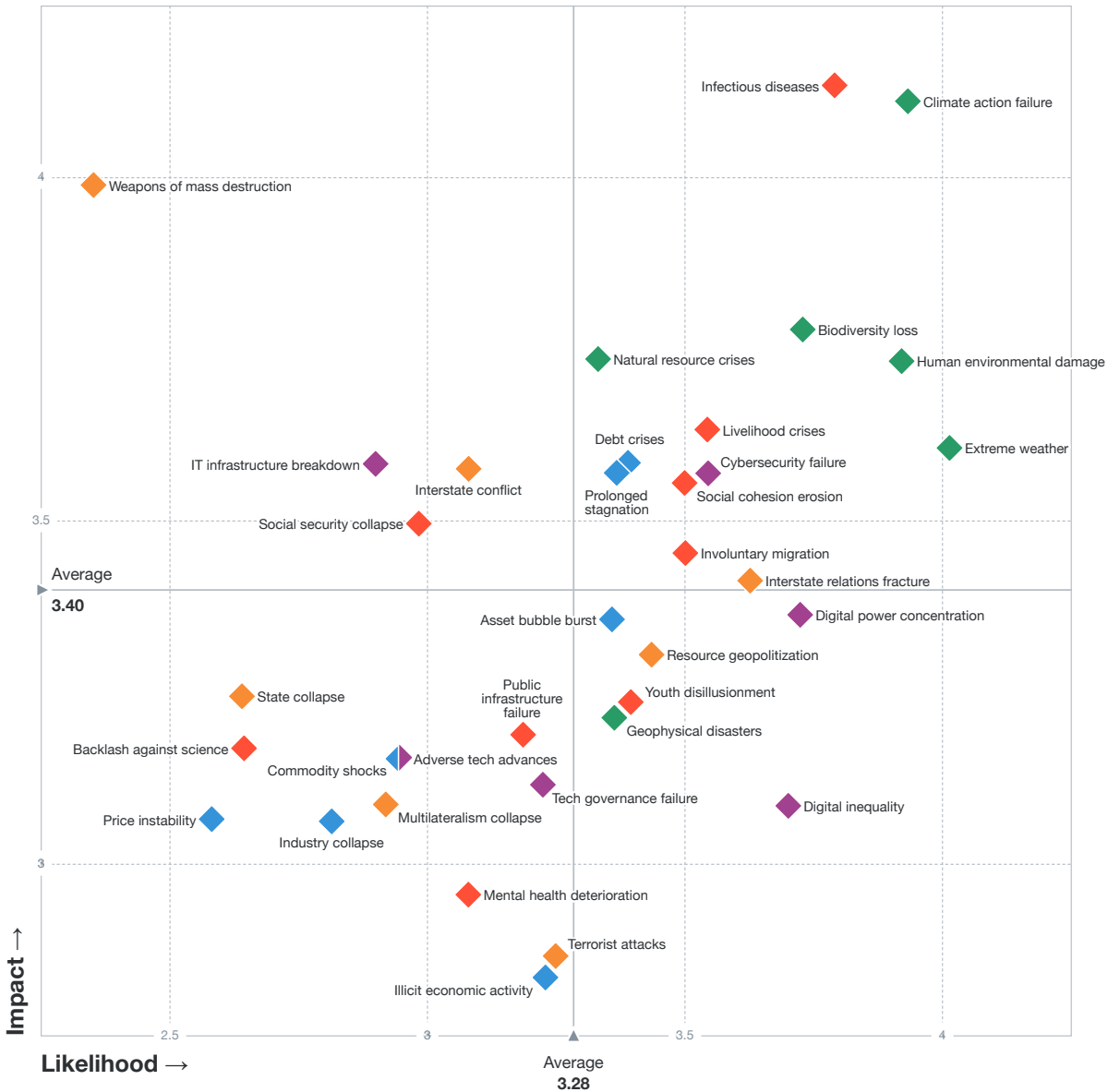


Source: World Economic Forum Global Risks Perception Survey 2020

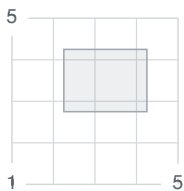
FIGURE II

Global Risks Landscape

How do respondents perceive the impact ↑ and likelihood → of global risks?



Visible area



Risk categories

- ◆ Economic
- ◆ Environmental
- ◆ Geopolitical
- ◆ Societal
- ◆ Technological

Top Risks

by likelihood

- 1 Extreme weather
- 2 Climate action failure
- 3 Human environmental damage
- 4 Infectious diseases
- 5 Biodiversity loss
- 6 Digital power concentration
- 7 Digital inequality
- 8 Interstate relations fracture
- 9 Cybersecurity failure
- 10 Livelihood crises

Top Risks

by impact

- 1 Infectious diseases
- 2 Climate action failure
- 3 Weapons of mass destruction
- 4 Biodiversity loss
- 5 Natural resource crises
- 6 Human environmental damage
- 7 Livelihood crises
- 8 Extreme weather
- 9 Debt crises
- 10 IT infrastructure breakdown

Methodology

Survey respondents were asked to assess the likelihood of the individual global risk on a scale of 1 to 5, 1 representing a risk that is very unlikely and 5 a risk that is very likely to occur over the course of the next ten years. They also assessed the impact of each global risk on a scale of 1 to 5, 1 representing a minimal impact and 5 a catastrophic impact. To ensure legibility, the names of the global risks are abbreviated.

Source: World Economic Forum Global Risks Perception Survey 2020

FIGURE IV Evolving Risks Landscape

Top Global Risks by Likelihood



Top Global Risks by Impact



Source: World Economic Forum Global Risks Perception Survey 2020



CHAPTER 1

Global Risks 2021: Fractured Future

The immediate human and economic costs of COVID-19 are severe. They threaten to scale back years of progress on reducing global poverty and inequality and further damage social cohesion and global cooperation, which were already weakening before the virus struck.

New barriers to individual and collective advancement will likely result from the pandemic as the world faces the sudden disruption of social interactions, a widening digital divide, abrupt shifts in markets and consumer behaviour, loss of education and jobs, and challenges to democracy and international relations. “Digital inequality”, “youth disillusionment” and “social cohesion erosion”—newly included in the Global Risks Perception Survey (GRPS)—were all identified by respondents as critical short-term threats.

Structural fissures exacerbated by the crisis threaten to make the recovery deeply uneven

A digital leap forward—disrupting industry, education, labour markets, and the balance of power between nations—risks widening the gap between the technological “haves” and “have-nots”. All generations and groups have been affected by the crisis: older populations are the most vulnerable to the pandemic itself, and youth face new barriers to social mobility, strains on mental health, uncertain economic prospects and the continued degradation of the planet. Climate change—to which no one is immune, nor can the world vaccinate against it—continues to be catastrophic: “climate action failure” is the most impactful and second most likely long-term risk identified in the GRPS.

Billions of people worldwide are at heightened risk of missing out on future economic opportunities, and the benefits of a resilient global community. According

to the GRPS, “livelihood crises” will be a critical threat over the next two years, and their impact is likely to continue throughout the decade.

The crisis has also challenged national policy-making and international relations in ways that threaten lasting impacts. Institutions and policies to support international coordination were already in decline, and responses to the pandemic have caused new geopolitical tensions. With new stalemates and flashpoints in view, GRPS respondents rated “state collapse” and “multilateralism collapse” as critical threats over the next five to ten years.

Despite these challenges, there is also space for building resilience. In this chapter, we close with a reflection on how governments, businesses and societies can begin to take steps for better preparedness in the face of perpetual global risk (see Box 1.1).

Damage and disparity

The effects of COVID-19, along with some aspects of the policy response, however necessary, have left societies and economies damaged, widened existing disparities within communities and between nations, disproportionately harmed certain sectors and societal groups, and complicated the pathway for the world to achieve the United Nations Sustainable Development Goals by 2030.

Economic shockwave

The global economy has now sunk to its deepest crisis in peacetime. World output is expected to have shrunk by 4.4% in 2020 (see Figure 1.1).¹ In comparison, the 2008–2009 Financial Crisis caused the world economy to contract by 0.1%. Data for the third quarter of 2020 hinted that recovery was underway, but the impact of surging infections in the fourth quarter remains to be measured: many countries were registering more daily cases than they had in the second quarter, when the G20 economies contracted at an annualized rate (see Table 1.1 for data on the seven largest economies).² The economic contraction is expected to increase inequality in many countries;³ but an

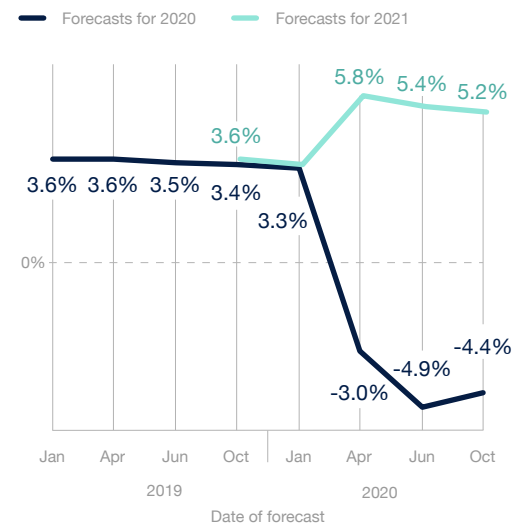
uneven economic rebound can exacerbate the inequities. At the time of writing, key capital markets had surged above pre-pandemic levels,⁴ yielding gains that will mostly benefit wealthy stockholders.

The impact of the pandemic on livelihoods has been catastrophic, especially on those who have no savings, have lost their jobs or faced pay cuts. Working hours equivalent to 495 million jobs were lost in the second quarter of 2020⁵—14% of the world’s entire workforce.⁶ At the time of writing, only half were expected to have been recovered by the end of the year.⁷ Youth, unskilled workers, working parents—especially mothers—and already-disadvantaged minorities have been especially hard hit: 70% of working women across nine of the world’s largest economies believe their careers will be slowed by the pandemic’s disruption,⁸ while 51% of youth from 112 countries believe their educational progress has been delayed.⁹

The economic impact varies across regions. The Euro area and Latin America are expected to have contracted the most in 2020.¹⁰ Only 28 economies are expected to have grown in 2020, with China the only G-20 country among them.¹¹ In low- and lower-middle-income countries, severe

and long-lasting humanitarian impacts could be exacerbated by lower levels of financial support and fewer aid workers.¹² Poor working conditions and lack of social protections are likely to aggravate the impact on the world’s 2 billion informal workers.¹³

FIGURE 1.1
IMF World Output Projections



Source: IMF. 2019 and 2020. World Economic Outlooks and quarterly updates. <https://www.imf.org/en/Publications/WEO>

REUTERS/MOON



TABLE 1.1

Peak Impact of COVID-19 on Key Macroeconomic Indicators: Seven Largest Economies

Economy	Annual GDP Growth		Unemployment	Business Confidence
	Q2-2020	Q3-2020	(percentage point change Q2-2020 vs Q1-2020)	(percent change first half of 2020)
China	3.2%	4.9%	+0.1	1.6%
France	-18.9%	-3.9%	-0.7	-3.3%
Germany	-11.2%	-4.0%	+0.6	-1.6%
India	-23.5%	-7.5%	N/A	1.2%
Japan	-10.3%	-5.7%	+0.4	-1.6%
United Kingdom	-21.5%	-9.6%	-0.1	-3.0%
United States	-9.0%	-2.9%	+9.2	-0.6%

Sources: OECD Data, “Business confidence index (BCI)”, <https://data.oecd.org/leadind/business-confidence-index-bci.htm#indicator-chart>, accessed 20 December 2020; Ministry of Human Resources and Social Security of the People’s Republic of China, Human Resources and Social Security Quarterly Data, “First quarter of 2020”, <http://www.mohrss.gov.cn/SYrlzyhshbzb/zwgk/szrs/tjsj/202004/W020200423600503595588.pdf> and “First half of 2020”, <http://www.mohrss.gov.cn/SYrlzyhshbzb/zwgk/szrs/tjsj/202007/W020200724600005492242.pdf>, accessed 20 December 2020.

Note: Change in Business Confidence between December 2019 and May 2020, when the indicator registered its lowest data point for OECD countries in aggregate.

Health fallout

At the time of writing, nearly 100 million people worldwide had contracted COVID-19 and more than 2 million had died,¹⁴ making SARS-CoV-2 one of the deadliest viruses in history.¹⁵ Global infections were rising, with upwards of 600,000 new cases and more than 10,000 deaths every day.¹⁶

Long-term health impacts remain unknown: in South Korea, a survey found that 90% of recovered COVID-19 patients were still suffering from physical and psychological side effects such as ageusia (loss of taste), anosmia (loss of smell), attention disorder and fatigue.¹⁷ Collateral health impacts—physical and mental—will continue to have devastating consequences worldwide: in the United States, for example, delayed treatment of emergencies, chronic diseases and

psychological distress have already caused a death rate of 6% over what would normally be expected.¹⁸

The pandemic has strained healthcare systems, exposing their lack of capacity. Hospitals worldwide were quickly overwhelmed, and at the time of writing many were again at risk—from several countries in Europe¹⁹ to India,²⁰ Mexico,²¹ South Africa²² and the United States.²³ Some countries have reported new shortages of medical supplies.²⁴ Healthcare professionals have struggled with anxiety, depression, fear, isolation and even social stigma.²⁵ In countries such as Australia,²⁶ Colombia,²⁷ Ecuador,²⁸ India,²⁹ the United Kingdom,³⁰ and the United States,³¹ financial, physical and mental stress have caused many to plan to stop working or leave the profession.



REUTERS/THAPLIYAL

Underlying disparities

The damage from COVID-19 has been worsened by long-standing gender, race, age and income inequalities. Disadvantaged groups went into the crisis with lower resilience as a result of disparities in well-being; financial stability and security; and access to healthcare, education and technology. Previous editions of the *Global Risks Report* have highlighted that income inequality, despite declining on a global scale, had reached historical highs in many countries (see, for example, [The Fraying Fundamentals chapter](#) in the 2020 edition of the report).³²

million people into extreme poverty every year.³⁴ This has amplified the pandemic's impact on the physical well-being of people in low-income households,³⁵ women,³⁶ and the elderly.

Sixty percent of adults lacked basic digital knowledge and skills when workplaces and schools across the world suddenly closed to curb the spread of COVID-19, forcing a rapid leap to online operations.³⁷ Many students lacked access to a computer for schoolwork: percentages of students affected ranged from 25% in China to 45% in Mexico and 65% in Indonesia.³⁸ Digital divides were already worrisome before the pandemic: in 2018, reporting that half the world's population were connected to the internet, the International Telecommunication Union called to "redouble our collective efforts to leave no one offline".³⁹

70% working women who believe their careers will be slowed

Health systems globally were already under strain from gathering pressures and emerging public health threats—a worrying trend analysed in depth in the False Positive chapter of last year's *Global Risks Report*.³³ Half of the world's population lacks access to essential health services, and shortfalls in public health push 100

Little left to lose

The development of multiple vaccines may herald the beginning of recovery from the COVID-19 crisis—but the structural fissures that the crisis exacerbated, from individual well-being to societal resilience and global stability, threaten to make that recovery deeply uneven. "Livelihood crises", "digital

inequality”, “youth disillusionment” and “social cohesion erosion” all show up in the GRPS as critical global threats for the next two years.

Narrowing pathways

Across developed and developing economies alike, the number of people without access to quality and affordable healthcare, education or digital tools is at risk of increasing. Billions of people face narrowing pathways to future well-being.

In the short term, equitable and effective vaccine distribution is at risk from protectionist tendencies and geopolitical tensions—just as these tendencies and tensions put essential medical supplies at risk when the pandemic started (see [Hindsight](#)). In the longer term, inequitable access to quality healthcare will persist as a result of continued stress on healthcare systems globally. Health capacity in some European countries has already suffered from prolonged austerity measures.⁴⁰ In Sub-Saharan Africa, 20% of people over 60—the highest-risk age group—are at least three hours away from the nearest health facility.⁴¹ Such obstacles have complicated the response to the pandemic. Looking ahead, failing to close public health gaps will exacerbate existing vulnerabilities and risk further humanitarian and economic damage.

potentially reduce costs and expand access,⁴² but students and workers who lack the digital tools, online access and knowledge to participate are at risk of being excluded (see [Chapter 2, Error 404](#)).⁴³ “Digital inequality”—ranked as the fifth most concerning short-term threat to the world—is increasing within and between countries. The growing gap between the technological “haves” and “have-nots”—amid pressures on public and private finances that could limit critical investments in digital education—will impede individual economic mobility.

Physical mobility—another channel for economic advancement—is at risk too. Domestically, the digital leap forward can allow businesses to reduce costs by relocating them away from city centres, but workers in hands-on industries or without the means or flexibility to move to new production centres could be stranded. Internationally, restrictions on movement brought in during the pandemic may be slow to ease given geopolitical tensions, jeopardizing opportunities for the world’s 250 million migrant workers and their dependents.⁴⁴ Global remittances are expected to decrease by more than 14% by 2021.⁴⁵

Societal fragmentation

As public health gaps, digital inequality, educational disparities and unemployment—risks that result from a complex combination of existing inequalities and the impact of the pandemic—affect vulnerable groups the most, they may further fray social cohesion. Unsurprisingly, “social cohesion erosion” and “livelihood crises” are among the highest-likelihood and highest-impact long-term risks in the GRPS (see [Figure II, Global Risks Landscape](#)). Too many people have little left to lose.

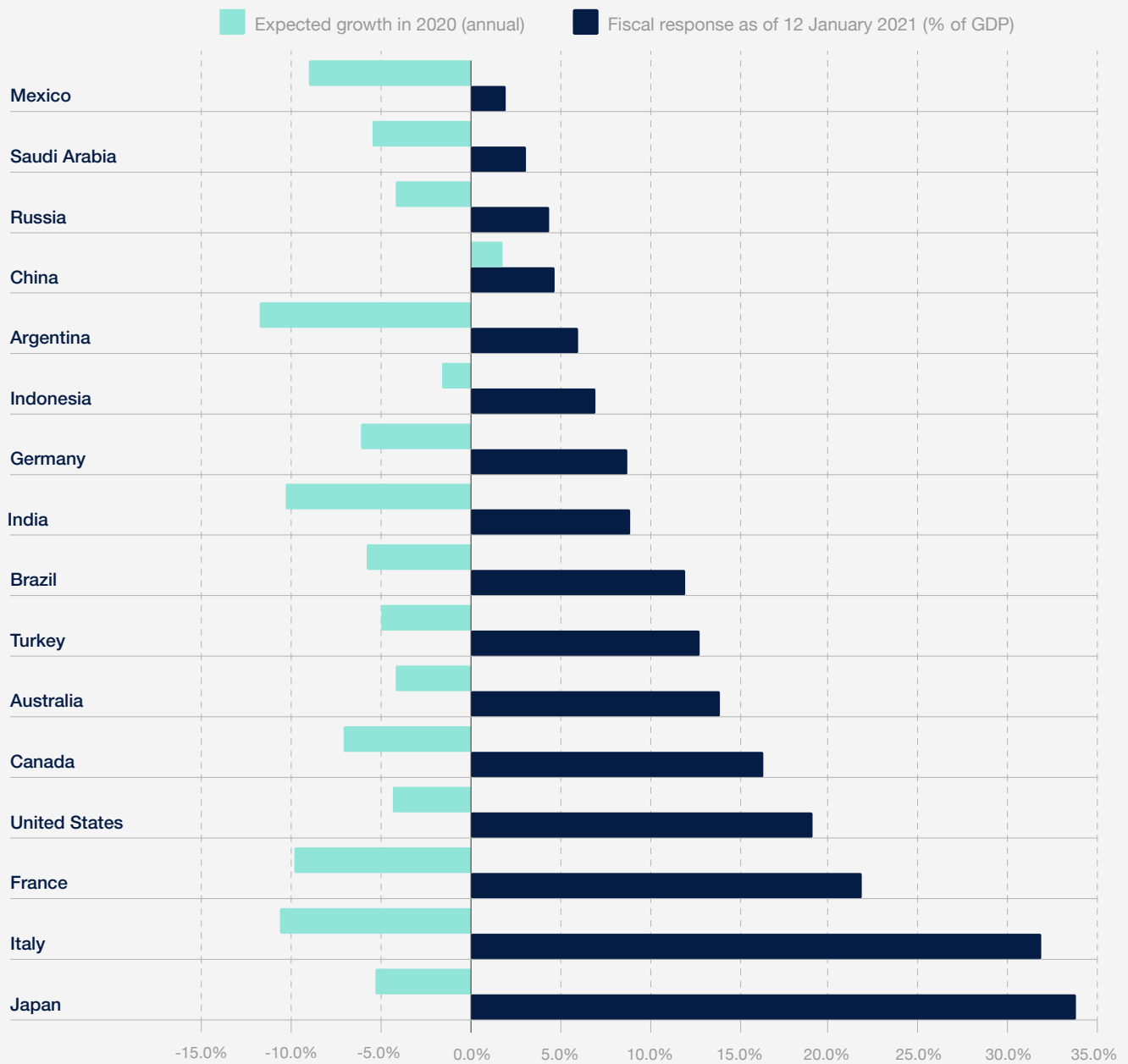
The global recession is now expected to force as many as 150 million more people into extreme poverty, increasing the total to 9.4% of the world’s population—it was expected to fall to 8% by the end of 2020.⁴⁶ This setback in the global development agenda will heighten vulnerability to future shocks and threaten

Public health gaps, digital inequality, educational disparities and unemployment may fray social cohesion

Barriers to education and technology—long-proven channels for economic advancement—have grown higher; especially for youth (see [Chapter 3, Pandemics](#)). Education systems worldwide are set to undergo a challenging structural transformation underpinned by widespread adoption of online learning. This shift can

FIGURE 1.2

Fiscal Response to COVID-19 and Expected Growth in 2020



Source: Data for the fiscal response from IMF, Policy Tracker, “Policy Responses to COVID-19”, <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#:~:text=In%202020%2C%20the%20authorities%20envisage,15%20percent%20directed%20to%20health.&text=As%20about%2090%20percent%20of,the%20program%20is%20near%20universal>, accessed 12 January 2021; expected annual growth data from IMF, 2020, World Economic Outlook, October 2020: A Long and Difficult Ascent. October 2020, <https://www.imf.org/en/Publications/WEO/Issues/2020/09/30/world-economic-outlook-october-2020>.

Note: Data are as of 12 January 2021. This figure considers direct and indirect fiscal stimulus measures in select economies for which data is reported as a percent of GDP by the IMF. These include cash transfers, credits and loans, debt facilities, funding for healthcare and unemployment aid, among others.

the erosion or collapse of states: more than half of the respondents to the GRPS believe “state collapse” is a critical long-term threat (see Figure I, Global Risks Horizon).

Increasing levels of public and private debt may reduce scope for further stimulus—which was a powerful tool in advanced economies—requiring trade-offs between investments in stronger social protection,

Citizens now know the power political leaders can wield when the challenge demands it

reskilling and upskilling of disadvantaged workers, preparing youth for a drastically changed labour market, and economic transformation towards greener energy and infrastructure (see [Chapter 5, Imperfect Markets](#)). Respondents to the GRPS believe mismanaging these trade-offs will compound the risks of “debt crises”, “social security collapse”, “digital inequality” and “youth disillusionment”; triggering “livelihood crises” globally (see [Figure III, Global Risk Network](#)).

Developed and developing countries with weak public finances face a harder road to recovery: according to the International Monetary Fund (IMF), seven low-income countries are in debt distress, with another 28 at high risk.⁴⁷ Even where fiscal stimulus has been substantial (see [Figure 1.2](#)), it is not clear whether it will lead to a more equitable recovery.

Divisiveness had been increasing before the pandemic in many countries—as analysed in the *Fraying Fundamentals* chapter of last year’s *Global Risks Report*⁴⁸—with growing perceptions of economic and political systems being rigged and unrepresentative. While social distancing measures temporarily interrupted popular protests in 2020, they have resumed in countries ranging from Belarus to France, Germany, Russia, Sudan and the United States.⁴⁹

Systemic issues that sparked protests in 2020 include corruption, racial inequality and police brutality.⁵⁰ In some countries, perceptions that COVID-19 responses were inadequate or too stringent have aggravated public discontent.⁵¹ Young people have increasingly voiced discontent over climate, economic, political and social injustices they believe have been caused by older generations (see [Chapter 3, Pandemics](#)). Loss of plurality, erosion of diverse representation in

positions of power, financial hardship and intergenerational frictions—which will continue worsening if profound inequalities are unaddressed—risk exacerbating societal divisiveness and severely weakening communities’ resilience.

Heightened instability

Domestic political challenges, growing fragmentation in many societies and geopolitical tensions left the world woefully underprepared for a crisis of the magnitude of COVID-19 and amplified its impacts (see [Hindsight](#)). Flashpoints that are likely to hamper national and international stability would deteriorate multilateral capacity to respond to future global shocks.

Further polarization generated by the outcome of the US elections may create domestic obstacles for the new administration, hindering financial, political, technical and international cooperation commitments on global issues such as climate change, digital governance, free trade and international security. The formalization of Brexit, rising euro-scepticism and damage from subsequent waves of COVID-19 may weaken support among EU members for a coordinated green recovery and threaten the European Union’s consolidation as a balancing third power.

Increasing tensions between China and India—with the former expanding its regional economic interests through the recently signed Regional Comprehensive Economic Partnership (RCEP)—could weaken regional and global trade and growth.⁵² In Africa, worsening employment and investment trends threaten the anticipated benefits of the delayed African Continental Free Trade Agreement (AfCFTA),⁵³ which could catalyse civil unrest and aggravate humanitarian crises.⁵⁴

Regional alliances are likely to form out of economic expediency and tightening

relations with superpowers, but the changing relationship between them is creating uncertainty for other nations around international rules and norms—from cybersecurity and 5G technology to climate action, natural resources and trade (see Chapter 4, *Middle Power Morass*). Public health is becoming a new frontier for geopolitical rivalry. Vaccine diplomacy and conflicts over other critical supplies are likely to create further tensions and require complex negotiations, impeding international coordination and the effectiveness of the multilateral system to address global concerns (see *Hindsight*).

No vaccine for environmental degradation

Without societal cohesion and stable international platforms, future transboundary crises will have greater impacts. The GRPS draws attention to blind spots in collective responses to a range of risks—such

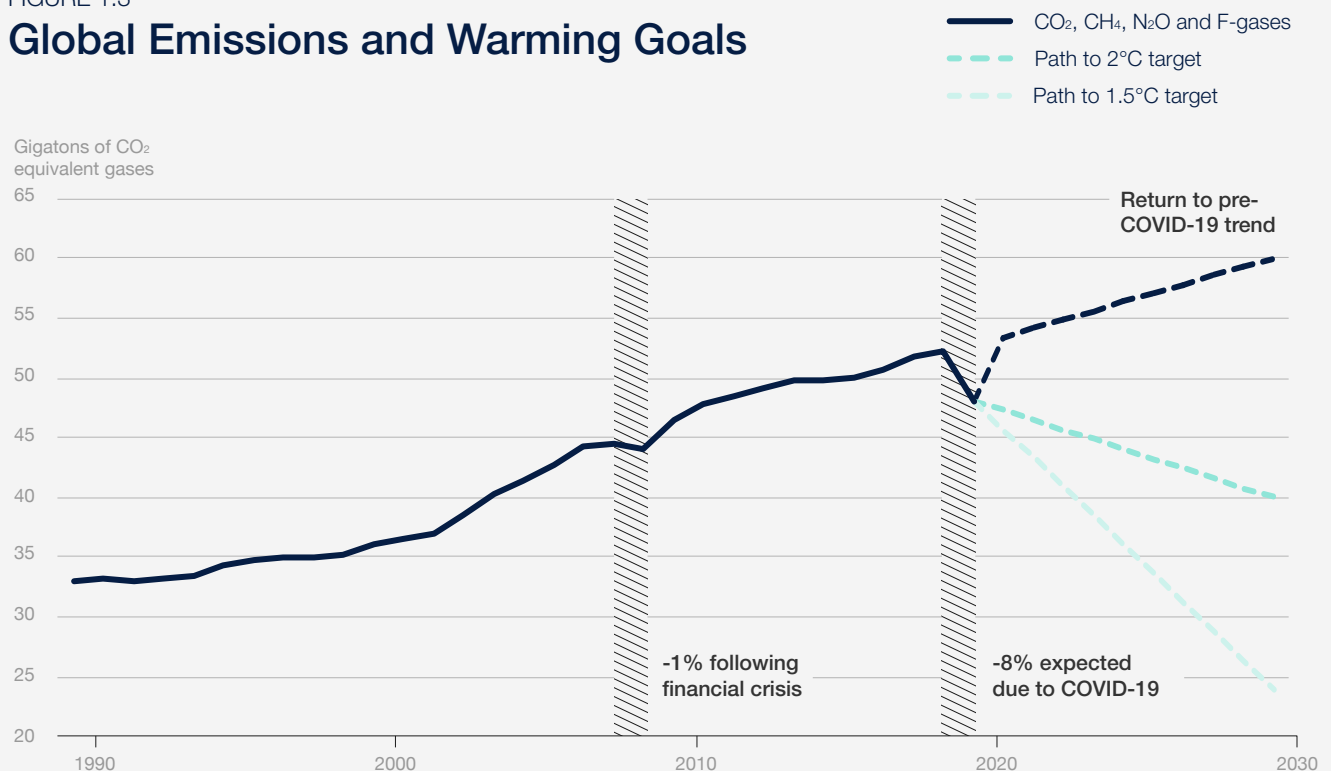
as “debt crises”, “mental health deterioration”, “tech governance failure” and “youth disillusionment” (see Appendix B, Figure B.1 *Global Risk Response*)—but foremost among these blind spots are “climate action failure” and “biodiversity loss”.

Last year, for the first time in 15 years of the GRPS, the five most likely long-term risks were environmental—analysed in last year’s *Global Risks Report* chapters *A Decade Left* and *Save the Axolotl*. The World Economic Forum’s *COVID-19 Risks Outlook*, published in May 2020,⁵⁵ analysed how the crisis could stall progress on climate action. This year, GRPS respondents ranked environmental risks as four of the top five by likelihood—“infectious diseases” is fourth.

Global CO₂ emissions fell by 9% in the first half of 2020, when COVID-19 forced most economies to shut down for weeks.⁵⁶ A similar decrease is required every year for the next decade

FIGURE 1.3

Global Emissions and Warming Goals



Source: PBL (Netherlands Environmental Assessment Agency). 2019. *Climate and Energy Outlook 2019*. 11 January 2019. <https://www.pbl.nl/en/publicaties/klimaat-en-energieverkenning-2019>; UNCTAD. 2020. “COVID-19’s economic fallout will long outlive the health crisis, report warns”. 19 November 2020. <https://unctad.org/news/covid-19s-economic-fallout-will-long-outlive-health-crisis-report-warns>

to maintain progress towards limiting global warming to 1.5°C (see Figure 1.3) and avoid the worst effects of climate change.⁵⁷ However, emissions bounced back after the 2008–2009 Financial Crisis.⁵⁸ Collective efforts are needed to prevent a repeat as economies emerge from the pandemic. Growth and emissions must be decoupled and transition risks managed in an urgent evolution to a low-carbon economy. At present, only four of the world's largest economies have assembled recovery packages that will produce a net environmental benefit.⁵⁹

The delayed UN Climate Change Conference COP26 in November 2021 will be a pivotal moment for the world's largest emitters to commit to more aggressive national targets and agree on rules for carbon trading—specifically Article 6 of the Paris Agreement⁶⁰—that can accelerate investments in the transition to a low-carbon global economy. The UN Biodiversity Conference COP15 and UN Convention to Combat Desertification COP15 must likewise raise ambitions for species protection and sustainable land management. Failure to act would inevitably lead to catastrophic physical impacts and severe economic harm that would require costly policy responses.

A synergetic recovery

The speed and scale of policy responses to the pandemic have shown what is possible (see Box 1.1): citizens now know the power political leaders can wield when they are convinced that the challenge demands it. Many citizens who feel they have nothing left to lose will demand equally swift responses to deeply felt concerns. For some, climate change requires immediate action; others will prioritize jobs to ensure the most vulnerable have food, shelter and incomes; yet others will demand greater effort to harness and govern technology.

As with COVID-19, climate change impacts are likely to play out disproportionately across countries, exacerbated by long-existing inequalities. There is only a short window to redress these disparities. A shift towards greener production and consumption cannot be delayed until economies are revived. Governments—individually and in coordination—need to catalyse a transformation that amalgamates investment in green and inclusive economic recovery, with short-term measures to bridge gaps in health, education, employment prospects and social safety nets. A fractured future can be avoided by bridging these gaps and enabling opportunities for everyone.

REUTERS/CZIBORRA



Future Preparedness for Global Risks

While global risks outlined in this report are dire, lessons from COVID-19 offer an opportunity for mitigation (see [Hindsight](#)). Global risks—pandemics among them—crystallize differently, but cross-cutting capabilities and systemic approaches to strengthen the overall resilience of countries, businesses and the international community are possible. The response to COVID-19 so far offers at least four governance opportunities.

Frameworks

Formulating detailed analytical frameworks that take a holistic and systems-based view of risk impacts will help to surface potential dependencies at a fitting moment, spill-over consequences, vulnerabilities and blind spots. This is critical in environmental risk mitigation, for example, where interventions such as developing climate-resistant crop varieties could impact food system resilience. Multilateral institutions, public-private arrangements and civil society all have a role in facilitating such systemic outlooks. Holistic analysis provides a foundation for stress-testing assumptions; identifying and comparing the trade-offs required by different mitigation proposals and examining responsive capabilities against emerging crises and forward-looking scenarios.

Risk champions

*Investing in high-profile “risk champions” who can bring together different stakeholders to spur innovation in risk analysis, financing and response capabilities, and improve relationships between scientific experts and political leaders.*¹ The 2nd edition of the *Global Risks Report* proposed the concept of a “National Risk Officer” with a remit to enhance resilience by improving the decision-making culture. Risk champions should be positioned before the frenzy of the next crisis—whatever it proves to be—yet, even with risk champions in place, the importance of leadership

attention to risk at the highest levels in business and government is by no means lessened.

Communication

Improving the clarity and consistency of risk communications and combating misinformation. Most crises require all-of-society responses—and there is enormous goodwill and energy to leverage—but confusion and frustration can undermine efforts to build trust and align responsibilities between the public sector, private sector, communities and households. There is huge scope to enhance self-organized resilience at the community and national levels. For example, more can be done to understand—and therefore tackle—biases at the individual level regarding spread of misinformation.² Better coordination among private sector technology companies and government can help to alert users to misinformation.³

Public-private partnerships

Exploring new forms of public-private partnership on risk preparedness in technology, logistics and manufacturing. The pandemic has shown that innovation can be sparked when governments engage the private sector to respond to large-scale challenges—if risks and rewards are shared fairly and appropriate governance is in place. Vaccine deployment will be a test case in resiliency: while it will raise new challenges, partnerships could prove effective in meeting demand for glass vials, managing cold-chain logistics, recording doses given, and even countering vaccine hesitancy. The COVID-19 crisis also highlighted the need for greater coordination on financing to improve resilience and expedite recovery, from pre-emptive investment and contingency budgets to insurance pools with government backstops.⁴ The lesson for crisis management is that details matter and need to be addressed collaboratively.⁵

Footnotes

- 1 Smith-Bingham, R., Wittenberg, A. and Kaniewski, D. 2020. “Building national resilience: Aligning mindsets, capabilities and investments”. Marsh & McLennan Advantage. April 2020. https://www.mmc.com/content/dam/mmc-web/insights/publications/2020/april/Building--National--Resilience-Report_web.pdf
- 2 Cheng, Y. and Y. Luo. 2020. “The presumed influence of digital misinformation: examining US public’s support for governmental restrictions versus corrective action in the COVID-19 pandemic”. *Online Information Review*. 2 December 2020. <https://www.emerald.com/insight/content/doi/10.1108/OIR-08-2020-0386/full/html>
- 3 See, e.g., Hutchinson, A. 2020. “Twitter Adds New Labels on Potentially Harmful COVID-19 Misinformation in Tweets”. *Social Media Today*. 11 May 2020. <https://www.socialmediatoday.com/news/twitter-adds-new-labels-on-potentially-harmful-covid-19-misinformation-in-t/577714/>
- 4 OECD (Organisation for Economic Co-operation and Development). 2020. “Responding to the COVID-19 and pandemic protection gap in insurance”. Updated 9 September 2020. <https://www.oecd.org/coronavirus/policy-responses/responding-to-the-covid-19-and-pandemic-protection-gap-in-insurance-35e74736/>
- 5 Further opportunities for strengthening preparedness and resilience in the post-COVID world are explored in a collection of essays authored by the World Economic Forum’s Global Risks Advisory Board, published in May 2020. See World Economic Forum. 2020. *Challenges and Opportunities in the Post-COVID-19 World*. May 2020. http://www3.weforum.org/docs/WEF_Challenges_and_Opportunities_Post_COVID_19.pdf

Endnotes

- 1 IMF (International Monetary Fund). 2020. World Economic Outlook, October 2020: A Long and Difficult Ascent. October 2020. <https://www.imf.org/en/Publications/WEO/Issues/2020/09/30/world-economic-outlook-october-2020>
- 2 OECD Data. “Quarterly GDP – Total, Percent change same period, previous year”. <https://data.oecd.org/gdp/quarterly-gdp.htm>, accessed 14 December 2020.
- 3 Cugat, G. and Narita, F. 2020. “How COVID-19 Will Increase Inequality in Emerging Markets and Developing Economies”. IMFBlog. 29 October 2020. <https://blogs.imf.org/2020/10/29/how-covid-19-will-increase-inequality-in-emerging-markets-and-developing-economies/#:~:text=The%20crisis%20now%20puts%20much,gap%20between%20rich%20and%20poor.&text=COVID%2D19%20is%20expected%20to,on%20vulnerable%20workers%20and%20women>
- 4 Bloomberg. “Markets — Stocks, Overview”. <https://www.bloomberg.com/markets/stocks>, accessed 20 December 2020.
- 5 ILO (International Labour Organization). 2020. ILO Monitor: COVID-19 and the world of work. Sixth edition. Updated estimates and analysis. September 2020. https://www.ilo.org/wcmsp5/groups/public/@dgreports/@dcomm/documents/briefingnote/wcms_755910.pdf
- 6 World Bank Open Data. “Labor force, total – World”. <https://data.worldbank.org/indicator/SL.TLF.TOTL.IN>, accessed 14 December 2020.
- 7 ILO. 2020. ILO Monitor. Op. cit.
- 8 Deloitte. 2020. Understanding the pandemic’s impact on working women: How employers can act now to prevent a setback in achieving gender parity in the workplace. <https://www2.deloitte.com/ch/en/pages/about-deloitte/articles/understanding-the-pandemics-impact-on-working-women.html>
- 9 ILO (International Labour Organization). 2020. Youth and COVID-19: Impacts on Jobs, Education, Rights and Mental Well-Being. Survey Report 2020. 11 August 2020. https://www.ilo.org/global/topics/youth-employment/publications/WCMS_753026/lang--en/index.htm
- 10 IMF Data Mapper. “Real GDP growth – Annual percent change”. https://www.imf.org/external/datamapper/NGDP_RPCH@WEO/WEOWORLD, accessed 14 December 2020.
- 11 IMF. 2020. Op. cit.
- 12 FAO (Food and Agriculture Organization of the United Nations). Anticipating the impacts of COVID-19 in humanitarian and food crisis contexts. April 2020. <http://www.fao.org/3/ca8464en/CA8464EN.pdf>
- 13 ILO. ILO Monitor. 2020. Op. cit.
- 14 JHU (Johns Hopkins University). COVID-19 Dashboard by the Center for Systems Science and Engineering (CSSE). “Cumulative Cases” and “Cumulative Deaths”. <https://coronavirus.jhu.edu/map.html>, accessed 12 January 2021.
- 15 LePan, N. 2020. “Visualizing the History of Pandemics.” Visual Capitalist. 14 March 2020. <https://www.visualcapitalist.com/history-of-pandemics-deadliest/>; Rosenwald, M. 2020. “History’s deadliest pandemics, from ancient Rome to modern America”. The Washington Post. 7 April 2020. <https://www.washingtonpost.com/graphics/2020/local/retropolis/coronavirus-deadliest-pandemics/>
- 16 JHU (Johns Hopkins University). COVID-19 Dashboard by the Center for Systems Science and Engineering (CSSE). “Daily Cases” and “Daily Deaths”. <https://coronavirus.jhu.edu/map.html>, accessed 12 January 2021.
- 17 Cha, S. 2020. “Nine in ten recovered COVID-19 patients experience side-effects – study”. Reuters. 29 September 2020. <https://in.reuters.com/article/health-coronavirus-southkorea-study/nine-in-ten-recovered-covid-19-patients-experience-side-effects-study-idNKBN26K1GC>
- 18 Woolf, S.H, Chapman, D.A., Sabo, R.T., Weinberger, D.M. and Hill, L. 2020. “Excess Deaths From COVID-19 and Other Causes, March-April 2020”. JAMA 324 (5): 510–13. 1 July 2020. <https://jamanetwork.com/journals/jama/fullarticle/2768086#jld200072t1>
- 19 DW (Deutsche Welle). 2020. “Coronavirus digest: French hospitals transfer critically ill COVID-19 patients to Germany”. DW News. 7 November 2020. <https://www.dw.com/en/coronavirus-digest-french-hospitals-transfer-critically-ill-covid-19-patients-to-germany/a-55526279>
- 20 Ali, S.I. 2020. “All Covid beds in top 7 private hospitals of Jaipur are full”. The Times of India. 6 November 2020. <https://timesofindia.indiatimes.com/city/jaipur/seven-among-citys-top-pvt-hospitals-have-all-beds-for-covid-patients/articleshow/79070294.cms>
- 21 Gobierno de la Ciudad de México. “Capacity in general care beds in Covid-19 Hospitals”. <https://hospitales.covid19.cdmx.gob.mx/public/hospitales/EstatusHospitales.xhtml?tamizajeRealizado=true>, accessed 14 December 2020.

- 22 DW (Deutsche Welle). 2021. "South Africa: Hospitals inundated in COVID-19 surge". DW News. 7 January 2021. <https://www.dw.com/en/south-africa-hospitals-inundated-in-covid-19-surge/av-56164469>
- 23 McDonnell Nieto del Rio, G., Romero, S. and Baker, M. 2020. "Hospitals Are Reeling Under a 46 Percent Spike in Covid-19 Patients". The New York Times. 27 November 2020. <https://www.nytimes.com/2020/10/27/us/coronavirus-hospitals-capacity.html>
- 24 Hufford, A. 2020. "Face Masks Are Again in Short Supply as Covid-19 Cases Surge". The Wall Street Journal. 4 November 2020. <https://www.wsj.com/articles/face-masks-are-again-in-short-supply-as-covid-19-cases-surge-11604499588>
- 25 Cabarkapa, S., Nadjidai, S.E., Murgier, J. and Ng, C.H. 2020. "The psychological impact of COVID-19 and other viral epidemics on frontline healthcare workers and ways to address it: A rapid systematic review." *Brain, Behavior, & Immunity – Health* 8: 100144. 17 September 2020. <https://doi.org/10.1016/j.bbih.2020.100144>
- 26 Hales, L. 2020. "Doctors quitting because of COVID-19: survey". The Medical Republic. 8 October 2020. <https://medicalrepublic.com.au/doctors-quitting-because-of-covid-19-survey/35419>
- 27 Infobae. 2020. "Renuncia masiva de médicos en hospital de la Amazonía de Colombia." 20 April 2020. <https://www.infobae.com/america/agencias/2020/04/20/renuncia-masiva-de-medicos-en-hospital-de-la-amazonia-de-colombia/>
- 28 Ortega, G. 2020. "Médicos de Ecuador afirman 'sentirse desprotegidos' frente a la pandemia". France24. 6 September 2020. <https://www.france24.com/es/20200905-ecuador-renuncia-masiva-profesionales-salud>
- 29 Wallen, J. 2020. "More than 80 per cent of newly qualified doctors in Indian state quit after Covid-19 wage cuts". The Telegraph. 2 September 2020. <https://www.telegraph.co.uk/global-health/science-and-disease/80-percent-newly-qualified-doctors-indian-state-quit-covid-19/>
- 30 Rimmer, A. 2020. "Covid-19: Doctors may quit without proper post-pandemic support, defence body warns". BMJ. 21 June 2020. <https://www.bmj.com/content/369/bmj.m2476>
- 31 Abelson, R. 2020. "Doctors Are Calling It Quits Under Stress of the Pandemic". The New York Times. 25 November 2020. <https://www.nytimes.com/2020/11/15/health/Covid-doctors-nurses-quitting.html?auth=login-email&login=email>
- 32 World Economic Forum, in partnership with Marsh & McLennan Companies and Zurich Insurance Group. 2020. The Global Risks Report 2020. Insight Report. Chapter 2 The Fraying Fundamentals. Geneva: World Economic Forum. January 2020. <http://reports.weforum.org/global-risks-report-2020/the-fraying-fundamentals/>
- 33 World Economic Forum, in partnership with Marsh & McLennan Companies and Zurich Insurance Group. 2020. The Global Risks Report 2020. Insight Report. Chapter 6 False Positive. Geneva: World Economic Forum. January 2020. <http://reports.weforum.org/global-risks-report-2020/false-positive/>
- 34 WHO (World Health Organization). 2020. "World Bank and WHO: Half the world lacks access to essential health services, 100 million still pushed into extreme poverty because of health expenses". News Release. 13 December 2017. <https://www.who.int/news/item/13-12-2017-world-bank-and-who-half-the-world-lacks-access-to-essential-health-services-100-million-still-pushed-into-extreme-poverty-because-of-health-expenses>
- 35 Ibid.
- 36 Cousins, S. 2020. "COVID-19 has 'devastating' effect on women and girls". The Lancet 396 (10247): P301–02. 1 August 2020. [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(20\)31679-2/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)31679-2/fulltext)
- 37 OECD (Organisation for Economic Cooperation and Development). 2019. The Future of Work: OECD Employment Outlook 2019. April 2019. <https://www.oecd.org/employment/employment-outlook-2019-highlight-en.pdf>
- 38 OECD (Organization for Economic Cooperation and Development). 2020. "Learning remotely when schools close: How well are students and schools prepared? Insights from PISA". OECD Policy Responses to Coronavirus (COVID-19). 3 April 2020. <https://www.oecd.org/coronavirus/policy-responses/learning-remotely-when-schools-close-how-well-are-students-and-schools-prepared-insights-from-pisa-3bfda1f7/#figure-d1e74>
- 39 ITU (International Telecommunication Union). 2018. "New ITU statistics show more than half the world is now using the Internet". ITU News. 6 December 2018. <https://news.itu.int/itu-statistics-leaving-no-one-offline/>
- 40 Groves, E. 2020. "Austerity casts shadow on pandemic". Official Monetary and Financial Institutions Forum. 22 April 2020. <https://www.omfif.org/2020/04/austerity-casts-shadow-on-pandemic/>
- 41 Geldsetzer, P., Reinmuth, M., Ouma, P.O., Lautenbach, S., Okiro, E.A., Bärnighausen, T. and Zipf, A. 2020. "Mapping physical access to health care for older adults in sub-Saharan Africa and implications for the COVID-19 response: a cross-sectional analysis". *The Lancet Healthy Longevity* 1 (1): E32–E42. 1 October 2020. [https://www.thelancet.com/journals/lanhl/article/PIIS2666-7568\(20\)30010-6/fulltext](https://www.thelancet.com/journals/lanhl/article/PIIS2666-7568(20)30010-6/fulltext)
- 42 Deming, D. J., Goldin, C., Katz, L. F. and Yuchtman, N. 2015. "Can Online Learning Bend the Higher Education Cost Curve?" *American Economic Review* 105 (5): 496–501. May 2015. <https://www.aeaweb.org/articles?id=10.1257/aer.p20151024>

- 43 Hemelt, S. W. and Stange, K. M. 2020. "Why the move to online instruction won't reduce college costs". Brookings Institution. 28 July 2020. <https://www.brookings.edu/blog/brown-center-chalkboard/2020/07/28/why-the-move-to-online-instruction-wont-reduce-college-costs/>
- 44 Vera, F. and Adler, V. 2020. *Inmigrando: Fortalecer Ciudades Destino*. Inter-American Development Bank (IDB). March 2020. https://publications.iadb.org/publications/spanish/document/Inmigrando_Fortalecer_ciudades_destino_Tomo_1.pdf
- 45 World Bank. 2020. "COVID-19: Remittance Flows to Shrink 14% by 2021". Press Release. 29 October 2020. <https://www.worldbank.org/en/news/press-release/2020/10/29/covid-19-remittance-flows-to-shrink-14-by-2021>
- 46 World Bank. 2020. "COVID-19 to Add as Many as 150 Million Extreme Poor by 2021". Press Release. 7 October 2020. <https://www.worldbank.org/en/news/press-release/2020/10/07/covid-19-to-add-as-many-as-150-million-extreme-poor-by-2021#:~:text=The%20COVID%2D19%20pandemic%20is,severity%20of%20the%20economic%20contraction.>
- 47 IMF (International Monetary Fund). "List of LIC DSAs for PRGT-Eligible Countries. As of November 25, 2020". <https://www.imf.org/external/Pubs/ft/dsa/DSAlist.pdf>, accessed 14 December 2020.
- 48 World Economic Forum, in partnership with Marsh & McLennan Companies and Zurich Insurance Group. 2020. *The Global Risks Report 2020*. Insight Report. Chapter 2 The Fraying Fundamentals. Op. cit.
- 49 Carnegie Endowment for International Peace. "Global Protest Tracker". <https://carnegieendowment.org/publications/interactive/protest-tracker>, accessed 9 December 2020.
- 50 Ibid.
- 51 Ibid.
- 52 Petri, P. and Plummer, M. 2020. "East Asia Decouples from the United States: Trade War, COVID-19, and East Asia's New Trade Blocs". Pearson Institute for International Economics WP 20-9. June 2020. <https://www.piie.com/system/files/documents/wp20-9.pdf>
- 53 Foreign direct investment into Sub-Saharan Africa has followed a downward trajectory since 2012, and unemployment in the region has increased steadily since 2008. See World Bank Open Data. "Foreign direct investment, net inflows (BoP, current US\$) - Sub-Saharan Africa", <https://data.worldbank.org/indicator/BX.KLT.DINV.CD.WD?end=2019&locations=ZG&start=1992> and "Unemployment, total (% of total labor force) (modeled ILO estimate) - Sub-Saharan Africa", <https://data.worldbank.org/indicator/SL.UEM.TOTL.ZS?locations=ZG-1W>, both accessed 14 December 2020.
- 54 Collier, P., Elliott, V.L., Hegre, H., Hoeffler, A., Reynal-Querol, M. and Sambanis, N. 2003. "Breaking the Conflict Trap: Civil War and Development Policy. A World Bank policy research report". Washington, DC: World Bank and Oxford University Press. <https://openknowledge.worldbank.org/handle/10986/13938>
- 55 World Economic Forum. 2020. *COVID-19 Risks Outlook: A Preliminary Mapping and its Implications*. <https://www.weforum.org/reports/covid-19-risks-outlook-a-preliminary-mapping-and-its-implications>
- 56 Liu, Z., Ciais, P., Deng, Z., Lei, R., Davis, S.J., Feng, S., Zheng, B., Cui, D., Dou, X., Zhu, B., Guo, R., Ke, P., Sun, T., Lu, C. He, P., Wang, Y., Yue, X., Wang, Y., Lei, Y., Zhou, H., Cai, Z., Wu, Y. Guo, R., Han, T., Xue, J., Boucher, P., Boucher, E., Chevallier, F., Tanaka, K., Wei, Y., Zhong, H., Kang, C., Zhang, N., Chen, B., Xi, F., Liu, M., Bréon, F.-M., Lu, Y., Zhang, Q., Guan, D., Gong, P., Kammen, D.M., He, K. and H.J. Schellnhuber. 2020. "Near-real-time monitoring of global CO2 emissions reveals the effects of the COVID-19 pandemic". *Nature Communications* 11: 5172 (2020). 14 October 2020. <https://www.nature.com/articles/s41467-020-18922-7#citeas>
- 57 PBL (Netherlands Environmental Assessment Agency). 2019. *Climate and Energy Outlook 2019*. 11 January 2019. <https://www.pbl.nl/en/publicaties/klimaat-en-energieverkenning-2019>; UNCTAD (United Nations Conference on Trade and Development). 2020. "COVID-19's economic fallout will long outlive the health crisis, report warns". 19 November 2020. <https://unctad.org/news/covid-19s-economic-fallout-will-long-outlive-health-crisis-report-warns>
- 58 Storrow, B. 2020. "5 Ways the Economic Upheaval of Coronavirus May Impact CO2 Emissions". *Scientific American*. 6 April 2020. <https://www.scientificamerican.com/article/5-ways-the-economic-upheaval-of-coronavirus-may-impact-co2-emissions/>
- 59 Vivid Economics. 2020. *Greenness of Stimulus Index*. An assessment of COVID-19 stimulus by G20 countries and other major economies in relation to climate action and biodiversity goals. <https://www.vivideconomics.com/casestudy/greenness-for-stimulus-index/>, accessed 14 December 2020.
- 60 UNFCCC (United Nations Framework Convention on Climate Change). 2015. *Paris Agreement to the United Nations Framework Convention on Climate Change*, 12 December 2015. https://unfccc.int/files/meetings/paris_nov_2015/application/pdf/paris_agreement_english_.pdf



CHAPTER 2

Error 404: Barriers to Digital Inclusivity

COVID-19 has accelerated and broadened the Fourth Industrial Revolution with the rapid expansion of e-commerce, online education, digital health and remote work. These shifts will continue to dramatically transform human interactions and livelihoods long after the pandemic is behind us. This change can provide huge benefits to societies—the response to COVID-19 is full of examples, from the ability to telework to the rapid development of a vaccine.¹ However, these developments also risk exacerbating and creating inequalities. Respondents to the Global Risks Perception Survey (GRPS) rated “digital inequality” both as a critical threat to the world over the next two years and the seventh most likely long-term risk.

A widening digital gap can undermine an inclusive recovery

Individuals differ more and more in their digital autonomy and opportunities to earn a livelihood in the digital markets of tomorrow.² This widening digital gap can further weaken societal cohesion, already fraying in many countries, and undermine prospects for an inclusive recovery. Progress towards digital inclusivity is threatened by growing digital dependency and automation, information suppression and manipulation, and gaps in regulation and capabilities.

Digital division

Digital division comes in many guises, from automated bias that can be manipulated to gaps in accessibility and capacity.

Automating bias and manipulation

Decisions historically made by humans—diagnosing health issues, choosing investments, assessing educational achievement and resolving legal disputes—are increasingly being made by sophisticated algorithms that apply machine learning to large data sets.³ In the US criminal justice system, for example, algorithms are being used to

predict the risk of recidivism.⁴ In the private sector, more businesses are turning to algorithmic management to track employee productivity.⁵ Automating these decisions deepens biases when they depend on black-box algorithms developed using skewed historical data sets.⁶

The risks from automating bias are exacerbated by the amount of data now generated—predicted to nearly quadruple by 2025.⁷ The sheer volume of data drives down the cost and ease of using algorithms for malicious or manipulative purposes. Individuals and non-state groups have access to algorithms that can spread dangerous content with unprecedented efficiency, speed and reach. Malicious actors are also becoming more capable of launching misinformation campaigns on a national and global scale—and because individuals and small groups are difficult to track and prosecute, it is harder for authorities to stop the spread of misinformation. The number of countries experiencing organized social media manipulation campaigns increased by 150% between 2017 and 2019.⁸

Accessibility and regulatory gaps

“Digital gaps”—the differential ability to access data and digital technologies—are widening between and within countries. Internet usage ranges from more than 87% of the population in high-income countries to less than 17% in low-income countries (see Figure 2.1).⁹ Within countries, access to digital resources is stratified by socio-economic status—even in high-income countries. In the United Kingdom, vulnerable households have been forced to choose between sustenance and connectivity during the pandemic.¹⁰

Fissures in digital equality are exacerbated by political and geopolitical incentives. Some governments shut down internet access to control the flow of information and public discourse within and outside their borders,¹¹ or specifically to exclude foreign-based platforms.¹² The United Nations has called for “all governments to immediately end any and all blanket internet and telecommunication shutdowns.”¹³ Still, 23% of countries ban or censor news,¹⁴ which limits their citizens’ access to critical digital resources.

In countries where stark interventions are not a threat, government inaction has created risks to citizens. While nearly four-fifths of countries have implemented regulations on e-commerce and data protection,¹⁵ government responses continue to be outpaced by the speed of digitalization.¹⁶ Governments need to narrow the regulatory gap widened by new digital resources and technology’s growing influence over human interactions—or risk digital public goods concentrating in private actors.

Capacities trailing digitalization

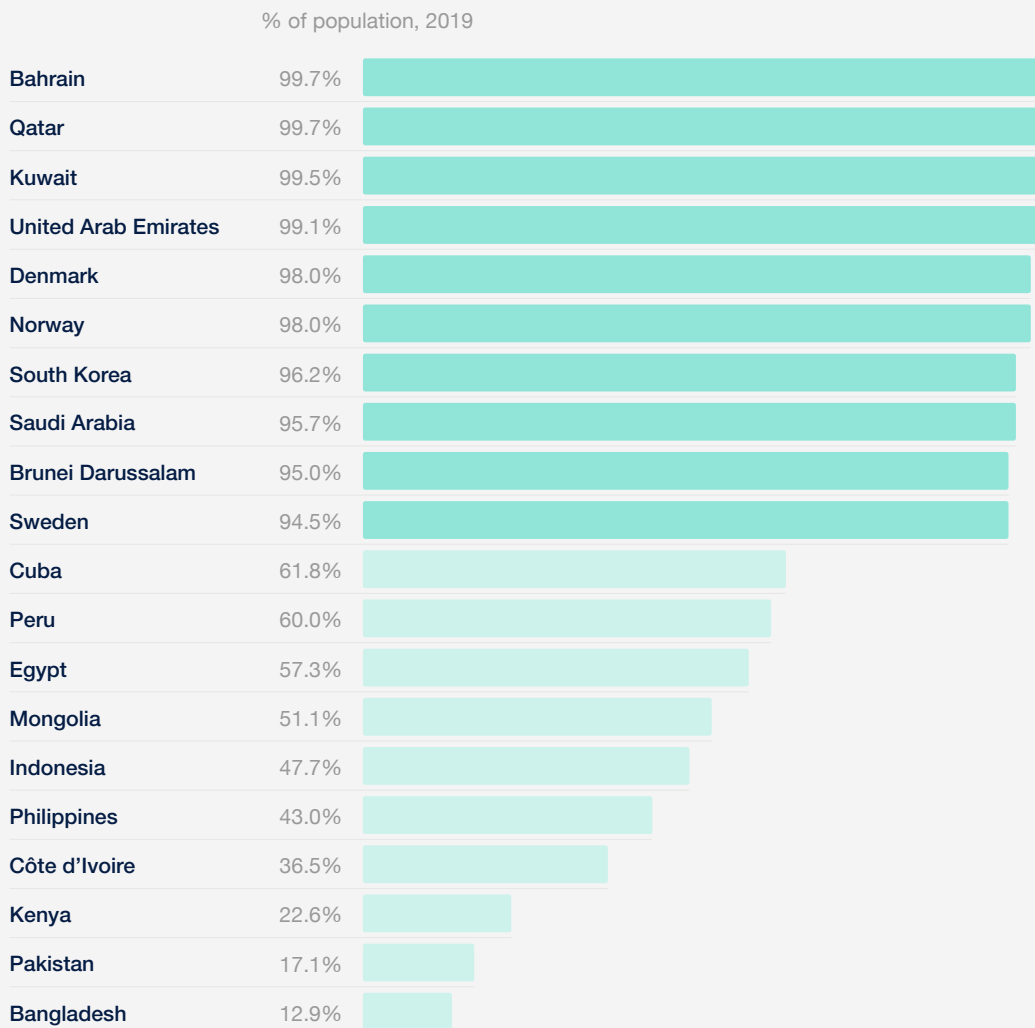
Automation was already reshaping labour markets, but the pandemic spurred an

economic crisis and a digital leap that shrank budgets and time frames needed to upskill and reskill workers. The World Economic Forum’s *Future of Jobs* report estimates that automation may displace 85 million jobs in only five years.¹⁷

In developed and emerging economies alike, the rapid shift to remote working is expected to yield long-term productivity gains,¹⁸ but it risks creating new gaps between knowledge workers and those in hands-on sectors who cannot work remotely and may lack the digital skills and tools to find other employment in areas such as manufacturing, retail, and some

FIGURE 2.1

Internet Users, Select Countries



Source: World Bank Open Data. "Individuals using the Internet (% of population)." https://data.worldbank.org/indicator/IT.NET.USER.ZS?most_recent_value_desc=true, accessed 15 December 2020.

fields of healthcare. The rapid digitalization of human interactions and the workplace has also expanded the suite of essential digital skills—including communication, cyber safety and information processing¹⁹—beyond what was previously considered internet savvy.

and where livelihoods were hit hard by the COVID-19 crisis²¹—will likely need to prioritize keeping their existing job or quickly finding new employment over dedicating time and money to training.

4x ■ increase in data generated by 2025

Such expansion requires significant investment in upskilling and reskilling. However, public spending and policy-making capacity to reduce the digital skills gap will be limited after COVID-19—especially in low- and middle-income countries (see [Chapter 1, Global Risks 2021](#)). Employers facing loss of revenues or the risk of bankruptcy (see [Chapter 5, Imperfect Markets](#)) may also have limited capacity to offer financial support to employees. Vulnerable workers—especially in the informal sector, where 60% of the world’s workforce finds employment,²⁰

Disconnected societies

Societies are becoming more disconnected. Populations find themselves increasingly polarized and bombarded with misinformation, and the widening gap in digital ability risks the emergence of a digital underclass. A regulatory backlash to combat this outcome risks further disconnecting societies.

Polarization and misinformation

A pervasive reliance on complex algorithms that exacerbate inequalities can damage individual well-being and amplify societal fractures. Automated assessments of criminal sentences may worsen results for vulnerable groups.²² Within artificial intelligence (AI)-powered organizations, “code ceilings” (which dictate opportunities based on a business optimization function) may limit career opportunities for workers managed by algorithms.²³ And in health—as analysed in depth in previous

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editions of the *Global Risks Report* (see, for example, Chapter 6, False Positive, in the 15th edition of that report)²⁴—skewed databases could lead AI to misdiagnose or mistreat patients. If left undetected or unaddressed, algorithmic discrimination—and the resulting societal divisiveness—could worsen exponentially as stronger computing capabilities boost the speed and reach of algorithms.²⁵

Reliance on algorithms that exacerbate inequalities can damage well-being and amplify societal fractures

Widespread falsehoods and conspiracy theories hinder civic debate and consensus on critical political, public health and environmental issues. “Infodemics” surrounding COVID-19, for example, have impeded efforts to stem the physical damage from the disease—false information that ingesting highly concentrated alcohol kills SARS-CoV-2 caused over 700 deaths and nearly 6,000 hospitalizations in Iran.²⁶ Misinformation could endanger a global recovery that hinges on the widespread vaccination. As one European diplomat commented, “disinformation will continue. Vaccination seems to be the next battleground.”²⁷ More broadly, disinformation and misinformation campaigns can erode community trust in science, threaten governability and tear the social fabric. According to the GRPS, “backlash against science” will heighten the risks of “climate action failure” and “infectious diseases” over the next decade (see Figure III, *Global Risks Network*).

Misinformation is increasingly threatening civil liberties and democracy.²⁸ “Post-truth” politics²⁹—from deliberate manipulation campaigns to the unmitigated spread of conspiracy theories and fake news—are “amplifying hate speech; heightening the risk of conflict, violence and human rights violations; and threatening long-term prospects for advancing democracy”

as the World Health Organization has warned.³⁰ Yet blunt government attempts to combat misinformation can exacerbate the problem. Internet restrictions, for example, risk excluding whole societies from the global information economy, while more invasive control could infringe civil liberties.

Digital underclass of workers

Widening gaps in digital literacy risk creating a digital underclass.³¹ Workers excluded from digital resources will miss the educational and employment opportunities constantly created by the global digital economy: the World Economic Forum’s *Future of Jobs Report* estimates that, by 2025, 97 million new jobs may emerge from the division of labour between humans and machines.³² The digital exclusion of billions of workers worldwide increases the risk of “livelihood crises” and is likely to exacerbate “social cohesion erosion”—two of the highest likelihood and highest impact risks of the next 10 years, according to the GRPS (see Figure II, *Global Risks Landscape*).

User disenfranchisement and governance challenges

At a time when a growing number of human activities are going digital, individuals and institutions face a heightened risk of losing their digital autonomy.

Power is becoming more concentrated in markets such as online retail, online payments and communication services (see Chapter Chapter 5, *Imperfect Markets*).³³ “Digital power concentration”—the sixth most likely long-term risk according to GRPS respondents—could confine political and societal discourse to a limited number of platforms that have the capability of filtering information and further reducing the already limited agency of individuals and organizations over how their data are used.³⁴

Stretched budgets will limit consumers’ options as they choose digital services and providers that best suit their new needs. Lack of competition between providers by way of offering stricter data privacy policies could prevent users from gaining more control over how their data are collected, used and monetized.³⁵ Users and consumers could also lose the power to negotiate or revoke the use and storage of data they have already shared, willingly



REUTERS/RELLANDINI

or unwillingly.³⁶ As social identities become more defined by online identities, users will be increasingly at risk of exposure to targeted political manipulation, invasion of privacy, cybercrime, financial loss, and psychological or physical harm.³⁷

Regulatory techlash

Governments across the world are ramping up protection for consumers and increasing regulatory pressures on digital markets in response to the potentially deleterious societal impacts of digital dependency and influence.

The European Union signalled, in its draft Digital Markets Act,³⁸ that it would be clamping down on anti-competitive behaviours.³⁹ In the United States, a congressional report on the risk of monopolization in digital markets also portends growing pressures on tech companies.⁴⁰ Meanwhile, regulations are tightening around providers' responsibility for illegal activities on their platforms—such as the spread of misinformation and malicious content. A regulatory “techlash” could confront major tech companies with large fines—up to 10% of global revenues in Europe—along with more governmental control and the possibility of breaking them up.

Stronger government intervention in digital markets can empower consumers and users by fostering more competition and regulating anti-competitive practices, but breaking up major platforms can also reduce services overall. Without platform

Regulatory “techlash” risks internet restriction, information censorship and cut communications

benefits, smaller companies may not be able to reach less profitable markets, which would widen digital inequality. In more authoritarian contexts, a distinct threat remains that governments will attempt to take over major platforms and service providers—thus consolidating their power to restrict internet access, censor information and cut communications. Pathways to future economic and societal gains under these conditions would be severely imperilled.

Updates required

The context, fairness and governance—not algorithms, AI or machines by default—underpinning the digital leap will determine whether the use and adoption of new technologies advances individual and societal well-being or widens the gap between the technological “haves” and “have-nots”. Already,

of digital technologies that safeguard user data, entitle online information accuracy and reward innovation.

Basic education and lifelong learning can increase digital literacy and play a critical role in closing digital divides. Increasing access to digital content is not enough. As AI, machine learning and biotechnology evolve, new users need to think critically about the supply and consumption of digital content. The World Economic Forum’s *Future of Jobs Report* shows that, already, the digital leap has propelled worker appetite for online learning and training on digital skills such as data analysis, computer science and information technology.⁴⁴ Employers have also risen to the challenge—during the second quarter of 2020, employer provision of online learning opportunities increased fivefold.⁴⁵ Similar opportunities exist in leveraging digital services to overcome existing and emerging inequalities in health accessibility, affordability and quality (see [Chapter 1, Global Risks 2021](#)). Throughout the pandemic, telemedicine in many countries has allowed patients to continue their treatment while minimizing the risk of COVID-19 transmission.⁴⁶

Digital tools will benefit workers and employers alike—two-thirds of employers expect to see a return on their investment in upskilling and reskilling within one year,⁴⁷ while enhanced healthcare reduces business risks such as safety, continuity and reputation⁴⁸—but so will more inclusive technology. More companies are working with civil society on the design and governance of technology and digital services. By integrating marginalized and vulnerable groups into technology development—including those of different ethnicities and genders—companies are reducing bias and promoting access to emerging technologies.⁴⁹ The business case for such collaborations is that they help to make technology more user-centric and easier to adopt. COVID-19 contact-tracing apps have already shown how open-source approaches and monitoring mechanisms can work even with proprietary code, helping to make technologies more inclusive and representative.⁵⁰

85 million:

jobs that may be automated in five years

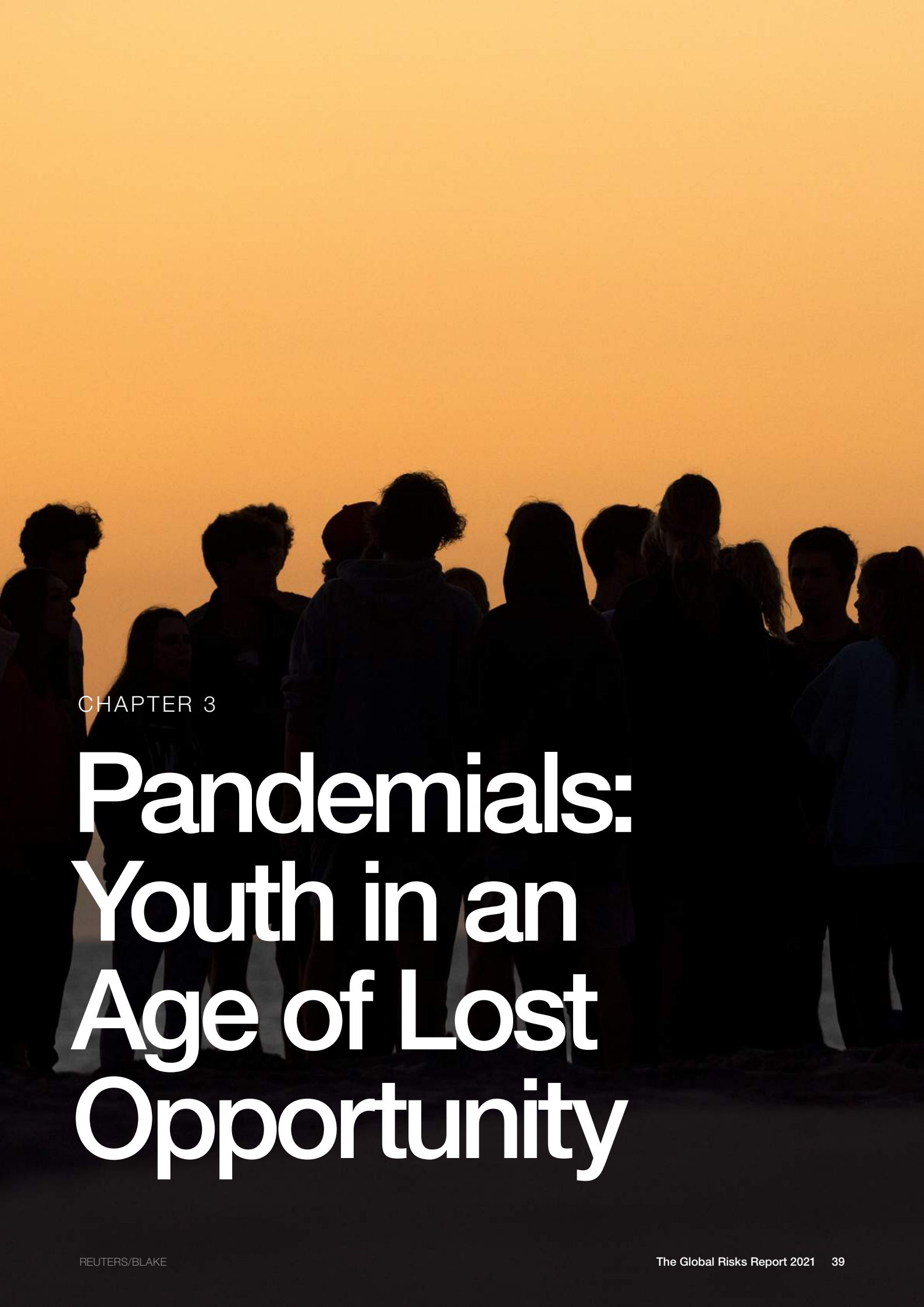
“collaborative intelligence” has been found to yield lasting productivity gains for both humans and technology, while automation for the sake of reducing workforces yields only temporary improvements.⁴¹ Ensuring a smooth digital transition and mitigating the risks to social cohesion from digital divides will require managing innovation without stifling it—for example, insisting on security and privacy by design in the development of new technologies and digital services.⁴² Impact studies could improve understanding of the implications of new technologies for societies and human rights.⁴³ Such approaches would require building public sector capabilities to assess the benefits and risks from an accelerated digitalization of social interactions; and to improve the regulation

Endnotes

- 1 The COVID-19 High Performance Computing Consortium. Projects. <https://covid19-hpc-consortium.org/projects>, accessed 15 December 2020.
- 2 World Economic Forum. 2020. Markets of Tomorrow: Pathways to a New Economy. Insight Report. October 2020. http://www3.weforum.org/docs/WEF_Markets_of_Tomorrow_2020.pdf
- 3 World Economic Forum. 2020. Quantum Computing. Dynamic Briefing. December 2020. <https://intelligence.weforum.org/topics/a1G0X000006OGsDUAW?tab=publications>
- 4 Lee, N. T., Resnick, P. and Barton, G. 2019. "Algorithmic bias detection and mitigation: Best practices and policies to reduce consumer harms". Brookings Institution. 22 May 2019. <https://www.brookings.edu/research/algorithmic-bias-detection-and-mitigation-best-practices-and-policies-to-reduce-consumer-harms/>
- 5 Walsh, M. 2019. "When Algorithms Make Managers Worse". Harvard Business Review. 8 May 2019. <https://hbr.org/2019/05/when-algorithms-make-managers-worse>
- 6 Kwan, N. 2018. "The Hidden Dangers in Algorithmic Decision Making". Towards Data Science Inc. 1 December 2018. <https://towardsdatascience.com/the-hidden-dangers-in-algorithmic-decision-making-27722d716a49>
- 7 Reinsel, D., Gantz, J. and Rydning, J. 2020. "The Digitization of the World: From Edge to Core". IDC White Paper. Framingham: International Data Corporation. November 2018 (data refreshed May 2020). <https://www.seagate.com/files/www-content/our-story/trends/files/dataage-idc-report-final.pdf>
- 8 Bradshaw, S. and Howard, P.N. 2019. The Global Disinformation Order: 2019 Global Inventory of Organised Social Media Manipulation. Oxford Internet Institute. Oxford: University of Oxford. 2019. <https://comprop.oi.ox.ac.uk/wp-content/uploads/sites/93/2019/09/CyberTroop-Report19.pdf>
- 9 World Bank Open Data. "Individuals using the Internet (% of population)". https://data.worldbank.org/indicator/IT.NET.USER.ZS?most_recent_value_desc=true, accessed 15 December 2020.
- 10 Kelly, A. 2020. "Digital divide 'isolates and endangers' millions of UK's poorest". The Guardian. 28 April 2020. <https://www.theguardian.com/world/2020/apr/28/digital-divide-isolates-and-endangers-millions-of-uk-poorest>
- 11 Makhovsky, A. and Balmforth, T. 2020. "Internet blackout in Belarus leaves protesters in the dark". Reuters. 11 August 2020. <https://www.reuters.com/article/us-belarus-election-internet-idUSKCN2571Q4>; Rainsford, S. 2019. "Russia internet: Law introducing new controls comes into force". BBC News. 1 November 2019. <https://www.bbc.com/news/world-europe-50259597>
- 12 Muggah, R. and Rohozinski, R. 2020. "Trump's TikTok and WeChat Bans Could Shatter the Global Internet". Foreign Policy. 14 August 2020. <https://foreignpolicy.com/2020/08/14/trump-bans-tiktok-wechat-open-internet/>
- 13 UN OHCHR (United Nations Office of the High Commissioner for Human Rights). "Press briefing note on Ethiopia". 27 March 2020. <https://www.ohchr.org/en/NewsEvents/Pages/DisplayNews.aspx?NewsID=25751&LangID=E>
- 14 Bischoff, P. 2020. "Internet Censorship 2020: A Global Map of Internet Restrictions". Comparitech Limited. 15 January 2020. <https://www.comparitech.com/blog/vpn-privacy/internet-censorship-map/>
- 15 UNCTAD (United Nations Conference on Trade and Development). 2020. Cybercrime Legislation Worldwide. 2 April 2020. <https://unctad.org/page/cybercrime-legislation-worldwide>
- 16 Marchant, G. 2011. The Growing Gap Between Emerging Technologies and the Law. Heidelberg: Springer. 28 April 2011. https://link.springer.com/chapter/10.1007%2F978-94-007-1356-7_2
- 17 World Economic Forum. 2020. The Future of Jobs Report 2020. October 2020. http://www3.weforum.org/docs/WEF_Future_of_Jobs_2020.pdf
- 18 OECD (Organisation for Economic Co-operation and Development). 2020. Productivity gains from teleworking in the post COVID-19 era: How can public policies make it happen? 7 September 2020. https://read.oecd-ilibrary.org/view/?ref=135_135250-u15liw4jd&title=Productivity-gains-from-teleworking-in-the-post-COVID-19-era
- 19 GOV.UK, Department for Education. 2019. Guidance: Essential digital skills framework. 23 April 2019. <https://www.gov.uk/government/publications/essential-digital-skills-framework/essential-digital-skills-framework>
- 20 ILO (International Labour Organization). 2018. Women and Men in the Informal Economy: A Statistical Picture. Third edition. https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/documents/publication/wcms_626831.pdf
- 21 ILO (International Labour Organization). 2020. Impact of the COVID-19 crisis on loss of jobs and hours among domestic workers. 15 June 2020. https://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---travail/documents/publication/wcms_747961.pdf
- 22 ILO (International Labour Organization). 2020. COVID-19 crisis and the informal economy. ILO Brief. May 2020. https://www.ilo.org/wcmsp5/groups/public/@ed_protect/@protrav/@travail/documents/briefingnote/wcms_743623.pdf
- 22 Angwin, J., Larson, J. Mattu, S. and Kirchner, L. 2016. Machine Bias. New York: ProPublica. 23 May 2016. <https://www.propublica.org/article/machine-bias-risk-assessments-in-criminal-sentencing>

- 23 Walsh, M. 2020. "Algorithms Are Making Economic Inequality Worse". Harvard Business Review. 22 October 2020. <https://hbr.org/2020/10/algorithms-are-making-economic-inequality-worse>
- 24 World Economic Forum, in partnership with Marsh & McLennan Companies and Zurich Insurance Group. 2020. The Global Risks Report 2020. Insight Report. Chapter 6 False Positive. January 2020. <http://reports.weforum.org/global-risks-report-2020/false-positive/>
- 25 World Economic Forum. 2020. Quantum Computing. Op. cit.
- 26 Al Jazeera. 2020 "Iran: Over 700 dead after drinking alcohol to cure coronavirus". Al Jazeera Media Network. 27 April 2020. <https://www.aljazeera.com/news/2020/04/27/iran-over-700-dead-after-drinking-alcohol-to-cure-coronavirus/>
- 27 Jourová, V. 2020. "Response to disinformation around COVID-19: Remarks by Vice-President Věra Jourová at the Read-out of the College meeting". Brussels: European Commission. 10 June 2020. https://ec.europa.eu/commission/presscorner/detail/en/SPEECH_20_1033
- 28 Howard, P. 2020. Lie Machines: How to Save Democracy from Troll Armies, Deceitful Robots, Junk News Operations, and Political Operatives. New Haven: Yale University Press. 19 May 2020. <https://liemachines.org/>
- 29 Oxford Dictionaries. 2016. "Word of the Year 2016". Oxford Languages. <https://languages.oup.com/word-of-the-year/2016/>
- 30 WHO (World Health Organization). 2020. "Managing the COVID-19 infodemic: Promoting healthy behaviours and mitigating the harm from misinformation and disinformation". Joint statement by WHO, UN, UNICEF, UNDP, UNESCO, UNAIDS, ITU, UN Global Pulse and IFRC. 23 September 2020. <https://www.who.int/news/item/23-09-2020-managing-the-covid-19-infodemic-promoting-healthy-behaviours-and-mitigating-the-harm-from-misinformation-and-disinformation>
- 31 McKinsey Global Institute. 2020. What 800 executives envision for the postpandemic workforce. 23 September 2020. <https://www.mckinsey.com/featured-insights/future-of-work/what-800-executives-envision-for-the-postpandemic-workforce>; Walsh, M. 2020. "Algorithms Are Making Economic Inequality Worse". Harvard Business Review. 22 October 2020. <https://hbr.org/2020/10/algorithms-are-making-economic-inequality-worse>
- 32 World Economic Forum. 2020. The Future of Jobs Report 2020. Op. cit.
- 33 European Commission. "Platform-to-business trading practices". <https://ec.europa.eu/digital-single-market/en/business-business-trading-practices>, accessed 15 December 2020; U.S. House of Representatives Judiciary Committee, Subcommittee on Antitrust, Commercial and Administrative Law of the United States House of Representatives. 2020. Investigation of Competition in Digital Markets. Majority Staff Report and Recommendations. Washington, DC: United States House of Representatives. 2020. https://judiciary.house.gov/uploadedfiles/competition_in_digital_markets.pdf
- 34 The Economist. 2020. "Social media's struggle with self-censorship". 22 October 2020. https://www.economist.com/briefing/2020/10/22/social-medias-struggle-with-self-censorship?utm_campaign=the-economist-this-week&utm_medium=newsletter&utm_source=salesforce-marketing-cloud
- 35 Pavel, V, 2019. "We don't want to sell our data, we want data rights!" Privacy International. 6 February 2019. <https://privacyinternational.org/news-analysis/2683/we-dont-want-sell-our-data-we-want-data-rights>; World Economic Forum. 2020. Redesigning Data Privacy: Reimagining Notice & Consent for human-technology interaction. Insight Paper. July 2020. http://www3.weforum.org/docs/WEF_Redisigning_Data_Privacy_Report_2020.pdf
- 36 World Economic Forum. 2020. Redesigning Data Privacy. Op. cit.
- 37 Scott, J. and Spaniel, D. 2019. Your Life, Repackaged and Resold: The Deep Web Exploitation of Health Sector Breach Victims. ArtOfTheHak. 2019.
- 38 European Commission. 2020. "Digital Markets Act: Ensuring fair and open digital markets". Press Release. 15 December 2020. https://ec.europa.eu/commission/presscorner/detail/en/QANDA_20_2349
- 39 Espinoza, J. 2020. "EU warns that it may break up Big Tech companies". The Financial Times. 15 December 2020. <https://www.ft.com/content/15bf2e24-284f-4819-89ff-2520676e29ed>
- 40 U.S. House of Representatives Judiciary Committee, Subcommittee on Antitrust, Commercial and Administrative Law of the United States House of Representatives. 2020. Op. cit.
- 41 Wilson, H.J. and Daugherty, P.R. 2018. "Collaborative Intelligence: Humans and AI Are Joining Forces". Harvard Business Review. July-August 2018. <https://hbr.org/2018/07/collaborative-intelligence-humans-and-ai-are-joining-forces>
- 42 World Economic Forum. 2020. "Incentivizing Responsible and Secure Innovation. A framework for investors and entrepreneurs". White Paper. June 2020. http://www3.weforum.org/docs/WEF_Incentivizing_Secure_and_Responsible_Innovation_A_framework_for_investors_and_entrepreneurs_2020.pdf
- 43 Mulder, K.F. 2013. "Impact of New Technologies: How to Assess the Intended and Unintended Effects of New Technologies?" In Handbook of Sustainable Engineering, Kauffman, J. and Lee, K.M. (eds). Dordrecht: Springer. 2013. https://link.springer.com/referenceworkentry/10.1007%2F978-1-4020-8939-8_35

- 44 World Economic Forum. 2020. The Future of Jobs Report 2020. Op. cit.
- 45 World Economic Forum. 2020. The Future of Jobs Report 2020. Op. cit.
- 46 Monaghesh, E., and Hajizadeh, A. 2020. "The role of telehealth during COVID-19 outbreak: a systematic review based on current evidence." BMC Public Health 20 (1193). 1 August 2020. <https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-020-09301-4>
- 47 Monaghesh and Hajizadeh. 2020. Op. cit.
- 48 Mercer Marsh Benefits. 2020. Health on Demand – Global Report. February 2020. New York: Marsh & McLennan Companies. <https://www.mercer.com/content/dam/mercer/attachments/private/gl-2020-health-on-demand-global-report-28-jan-mercer.pdf>
- 49 World Economic Forum. 2019. "Civil Society in the Fourth Industrial Revolution: Preparation and Response". White Paper. January 2019. http://www3.weforum.org/docs/WEF_Civil_Society_in_the_Fourth_Industrial_Revolution_Response_and_Innovation.pdf
- 50 GitHub. "Repository for the German Corona Warn App". <https://github.com/corona-warn-app>, accessed 15 December 2020.



CHAPTER 3

Pandemics: Youth in an Age of Lost Opportunity

Young adults (ages 15–24) around the world are experiencing their second major global crisis within a decade:¹ they entered youth in the throes of the financial crisis,² and are now exiting at the outset of a pandemic not seen in generations. They will face serious challenges to their education, economic prospects and mental health.

The outlook for this generation had already been diminished by environmental degradation, rising inequality (of many types - gender, intergenerational, economic and ethnic), varying degrees of violence, and social disruption from the tech-enabled industrial transformation. While the digital leap forward (see Chapter 2, Error 404) unlocked opportunities for some youth, many are now entering the workforce in an employment ice age.

In May 2020, the World Economic Forum's *COVID-19 Risks Outlook* warned of a “next lost generation”.³ According to the Global Risks Perception Survey (GRPS), “youth disillusionment” is a top neglected risk that will become a critical threat to the world over the next two years (see Figure II, [Global Risks Landscape](#)). For younger respondents to the GRPS—the World Economic Forum's Global Shapers—“youth disillusionment” is also a top blind spot (see Box 3.1). Hard-fought societal

wins could be obliterated if the current generation lacks adequate pathways to educational and job opportunities.

A scarred generation

Today's youth already bear the scars of a decade-long financial crisis, an outdated education system, and an entrenched climate crisis, as well as violence in many places.

Growing disparities

Global fiscal policies following the Great Recession led to unequal prosperity gains across societies and generations. Large-scale financial stimulus packages were insufficient for younger generations to regain their footing, and austerity measures hampered investment in education, narrowing an important channel of mobility. As a result, many young people have lingered in precarious service jobs that are vulnerable to major shocks. Pre-COVID, children and youths accounted for two-thirds of the global poor.⁴ COVID-19 has severely worsened this situation.⁵ While the share of youth is expected to increase across Africa—where the median age currently stands at just 19.7 years—and Oceania, Europe and South-East Asia will see declines in their youth populations by 2050,⁶ adding to the demographic challenges of unemployment and ageing in those regions.

BOX 3.1

Risks Landscape 2021: The Global Shapers' Perspective

The Global Shapers Community is the World Economic Forum's network of young people driving dialogue, action and change. Their responses to the GRPS show higher aversion to risks than the multistakeholder sample (see Figure 3.1). There are some similarities, however: Global Shapers also rate climate-related risks as the most likely and most impactful long-term risks and “youth disillusionment” as a top global blind spot.

The Shapers' perceptions of critical threats to the world show a telling pattern. They see personal risks as immediate threats, macro risks in the medium term and fundamental geopolitical risks in the long term.

Top risks by horizon

- **Short term (0–2 years):** “mental health deterioration”, “livelihood crises” and “infectious diseases”
- **Medium term (3–5 years):** “IT infrastructure breakdown”, “resource geopolitization”, “price instability”, and “asset bubble burst”
- **Long term (5–10 years):** “weapons of mass destruction”, “multilateralism collapse” and “state collapse”

Top blind spots

- “Climate action failure”, “mental health deterioration” and “youth disillusionment”

School closures aggravated youth inequalities between and within societies

Regional inequalities persist beyond fundamental economics; these disparities are visible in access to education, health systems, social security and protection from violence and conflict. Pre-pandemic, almost 44% of girls and 34% of boys from the poorest strata of society did not complete primary school.⁷ In recent years, gains in youth retention rates have slowed.⁸ Health has also deteriorated for youth: non-communicable diseases—which carry long-term health risks through adulthood and older age—grew starkly among adolescents, and more young people are facing the effects of overburdened health systems in their countries.⁹

Violence compounds these structural challenges. Decade-long conflicts hampered youth prospects in Central Asia, Latin America, the Middle East and West and Central Africa. As a result, a record number of children and youths are now

among the world's refugees.¹⁰ In advanced economies, youths are beleaguered by threats of gun violence, domestic terrorism and deep-running societal frictions that could escalate to more violence.

Youth disenfranchisement has been amplified by disappointment at the slow economic recovery from the 2008–2009 Financial Crisis, frustration at ostensibly corrupt and ineffective elites, and socio-economic fault lines that have exposed deep-rooted injustices. This discontent has been evidenced by the growing number of youth-led movements that have erupted in the past decade—among them the Arab Spring, global climate strikes, and civil rights movements seeking more social and racial equality.

Fragile education systems

The year 2020 saw unprecedented challenges to the global education system. During the first wave of pandemic lockdowns, 80% of students globally were out of school, as traditional classroom teaching was rendered mute. Despite worldwide adaptation for remote teaching via television, radio and internet,¹¹ there were stark regional differences in capacity;¹² at least 30% of the global student population lacked

REUTERS/AZIZ



the technology to participate in digital and broadcast learning.¹³ While adaptive measures allowed schools to re-open eventually, many challenges remained throughout subsequent waves of COVID-19 because of ineffective or slow government responses.

School closures aggravated youth inequalities between and within societies because young women and those of disadvantaged socio-economic statuses were hit hardest. Students in high-income households potentially benefited from more targeted and individualized learning arrangements,¹⁴ but resource-strapped youth struggled to participate in educational opportunities in the absence of digital connectivity, adult support or adequate space to study at home.¹⁵ For others, border closings complicated educational mobility.

30%:

youth lacking technology to participate in digital and broadcast learning

Home schooling and home working increased household stress and the incidence of violence against young adults.¹⁶ In areas where school provides access to food and a safe space, school closures put students at higher risk of child labour, recruitment by organised crime,¹⁷ human trafficking,¹⁸ and gun violence.¹⁹ In the Sahel region in Africa—where schools were already under threat of violence—COVID-19 forced safe schools to close, leading to an increase in physical violations against children and recruitment into fighting.²⁰

School closings have had devastating consequences on young women. Gender-based violence has increased globally during the pandemic,²¹ and rapes rose in advanced and developing countries alike.²² Teenage pregnancies are

expected to increase, from Latin America to East Asia and Africa²³—previous health crises suggest that some of these girls might be prevented from returning to school.²⁴ Globally, COVID-19 and its “shadow pandemic” on girls and young women risk reversing 25 years’ worth of global gains in girls’ education,²⁵ exposing girls to a higher chance of underage marriage.²⁶

Employment turmoil

Although many economies recovered from the 2008–2009 Financial Crisis, those hit hardest by the Great Recession never did fully. As a result, youth unemployment has risen globally since 2008.²⁷ National policies still fail to lift up youth in many cases. Weak structural transformations have largely failed to reduce stubbornly high, systemic youth unemployment, particularly in the Middle East and North Africa.²⁸

The increase of unbound job schemes originating from the “gig” economy, unpaid or low-paid internships and continued high numbers of youth in the informal market have spurred young workers to jump between low-paid short-term jobs. At the same time, labour market distortions narrowed employment opportunities for young adults: a deficit of employment opportunities for highly educated youth in some sectors, and a “skills crisis” in others.²⁹

Policy responses to COVID-19 further exacerbated the marginalization of young workers. The global economy plummeted in the second quarter of 2020 (see Chapter 1, *Global Risks 2021*), disproportionately affecting the incomes of young adults. In many economies, they were the first to lose their jobs to lockdowns. Many young adults work in the sectors hardest hit by the pandemic (see Table 3.1)—such as the service industry and manufacturing—often on part-time or temporary contracts with limited job protection.³⁰ The informal sector, where almost 80% of the world’s young workers are employed, was particularly impacted.³¹ Altogether, the number of young people who are not in employment, education or training (NEET), already at 21% in early 2020, is likely to rise in the coming year.³²

TABLE 3.1

Global Estimates of Youth Employment in Hard-Hit COVID-19 Sectors

Economic sector	Impact of crisis on economic output	Share in global youth unemployment (%)
Wholesale and retail; repair of motor vehicles and motorcycles	High	17.5
Manufacturing	High	13.8
Real estate	High	3.8
Accommodation and food services	High	6.6
Transport, storage and communication	Medium-high	4.9
Arts, entertainment and recreation, and other services	Medium-high	6.6
Mining and quarrying	Medium	0.7
Financial and insurance services	Medium	1.1
Construction	Medium	7.7
Agriculture, forestry and fishing	Medium-low	28.9
Utilities	Low	0.5
Public administration and defence; compulsory social security	Low	2
Human health and social work activities	Low	2.7
Education	Low	3.1

Source: ILO. 2020. ILO Monitor: COVID-19 and the world of work. Fourth edition. 27 May 2020. International Labour Organization. p. 2. https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/documents/briefingnote/wcms_745963.pdf

Note: Impact ratings are based on the ILO's assessment of real-time and financial data (see the second edition of the ILO Monitor, released on 7 April 2020), ILOSTAT baseline data on sectoral distribution of employment (ISIC Rev. 4) and ILO Harmonized Microdata.

Young adults' employment prospects were being challenged by automation,³³ as well as by disruption from the Fourth Industrial Revolution,³⁴ before interrupted education opportunities and job losses set them further behind. Youth unemployment may increase across regions,³⁵ given that more sectoral restructuring and shifting consumer habits (see Chapter 5, *Imperfect Markets*) are expected to trigger mass

layoffs.³⁶ Low-wage jobs—which could provide a safety net for young workers starting their careers—are also projected to decrease.³⁷



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Turbulent paths

“Pandemials” are at risk of becoming the double lost generation of the 21st century. Lack of opportunities for future economic, societal and political participation could have long-lasting global consequences.

A narrowing pathway for youth

Lockdowns may cause an education loss of at least one semester,³⁸ which, like absenteeism, could affect future academic performance,³⁹ increase dropout rates and induce riskier health behaviours.⁴⁰ This could make it harder for students at the secondary and tertiary levels to acquire the necessary skills to pursue further education or vocational training, or even to secure entry-level jobs. And such further education or training is even more important for “jobs of the future”.⁴¹ Youth from low-income households are at risk of missing out on education altogether if they are sent to work rather than back to school.⁴²

Young women face the risk of being kept out of school for household or agricultural work,⁴³ not being able to finish their secondary education, or not being able to return to work after leaving during the pandemic for caregiving responsibilities;⁴⁴ young men could face increased financial pressure in societies where they are the sole financial contributor of the household. A widening of educational, socio-economic and gender inequalities can be expected.

The 2008–2009 Financial Crisis has shown the persistence of youth unemployment— young adults have continuously struggled to integrate into and align their skills with a grim job market. This struggle can leave long-lasting marks on their livelihoods. As the world starts to recover from COVID-19, young adults are likely to face such challenges again, this time amplified by the world’s digital leap forward (see [Chapter 2, Error 404](#)). Entry-level jobs today require more skills than they did a decade ago,⁴⁵ and, at the same time, there are fewer available because of automation.⁴⁶

The consequences of rapidly changing markets (see [Chapter 5, Imperfect Markets](#)) make youth more vulnerable to unstable contracts, career instability and limited promotion prospects. This can lead to a higher risk that they will miss out on social safety benefits, job protection and

“Pandemials” are at risk of becoming the double lost generation of the 21st century

80%:

youth whose mental health deteriorated during the pandemic

re-skilling opportunities. More importantly, a stunted employment outlook complicates young people's ability to consolidate economic capital and social mobility. Young students are expected to face increased debt burdens as student loans continue to reach record levels,⁴⁷ and graduates entering the workforce in an economic crisis are more likely to earn less than their peers.⁴⁸ For young workers, one month being unemployed at age 18–20 can cause a permanent income loss of 2% in the future.⁴⁹ In economies where informal work is predominant—mostly because of high shares of agricultural and services industry professions—lack of social protection increases youth's risk of sliding into poverty quickly. Malnutrition and poorer health are immediate effects of such a slide, but the consequences of youth entering into poverty would also cascade to their children.⁵⁰

Fear, anger and backlash

Young people have become more and more vocal in the past decade, in the streets and in cyberspace. Their concern and proactivity with key issues such as economic hardship, persisting intergenerational inequality, failure

in governance and rampant corruption is inspiring;⁵¹ but they have also expressed anger, disappointment and pessimism.⁵² The multitude of youth protests embody an increased sentiment of betrayal by the generation in power over insufficient action on social and climate justice, political change and corruption.⁵³ COVID-19 has added a new criticality to youth disillusionment with their dire economic outlook, missed educational opportunities and disapproval of government emergency response.⁵⁴ These confrontations and the associated potential disruptions could become constant if the underlying causes are left unaddressed.

Limited economic and educational prospects are likely to exacerbate youth frustrations. The compounding trends of lower intergenerational mobility and widening socio-economic inequalities, exacerbated by the COVID-19 crisis, have markedly deteriorated youth's mental health. Loneliness and anxiety among youth in developed economies had already been described as an "epidemic";⁵⁵ but since the start of the coronavirus pandemic, mental health has deteriorated for 80% of children and young people across the globe.⁵⁶

Such discontent risks exploitation by reactionary actors. Organised crime,⁵⁷ extremist groups,⁵⁸ and recruiters into armed conflicts⁵⁹ could prey on a more vulnerable youth cohort with diminished job opportunities in developing countries.⁶⁰ Prolonged lockdown loneliness and job loss stresses⁶¹—resulting in higher rates of depression, anxiety,⁶² and post-traumatic stress disorder (PTSD)⁶³—could make youths more susceptible to alluring but divisive ideas in developed economies.⁶⁴ More radical youth movements could lead to heightened inter-generational tensions and deepen societal fragmentation along new fault lines. "Social cohesion erosion" compounded by "youth disillusionment"—critical short-term threats to the world in the GRPS—would challenge fragile national institutions or even destabilize political and economic systems altogether.

At the same time, dire prospects for economic and social mobility will likely force more young workers to migrate abroad in search of better opportunities—

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adding to the current 31 million youth migrants across the world.⁶⁵ This would induce the real brain drain of the 21st century. However, young migrant workers could see such opportunities diminished if stricter migration policies implemented during the pandemic are slow to relax or become permanent in receiving countries (see [Chapter 4, Middle Power Morass](#)).

Passing the baton

The pandemic has exposed youth's vulnerability to widespread economic and societal shocks. Political and economic systems will need to adapt globally to directly address youth's needs and minimize the risk of a lost generation. Investment in improving education sectors and in upskilling and reskilling, ensuring adequate social protection schemes, closing the gender gap and addressing mental health scars should be at the centre of the recovery process.

Dire prospects will force young workers to search for better opportunities abroad

New ways of learning have the potential to be more inclusive, adaptive and comprehensive, enabling students to develop 21st century skills such as creativity, innovation and advanced inter-personal skills. However, it is more critical than ever for the public and the private sector to invest jointly in ensuring connectivity for all youth. Given the fast-changing nature of the job market, more investment is also needed in vocational and on-the-job training. Investment in educational technology must be accompanied by adaptations of the physical educational infrastructure so schools can continue to offer in-person services while harnessing the potential of the Fourth Industrial Revolution. To be successful, schools must maintain their critical role in providing nutrition and physical and psychological health services,

and in acting as safe havens for at-risk children and adolescents.

The current crisis has also revealed and exacerbated gender inequalities in education and work. Recognizing this gap is the first step in closing it. Schools and employers need to adopt measures to close the gender gap, such as adopting flexible and remote work, ensuring that young women can return to school or the workplace after lengthy absences for caregiving, and implementing support programmes for victims of gender-based violence.

The mental and physical health situations of youths need to be addressed from the outset of economic and societal recovery to minimize the yet-unknown long-term effects of the pandemic and its consequences. The digital leap forward and emerging digital tools can increase youth accessibility to support measures and reduce the stigmatization of mental health issues originating from these chaotic and uncertain times.⁶⁶

Beyond these short-term investments, more needs to be done in the long run. Young people are demanding more egalitarian, equitable and sustainable societies, yet they continue to face unnecessary barriers and blocked pathways. Channels must be strengthened to enable youth to make their voices heard in all levels of government, on company boards and in multilateral organizations—which will in turn foster an intergenerational transfer of experience, knowledge and skills; serve as a bridge builder against societal frictions; and decrease youth frustrations. Youth must be guaranteed a say in the global recovery. Failure to ensure youth a seat at the table risks entire societal and economic systems being rejected by this generation.

Those in power must steward a global effort to open pathways for youth to acquire the necessary tools, skills and rights for a more sustainable post-pandemic world.

FIGURE 3.1

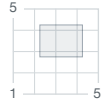
Risks Landscape 2021: The Global Shapers' Perspective

How do Global Shapers' ● perceptions compare to multistakeholders' ◆ ?

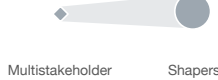


The Global Shapers Community is the World Economic Forum's network of young people driving dialogue, action and change.

Visible area



Symbol legend



We applied the same completion thresholds to survey responses from the Global Shapers as to the multi-stakeholder sample (see Appendix B: Global Risks Perception Survey and Methodology). We received 110 responses for Part 1 "Assessment of Global Risks".

Source: World Economic Forum Global Risks Perception Survey 2020

Endnotes

- 1 The UN estimates that “young people between 15 and 24 years of age number 1,21 billion and account for 15.5 per cent of the global population”. UN (United Nations). 2020. World Youth Report 2020: Youth Social Entrepreneurship and the 2030 Agenda. <https://www.un.org/development/desa/youth/wp-content/uploads/sites/21/2020/07/2020-World-Youth-Report-FULL-FINAL.pdf>
- 2 The economic effects of the Financial Crisis, which began in 2008–2009, peaked in 2009 and 2010.
- 3 World Economic Forum. 2020. COVID-19 Risks Outlook: A Preliminary Mapping and its Implications. 19 May 2020. <https://www.weforum.org/reports/covid-19-risks-outlook-a-preliminary-mapping-and-its-implications>
- 4 World Bank. 2020. Poverty and Shared Prosperity 2020: Reversals of Fortune. <https://www.worldbank.org/en/publication/poverty-and-shared-prosperity>
- 5 UNICEF (United Nations Children’s Fund). 2020. Impact of COVID-19 on multidimensional child poverty. September 2020. <https://data.unicef.org/resources/impact-of-covid-19-on-multidimensional-child-poverty/>
- 6 UN DESA (United Nations Department of Economic and Social Affairs). 2019. “International Youth Day, 12. August 2019”. https://www.un.org/development/desa/youth/wp-content/uploads/sites/21/2019/08/WYP2019_10-Key-Messages_GZ_8AUG19.pdf
- 7 UNICEF (United Nations Children’s Fund). 2020. “Addressing the learning crisis: An urgent need to better finance education for the poorest children”. January 2020. <https://www.unicef.org/media/63896/file/Addressing-the-learning-crisis-advocacy-brief-2020.pdf>
- 8 The number of youth “out-of-school” has dropped considerably between 2000 and 2008, while levelling out since 2014. See UNESCO. 2019. “New Methodology Shows that 285 Million Children, Adolescents and Youth Are Out of School”. Fact Sheet no. 56. September 2019. <http://uis.unesco.org/sites/default/files/documents/new-methodology-shows-258-million-children-adolescents-and-youth-are-out-school.pdf>; UN (United Nations). 2020. The Sustainable Development Goals Report 2020. July 2020. <https://unstats.un.org/sdgs/report/2020/>
- 9 Azzopardi, P.S., Hearps, S.J.C., Francis, K.L., Kennedy, E.C., Mokdad, A.H. Kassebaum, N.J., Lim, S., Irvine, C.M.S., Vos, T., Brown, A.D., Dogra, S., Kinner, S.A., Kaoma, N.S., Naguib, M., Reavley, N.J., Requejo, J., Santelli, J.S., Sawyer, S.M., Skirbekk, V., Temmerman, M., Tawahiti-Smith, J., Ward, J.L., Viner, R.M. and Patton, G.C. 2020. “Progress in adolescent health and wellbeing: tracking 12 headline indicators for 195 countries and territories, 1990–2016”. The Lancet. 12 March 2019. [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(18\)32427-9/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(18)32427-9/fulltext)
- 10 UNHCR (UN High Commissioner for Refugees). 2019. Global Trends: Forced Displacement in 2019. <https://www.unhcr.org/globaltrends2019/>
- 11 Ninety-four percent of global ministries of education developed remote learning policies (internet/PC, radio, television). See UNICEF. 2020. “COVID-19: Are children able to continue during school closures? A global analysis of the potential reach of remote learning policies”. August 2020. <https://data.unicef.org/resources/remote-learning-reachability-factsheet/>
- 12 UNICEF. 2020. “COVID-19: Are children able to continue during school closures?” Op. cit.
- 13 UNICEF. 2020. “COVID-19: Are children able to continue during school closures?” Op. cit.
- 14 UN (United Nations). 2020. Policy Brief: Education during COVID-19 and beyond. August 2020. https://www.un.org/development/desa/dspd/wp-content/uploads/sites/22/2020/08/sg_policy_brief_covid-19_and_education_august_2020.pdf
- 15 OECD (Organisation for Economic Co-operation and Development). 2020. Tackling Coronavirus (COVID-19): Contributing to a global effort: Combatting COVID-19’s effect on children. 11 August 2020. <http://www.oecd.org/coronavirus/policy-responses/combattling-covid-19-s-effect-on-children-2e1f3b2f/>
- 16 Sidpra, J., Abomeli, D., Hameed, B., Baker, J. and Mankad, K. 2020. “Rise in the incidence of abusive head trauma during the COVID-19 pandemic”. Archives of Disease in Childhood. 2 July 2020. <https://adc.bmj.com/content/early/2020/06/30/archdischild-2020-319872>
- 17 Children’s Commissioner. 2020. “We’re all in this together? Local area profiles of child vulnerability”. April 2020. <https://www.childrenscommissioner.gov.uk/wp-content/uploads/2020/04/cco-were-all-in-this-together.pdf>
- 18 Women Around the World. 2020. “The Evolution of Human Trafficking During the COVID-19 Pandemic”. Council of Foreign Relations Blog Post. 13 August 2020. <https://www.cfr.org/blog/evolution-human-trafficking-during-covid-19-pandemic>
- 19 Przybyla, H. “Gun violence grows during coronavirus pandemic group’s data shows”. NBCNews Meet the Press Blog post. 3 June 2020, updated 17 December 2020. <https://www.nbcnews.com/politics/meet-the-press/blog/%20meet-press-blog-latest-news-analysis-data-driving-political-discussion-n988541/ncrd1223551#blogHeader>
- 20 UNICEF (United Nations Children’s Fund). 2020. Geneva Palais Briefing Note on the Central Sahel (ahead of the Ministerial Conference on 20 October 2020). Press Release. 16 October 2020. <https://www.unicef.org/press-releases/geneva-palais-briefing-note-central-sahel-ahead-ministerial-conference-20-october>

- 21 Dellinger, H. 2020. "Outreach program created in response to increase in sexual violence during COVID-19". Houston Chronicle. 18 September 2020. <https://www.houstonchronicle.com/coronavirus/article/outreach-program-sexual-violence-texas-pandemic-15576549.php>; McCain, N. 2020. "'Surge' in gender-based violence during lockdown Level 3, says Ramaphosa". News24. 13 June 2020. <https://www.news24.com/news24/southafrica/news/surge-in-gender-based-violence-during-lockdown-level-3-says-ramaphosa-20200613>
- 22 Guensberg, C. and Dauda, M. 2020. "COVID Fuels Surge in Sexual Violence, Child Marriage". VOA News. 11 October 2020. <https://www.voanews.com/africa/covid-fuels-surge-sexual-violence-child-marriage>; Power, J. 2020. "Covid-19: Reports of rape and child sex abuse rise sharply during pandemic". The Irish Times. 20 July 2020. <https://www.irishtimes.com/news/social-affairs/covid-19-reports-of-rape-and-child-sex-abuse-rise-sharply-during-pandemic-1.4308307>
- 23 Bhalla, N. 2020. "Futures destroyed: COVID-19 unleashes 'shadow pandemics' on Africa's girls. Thomson Reuters Foundation News. 20 August 2020. <https://news.trust.org/item/20200820135640-yl2ii>; Craft, L. 2020. "Fears coronavirus lockdown could reverse trends and drive a teen pregnancy boom in Japan". CBSNews. 19 August 2020. <https://www.cbsnews.com/news/fears-pandemic-could-reverse-trend-and-drive-teen-pregnancy-boom-in-japan/>; Murray, C. and Moloney, A. 2020. "Pandemic brings growing risk of pregnancy, abuse to Latin American girls". Thomson Reuters Foundation News. 31 July 2020. <https://news.trust.org/item/20200731085720-uhjwk/>
- 24 Bagnetto, L.A. 2020. "Pregnant girls barred from school and a right to education". Radio France International. 29 March 2020. <https://www.rfi.fr/en/africa/20150329-sierra-leone-pregnant-girls-barred-school-human-rights-education-ebola-education>
- 25 UNESCO (United Nations Educational, Scientific and Cultural Organization). 2020. Gender Report: A new generation: 25 years of efforts for gender equality in education. <https://unesdoc.unesco.org/ark:/48223/pf0000374514>
- 26 Grant, H. 2020. "Why Covid school closures are making girls marry early". The Guardian. 7 September 2020. <https://www.theguardian.com/global-development/2020/sep/07/why-covid-school-closures-are-making-girls-marry-early>; Save the Children. 2020. "COVID-19 places half a million more girls at risk of child marriage in 2020". 2 October 2020. <https://savethechildren.ch/en/2020/10/02/covid-19-places-half-a-million-more-girls-at-risk-of-child-marriage-in-2020/>
- 27 World Bank Open Data. "Unemployment, youth total (% of total labour force ages 15-24) (modelled ILO estimate)". <https://data.worldbank.org/indicator/SL.UEM.1524.ZS>, accessed 1 December 2020.
- 28 Te Velde, D.W. 2018. "Africa 10 years after the global financial crisis: what we've learned". Overseas Development Institute (ODI) Blog Post. 11 September 2018. <https://www.odi.org/blogs/10680-africa-10-years-after-global-financial-crisis-what-we-ve-learned>
- 29 IBM. 2019. "The enterprise guide to closing the skills gap: Strategies for building and maintaining a skilled workforce". Research Insights. <https://www.ibm.com/downloads/cas/EPYMNBJA>
- 30 Kochar, R. 2020. "Hispanic women, immigrants, young adults, those with less education hit hardest by COVID-19 job losses". Pew Research Center. 9 June 2020. <https://www.pewresearch.org/fact-tank/2020/06/09/hispanic-women-immigrants-young-adults-those-with-less-education-hit-hardest-by-covid-19-job-losses/>
- 31 ILO (International Labour Organization). 2020. ILO Monitor: COVID-19 and the world of work. Fourth edition. 27 May 2020. https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/documents/briefingnote/wcms_745963.pdf; ILO (International Labour Organization). 2020. ILO brief: COVID-19 crisis and the informal economy: Immediate responses and policy challenges. May 2020. https://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---travail/documents/briefingnote/wcms_743623.pdf
- 32 ILO (International Labour Organization). 2020. "Global Employment Trends for Youth 2020: Youth exclusion from jobs and training on the rise". ILO News. 9 March 2020. https://www.ilo.org/global/about-the-ilo/newsroom/news/WCMS_737053/lang--en/index.htm
- 33 ILO (International Labour Organization). 2020. Global Employment Trends for Youth 2020: Technology and the future of jobs. March 2020. https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_737648.pdf
- 34 World Economic Forum. 2019. Schools of the Future: Defining New Models of Education for the Fourth Industrial Revolution. January 2020. http://www3.weforum.org/docs/WEF_Schools_of_the_Future_Report_2019.pdf
- 35 ECLAC and ILO (Economic Commission for Latin America and the Caribbean and International Labour Organization). 2020. "Employment trends in an unprecedented crisis: policy challenges". Employment Situation in Latin America and the Caribbean, No. 23. United Nations. November 2020. https://www.ilo.org/wcmsp5/groups/public/---americas/---ro-lima/---sro-santiago/documents/publication/wcms_760452.pdf; ILO and ADB (International Labour Organization and Asian Development Bank). 2020. "Tackling the COVID-19 youth employment crisis in Asia and the Pacific". https://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/documents/publication/wcms_753369.pdf

- 36 Borden, T., Akhtar, A., Hadden, J. and Bose, D. 2020. "The coronavirus outbreak has triggered unprecedented mass layoffs and furloughs. Here are the major companies that have announced they are downsizing their workforces". Business Insider. 8 October 2020. <https://www.businessinsider.com/coronavirus-layoffs-furloughs-hospitality-service-travel-unemployment-2020?r=US&IR=T>
- 37 Autor, D. and Reynolds, E. 2020. "The Nature of Work after the COVID Crisis: Too Few Low-Wage Jobs". The Hamilton Project. https://www.hamiltonproject.org/assets/files/AutorReynolds_LO_FINAL.pdf
- 38 Azavedo, J.P., Hasan, A., Geven, K., Goldemberg, D. and Iqbal, S.A. 2020. "Learning losses due to COVID19 could add up to \$10 trillion". World Bank Blogs. 10 September 2020. <https://blogs.worldbank.org/education/learning-losses-due-covid19-could-add-10-trillion>
- 39 Center for Research in Education and Social Policy. 2018. "Chronic absenteeism and its impact on achievement". University of Delaware. #P18-002.5. June 2018. https://www.cresp.udel.edu/wp-content/uploads/2018/07/P18-002.5_final.pdf
- 40 Deaton, D.K., Brener, N. and Kann, L.N. 2008. "Associations of Health Risk Behaviors With School Absenteeism. Does Having Permission for the Absence Make a Difference?" Journal of School Health 78 (4): 223–29. 12 March 2008. <https://doi.org/10.1111/j.1746-1561.2008.00290.x>
- 41 World Economic Forum. 2019. Op. cit.
- 42 Save the Children. 2020. "COVID-19: Most marginalised children will bear the brunt of unprecedent school closures around the world". Press Release. 24 March 2020. <https://reliefweb.int/report/world/covid-19-most-marginalised-children-will-bear-brunt-unprecedented-school-closures>
- 43 Grant. 2020. Op. cit.
- 44 Connley, C. 2020. "1 in 4 women are considering downshifting their careers or leaving the workforce due to the coronavirus." CNBC make it. 30 September 2020, updated 1 October 2020. <https://www.cnbc.com/2020/09/30/1-in-4-women-are-thinking-about-altering-their-careers-due-to-covid-19.html>; McKinsey & Company. 2020. Women in the Workplace 2020. Lean In. <https://womenintheworkplace.com/>
- 45 World Economic Forum. 2019. Op. cit.
- 46 World Economic Forum. 2019. Op. cit.
- 47 Friedman, Z. 2020. "Student Loan Debt Statistics In 2020: A Record \$1.6 Trillion". Forbes. 3 February 2020. <https://www.forbes.com/sites/zackfriedman/2020/02/03/student-loan-debt-statistics/?sh=58498ebf281f>
- 48 Cribb, J., Hood, A. and Joyce, R. 2017. "Entering the labour market in a weak economy: scarring and insurance". IFS Working Paper W17/27, Institute for Fiscal Studies. <https://www.ifs.org.uk/publications/10180>
- 49 De Fraja, G., Lemos and S. Rockey, J. 2017. "The Wounds That Do Not Heal. The Life-time Scar of Youth Unemployment". Centre for Economic Policy Research. February 2017. https://cepr.org/active/publications/discussion_papers/dp.php?dpno=11852
- 50 ILO and UNICEF (International Labour Organization and United Nations Children's Fund). 2020. "Towards universal social protection for children: Achieving SDG 1.3". ILO-UNICEF Joint Report on Social Protection for Children. 6 February 2019. <https://www.unicef.org/media/49401/file/Towards%20universal%20social%20protection%20for%20children.pdf>
- 51 World Economic Forum, in partnership with Marsh & McLennan Companies and Zurich Insurance Group. The Global Risks Report 2020. Insight Report. January 2020. <https://www.weforum.org/reports/the-global-risks-report-2020>
- 52 Groundtruth. COVID-19 Barometer: Assessing the impact of the first 8 weeks of the coronavirus crisis on the lives of young people across Kenya. Shujaaz Inc. July 2020. <https://www.shujaazinc.com/wp-content/uploads/2020/06/Shujaaz-Inc-29.05-GroundTruth-COVID-19-Barometer-V0211.pdf>
- 53 Briceño, F. 2020. "Peru president's ouster sparks wave of youth-led protests". AP News. 14 November 2020. <https://apnews.com/article/legislature-latin-america-peru-8cbcff13a172f187fe37d7e6d68f9782>; Lerner, S. 2019. "Young people feel betrayed by adults over the climate crisis. Today, they're going on strike". The Intercept. 15 March 2019. <https://theintercept.com/2019/03/15/youth-climate-strike/>; Letters. 2020. "Climate crisis and a betrayed generation". The Guardian. 1 March 2019. <https://www.theguardian.com/environment/2019/mar/01/youth-climate-change-strikers-open-letter-to-world-leaders>
- 54 Dhungana, S. 2020. "Youth-led protests against the government's handling of Covid-19 spread to major cities". The Kathmandu Post. 12 June 2020. <https://kathmandupost.com/national/2020/06/12/youth-led-protests-against-the-government-s-handling-of-covid-19-spread-to-major-cities>; Jangrew, C. 2020. "Thai student protesters in the time of COVID-19: New generation, new forms of resistance online". Coconet. 17 June 2020. <https://www.apc.org/en/news/thai-student-protesters-time-covid-19-new-generation-new-forms-resistance-online>; Wang, Y. and Hernández, J.C. 2020. "Coronavirus Crisis Awakens a Sleeping Giant: China's Youth". The New York Times. 28 March 2020. <https://www.nytimes.com/2020/03/28/world/asia/coronavirus-china-youth.html>
- 55 Ducharme, J. 2020. COVID-19 Is Making America's Loneliness Epidemic Even Worse. Time. 8 May 2020. <https://time.com/5833681/loneliness-covid-19/>

- 56 Jefferies, P. and Ungar, M. 2020. "Social anxiety in young people: A prevalence study in seven countries". PLOS One 15 (9): e0239133. <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0239133>; YoungMinds. 2020. Coronavirus: Impact on Young People with Mental Health Needs. COVID-19 summer 2020 survey. <https://youngminds.org.uk/about-us/reports/coronavirus-impact-on-young-people-with-mental-health-needs/>
- 57 Adams, R. 2020. "Children could be recruited by gangs during lockdown, report says". The Guardian. 25 April 2020. <https://www.theguardian.com/society/2020/apr/25/children-could-be-recruited-by-gangs-during-lockdown-report-says>
- 58 Tony Blair Institute for Global Change. 2020. "Snapshot: How extremist groups are responding to Covid-19". 6 May 2020. <https://institute.global/policy/snapshot-how-extremist-groups-are-responding-covid-19-6-may-2020>
- 59 Taylor, L. 2020. "How Colombia's armed groups are exploiting COVID-19 to recruit children". The New Humanitarian. 10 September 2020. <https://www.thenewhumanitarian.org/news-feature/2020/09/10/Colombia-conflict-armed-groups-child-recruitment>
- 60 Wilson, M. 2020. "13 potential long-term effects the coronavirus pandemic could have on mental health". Business Insider. 8 June 2020. <https://www.businessinsider.com/potential-mental-health-effects-of-coronavirus-pandemic-2020-6?r=US&IR=T#young-adults-who-lost-their-jobs-may-also-feel-more-isolated-12>
- 61 Ibid.
- 62 Loades, M.E., Chatburn, E., Higson-Sweeney, N., Reynolds, S., Shafran, R., Brigden, A., Linney, C. McManus, M.N., Borwick, C. and Crawley, E. 2020. "Rapid Systematic Review: The Impact of Social Isolation and Loneliness on the Mental Health of Children and Adolescents in the Context of COVID-19". Journal of the American Academy of Child & Adolescent Psychiatry 59 (11): 1218–39.e3. 2 June 2020. [https://www.jaacap.org/article/S0890-8567\(20\)30337-3/fulltext](https://www.jaacap.org/article/S0890-8567(20)30337-3/fulltext)
- 63 Liang, L., Ren, H., Cao, R., Hu, Y., Qin, Z., Li, C. and Mei, S. 2020. "The Effect of COVID-19 on Youth Mental Health". Psychiatric Quarterly 91 (3): 841–52. <https://doi.org/10.1007/s11126-020-09744-3>
- 64 Hertz, N. 2020. "Why loneliness fuels populism". Financial Times. 25 September 2020. <https://www.ft.com/content/ffadb189-5661-40c3-b142-43f91cf38bdf>
- 65 UN DESA (United Nations Department of Economic and Social Affairs). 2019. International Migration. "International migrant stock 2019". <https://www.un.org/en/development/desa/population/migration/data/estimates2/estimates19.asp>, accessed 1 December 2020.
- 66 Hariharan, K. and Cernigoi, A. 2020. Digital tools for mental health. Marsh & McLennan. <https://www.mmc.com/content/dam/mmc-web/insights/publications/2020/december/Digital-Tools-for-Mental-Health-Report-Final.pdf>

CHAPTER 4

Middle Power Morass

Navigating
Global Divides

Middle powers—states that lack superpower status but still play influential roles in international relations¹—have the potential to forge a more stable, sustainable and cooperative balance of power, individually or in some collective constellation. While each government has individual interests and governance structures, as well as opponents and allies that drive its behaviour on the international stage, middle powers are often the champions of multilateral cooperation in areas of trade, diplomacy, security and, most recently, global health. Comprised of both advanced and emerging economies, this set of nations represents a far greater share of global GDP than the United States and China combined.²

Middle powers have the potential to forge a more stable, sustainable and cooperative world

However, if current trends persist, middle powers will struggle to reinforce resilience against crises at a time when global coordination is most needed.³ Global Risks Perception Survey (GRPS) respondents reflect this ominous outlook: “interstate relations fracture”, “interstate conflict” and “resource geopolitization” are all forecasted to become critical threats to the world in the medium term (see Figure 1, [Global Risks Horizon](#)). In a destructive feedback loop, without middle power influence, geopolitical fragmentation and economic fragility will increase further, disruption will become more likely and progress on shared goals will lag.

Torn at the seams

The COVID-19 crisis has revealed the weak nodes and tenuous ties threading through the international system. Key trends point to a further weakening of multilateralism underpinned by common norms. Intensified US-China competition, more aggressive use

of subversive tools of geopolitical influence and growing nationalism are fuelling the shift from a rules-based to a power-based global order.⁴ While these dynamics affect all states, their damaging impact on middle powers is particularly harmful because of the role these countries can—and often do—play in bolstering global cooperation in the face of shared challenges.

Ossifying economic and digital bipolarity

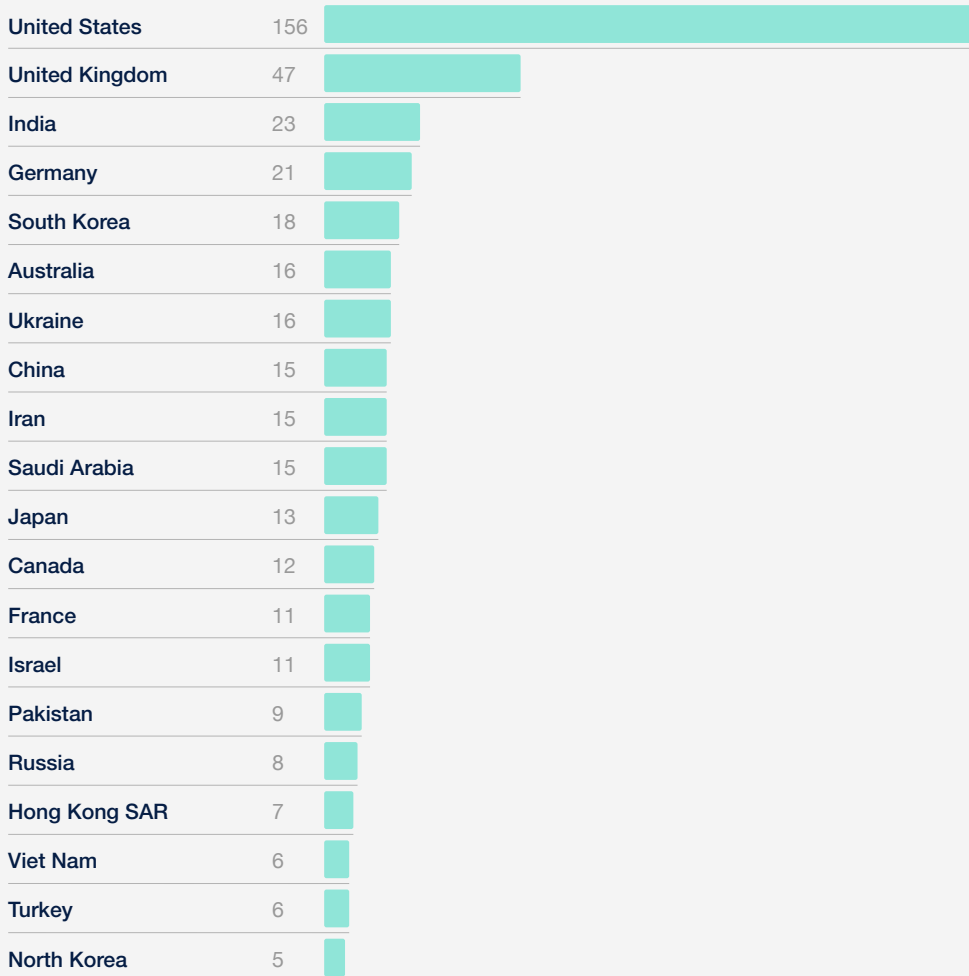
COVID-19 has entrenched state power and intensified rivalry between the United States and China.⁵ The new US administration may attempt to identify areas of cooperation with China, such as climate change and fighting the pandemic, but in the longer term, “collective leverage” against China from the United States and its closest allies is likely to deepen competition.⁶ China has fortified its economic interests in the Asia-Pacific region, recently formalizing the Regional Comprehensive Economic Partnership with 15 Asia-Pacific nations.⁷ The United States and China also both seek superiority in the digital realm by restricting technology flows and platforms, restructuring supply chains and favouring domestic investment.⁸ Each power will likely continue to expand its zones of influence, and in many cases this will happen outside traditional international forums.⁹

Subversive influences

Misinformation, cyberattacks, targeted strikes and resource grabs are on the rise. The pandemic has shown how governments can wield conspiracy theories as geopolitical weapons by making accusations about other states.¹⁰ The next decade is likely to see more frequent and impactful dissemination of disinformation on issues of geopolitical importance such as elections, humanitarian crises, public health, security and cultural issues (see [Chapter 2, Error 404](#)).¹¹ States and non-state actors alike will likely engage in more dangerous cyberattacks,¹² and these attacks will become more sophisticated. Targeted strikes—through drones or other technologies—will become more ubiquitous.¹³ A warming planet will create new geographic realities, like shipping lanes in the Arctic, which could stoke

FIGURE 4.1

Significant Cyberattacks 2006-2020 (Total Number)



Source: Specops Software. “The countries experiencing the most ‘significant’ cyber-attacks.” 9 July 2020. <https://specopsoft.com/blog/countries-experiencing-significant-cyber-attacks/>, using data from the Center for Strategic and International Studies (CSIS), https://csis-website-prod.s3.amazonaws.com/s3fs-public/201106_Significant_Cyber_Events_List.pdf

resource competition. These concerns will continue to create a difficult global trade and business environment, adding to the risk of anaemic global economic growth.

Although all countries must defend against these power plays, middle powers are targeted more aggressively than smaller states (see Figure 4.1), yet many lack the defensive resources of the superpowers.¹⁴ With lagging technological and military capabilities, middle powers will need to allocate a larger proportion of their national budgets to defence or develop stronger alliances to maintain a minimum level of protection against attack.

Growing nationalism

The economic downturn is accelerating a greater pivot inward for many governments as they seek to maintain fragile domestic political and social stability. GPRS respondents rank “livelihood crises” and “prolonged stagnation” as top short-term risks, and economic concerns figure in four out of the top five medium-term risks (see Figure 1: Global Risks Horizon). These economic pressures and concomitant deepening nationalism could result in middle power governments being unwilling or unable to contribute to global risk mitigation.

In many countries, regardless of governance approach, nationalistic impulses have paralleled the pandemic-induced centralization of power.¹⁵ Policy decisions taken in 2020 may persist beyond the pandemic, enabling some governments to use repressive measures to control restive populations and allowing leaders with autocratic tendencies to pursue broader, longer-term agendas. “Political entrepreneurs” could seek to leverage growing nationalism to move governments away from globalization and cooperation.¹⁶ Restrictions on migration that were imposed during the pandemic may not be quickly eased.¹⁷

Stifled influence and weakened world order

The drivers outlined above, while universal, will reinforce specific challenges to middle power influence. In advanced middle power economies, widening defence and technology gaps are hindering leadership potential on critical transnational issues. Large, emerging markets are similarly hamstrung, with the ravages of COVID-19 further increasing vulnerability to superpower influence. The risks facing these countries could translate to more global conflict and a weaker system in which to mediate it.

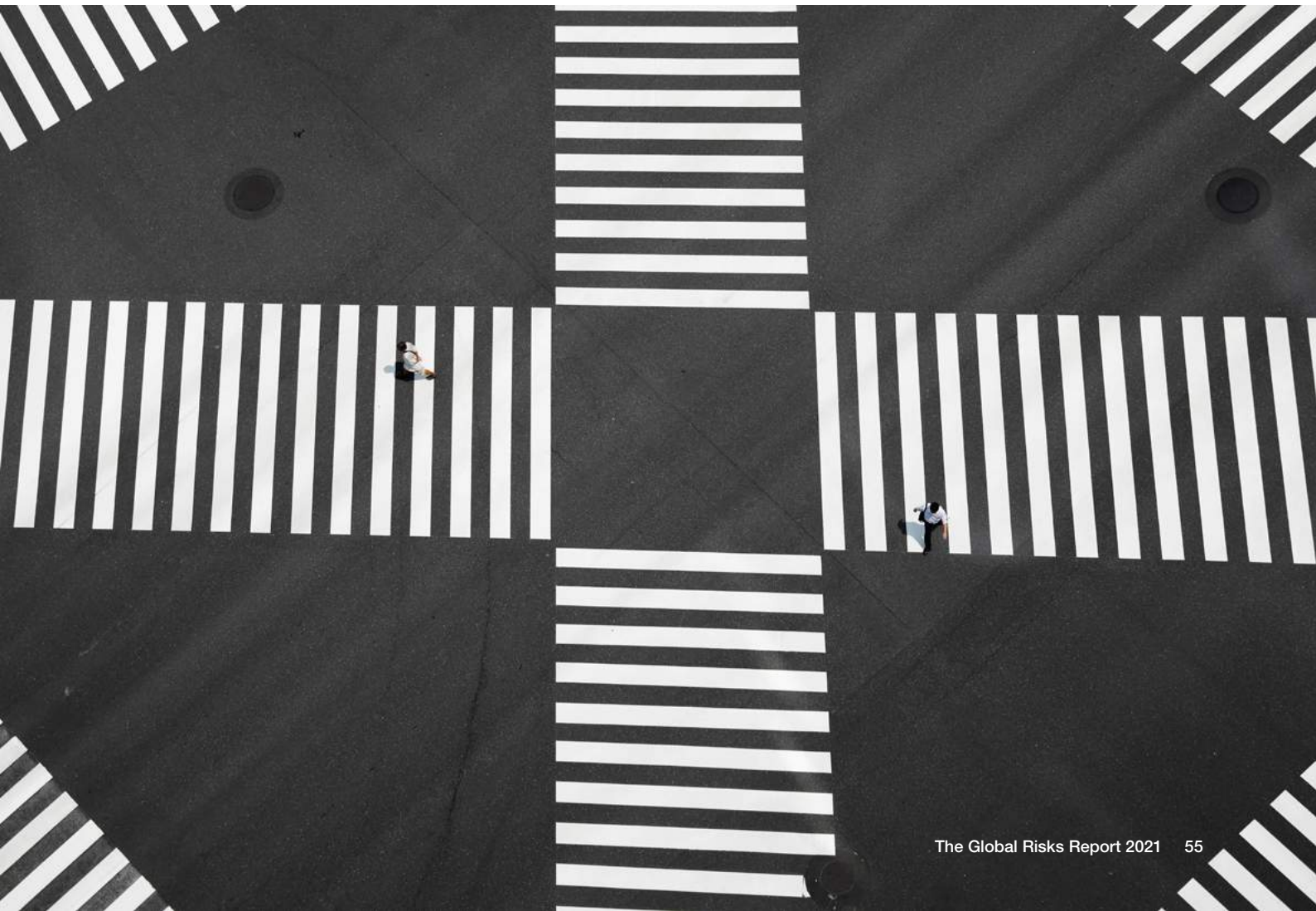
Caught in the middle

Middle powers are uniquely positioned to offer alternative pathways for the world on trade, security and technology. However, growing capability gaps may force a choice between two rival blocs rather than allowing the middle powers to develop a diverse network of mutually beneficial agreements. For example, either the European Union (EU) (which accounts for

2027:

India projected to become the world's most populated country

REUTERS/KYUNG-HOON





REUTERS/FEDOSENKO

nearly a third of global merchandise trade)¹⁸ or India (which is projected to become the world's most populated country in 2027)¹⁹ could provide a counterbalance in the evolving geopolitical order in areas such as manufacturing and trade, but they will struggle to stand apart in digital and defence realms.²⁰

Growing competition between the United States and China may also hinder other regional powers that might otherwise wish to pursue a balancing strategy. Middle Eastern governments could be thrust into a tug of war, with renewed US diplomacy efforts juxtaposed against increased Chinese economic initiatives in the region.²¹ In Latin America and Africa, China's deepening

economic ties could potentially rival historic security-based alliances and cultural connections with the United States.²²

Forced to choose sides, governments may face economic or diplomatic consequences, as proxy disputes play out in control over economic or geographic resources. The deepening of geopolitical fault lines and the lack of viable middle power alternatives make it harder for countries to cultivate connective tissue with a diverse set of partner countries based on mutual values and maximizing efficiencies. Instead, networks will become thick in some directions and non-existent in others. The COVID-19 crisis has amplified this dynamic, as digital interactions represent a "huge loss in efficiency for diplomacy" compared with face-to-face discussions.²³ With some alliances weakening, diplomatic relationships will become more unstable at points where superpower tectonic plates meet or withdraw.

At the same time, without superpower referees or middle power enforcement, global norms may no longer govern state behaviour. Some governments will thus see the solidification of rival blocs

Diplomatic relationships will become more unstable at points where superpower tectonic plates meet or withdraw

as an opportunity to engage in regional posturing, which will have destabilizing effects.²⁴ Across societies, domestic discord and economic crises will increase the risk of autocracy, with corresponding censorship, surveillance, restriction of movement and abrogation of rights.²⁵

Economic crises will also amplify the challenges for middle powers as they navigate geopolitical competition. ASEAN countries, for example, had offered a potential new manufacturing base as the United States and China decouple, but the pandemic has left these countries strapped for cash to invest in the necessary infrastructure and productive capacity.²⁶ Economic fallout is pushing many countries to debt distress (see [Chapter 1, Global Risks 2021](#)). While G20 countries are supporting debt restructure for poorer nations,²⁷ larger economies too may be at risk of default in the longer term;²⁸ this would leave them further stranded—and unable to exercise leadership—on the global stage.

15

number of Asia-Pacific economies in the Regional Comprehensive Economic Partnership

Multilateral meltdown

Middle power weaknesses will be reinforced in weakened institutions, which may translate to more uncertainty and lagging progress on shared global challenges such as climate change, health, poverty reduction and technology governance. In the absence of strong regulating institutions, the Arctic and space represent new realms for potential conflict as the superpowers and middle powers alike compete to extract resources and secure strategic advantage.²⁹

If the global superpowers continue to accumulate economic, military and technological power in a zero-sum playing field, some middle powers could increasingly fall behind. Without cooperation

or access to important innovations, middle powers will struggle to define solutions to the world's problems. In the long term, GRPS respondents forecasted “weapons of mass destruction” and “state collapse” as the two top critical threats: in the absence of strong institutions or clear rules, clashes—such as those in Nagorno-Karabakh or the Galwan Valley—may more frequently flare into full-fledged interstate conflicts,³⁰ which is particularly worrisome where unresolved tensions among nuclear powers are concerned. These conflicts may lead to state collapse, with weakened middle powers less willing or less able to step in to find a peaceful solution.

From alliances to partnerships

No individual country, regardless of governance approach, will be perfectly equipped to address the mounting societal, economic and environmental risks the world faces. In this geopolitical context, it is critical that middle powers can exercise leadership to reinforce global resilience. While many institutions of the post-World War II architecture have weakened over the last two decades, gaps remain in the international space for leaders to fill with innovative collaborations. At the same time, middle powers represent the first and best hope for reforming and repositioning flagging international institutions.

Issue-based plurilateral arrangements offer one opportunity. Where transnational challenges lack successful global governance structures, such as regulation of cyberspace and digital information flows, middle powers could lead inclusive partnerships to earn back trust where it has declined. Ad hoc and informal arrangements around shared goals—such as COVID-19 vaccines, digital and cybersecurity partnerships, and climate change mitigation and adaptation—can contribute to resilience between states by increasing interactions among members of the networks. Such arrangements are already emerging: for example, France and Germany's Alliance for Multilateralism addresses issues such as disinformation, misinformation and gender equality.³¹ The Arctic Council is a forum for cooperation

Middle powers represent the first and best hope for reforming and repositioning flagging international institutions

that could potentially take on more regulatory functions as climate crises increasingly impact the region.³² Most recently, the Access to COVID-19 Tools Accelerator (ACT-Accelerator), a global collaboration effort designed to accelerate development, production and equitable access to tests, treatments and vaccines, has been called the “biggest multilateral effort since the Paris climate agreement.”³³

Such “thematic diplomacy” could also contribute to the reform of existing institutions.³⁴ What UN Secretary-General António Guterres has called “a surplus of multilateral challenges and a deficit of multilateral solutions”³⁵ could, in fact, be an opportunity to reform

international architecture by refocusing priorities on long-term crises, ensuring productive use of stakeholder time and resources, and preventing collateral damage.³⁶ Middle powers have a unique role to play: championing inclusivity, increasing predictability of funding, channelling resources towards multilateral initiatives, and insisting on adherence to international norms that are increasingly flouted will all provide critical support to a weakening system.³⁷

Opportunities also lie with innovative collaborations between state and non-state actors. For example, partnerships involving the private sector and academia delivered the fastest vaccine development process to date. Canada, Germany, Italy, Sweden, and the United Kingdom have pledged nearly US\$1 billion to a financing mechanism that will support 92 low- and middle-income countries to access a vaccine.³⁸ And many middle power governments are partnering with sub-national entities and investors on initiatives to tackle climate change.³⁹ Green investment plans could offer a resilience win-win for public and private actors to adapt to and mitigate the impacts of climate change, still the greatest threat facing the world in the decades to come.

REUTERS/THOMAS



Endnotes

- 1 See, e.g., Chapnick, A.1999. "The Middle Power". Canadian Foreign Policy. 7 (2): 73–82. <https://www.tandfonline.com/doi/abs/10.1080/11926422.1999.9673212>; Holbraad, C. 1984. Middle Powers in International Politics. London: Macmillan, pp. 57–67; Morgenthau, H. 1965. Politics Among Nations: The Struggle for Power and Peace. New York: Alfred A. Knopf.
- 2 World Bank Open Data. "GDP (current US\$)". <https://data.worldbank.org/indicator/NY.GDP.MKTP.CD>, accessed 1 December 2020.
- 3 Jones, B. 2020. "Can Middle Powers Lead the World Out of the Pandemic?" Foreign Affairs. 18 June 2020. <https://www.foreignaffairs.com/articles/france/2020-06-18/can-middle-powers-lead-world-out-pandemic>; Lemahieu, H. 2020. "Middle Powers Will Determine the Future of the Asian Order". The Lowy Institute. 29 February 2020. <https://www.loyyinstitute.org/publications/middle-powers-will-determine-future-asian-order>; Nagy, S.R. 2020. "It's Time for Middle Powers to Step In". The Japan Times. 16 July 2020. <https://www.japantimes.co.jp/opinion/2020/07/16/commentary/japan-commentary/time-middle-powers-step/>
- 4 Lemahieu. 2020. Op. cit.
- 5 Bradsher, K. 2020. "With Covid-19 Under Control, China's Economy Surges Ahead". The New York Times. 18 October 2020. <https://www.nytimes.com/2020/10/18/business/china-economy-covid.html>; Eyck Freymann, F. and Stebbing, J. 2020. "China Is Winning the Vaccine Race". Foreign Affairs. 5 November 2020. <https://www.foreignaffairs.com/articles/united-states/2020-11-05/china-winning-vaccine-race>; Gan, N. 2020. "Coronavirus has created a rift between the US and China that may take a generation to heal". CNN World. 9 May 2020. <https://edition.cnn.com/2020/05/08/asia/us-china-relations-nationalism-intl-hnk/index.html>; Glaser, B. 2020. "US-China Competition". The Lowy Institute. April 2020. <https://interactives.loyyinstitute.org/features/covid19/issues/us-china/>
- 6 Brunnstrom, D. and Pamuk, H. 2020. "China unlikely to find Biden a soft touch". Reuters. 7 November 2020. <https://www.reuters.com/article/usa-election-china-biden/china-unlikely-to-find-biden-a-soft-touch-idUSL8N2HLOBU>; Wang, V. 2020. "Chinese State Media Reacts to Biden Victory with Cautious Optimism". The New York Times. 7 November 2020. <https://www.nytimes.com/2020/11/07/world/asia/china-biden-media-reaction.html>; Ying, F. 2020. "Cooperative Competition Is Possible Between China and the U.S." The New York Times. 24 November 2020. <https://www.nytimes.com/2020/11/24/opinion/china-us-biden.html>
- 7 Bradsher, K. and Swanson, A. 2020. "China-Led Trade Pact Is Signed, in Challenge to U.S." The New York Times. 15 November 2020. <https://www.nytimes.com/2020/11/15/business/china-trade-rcep.html>; Mitchell, T. 2020. "Asean trade deal emerging from the shadows". Financial Times. 15 December 2020. <https://www.ft.com/content/114e654f-5f05-444d-b478-e98a7d377da8>
- 8 Allison, G. 2019. "Is China Beating the U.S. to AI Supremacy?" The National Interest. 22 December 2019. <https://nationalinterest.org/feature/china-beating-america-ai-supremacy-106861>; Muggah, R. and Rohozinski, R. 2020. "Trump's TikTok and WeChat Bans Could Shatter the Global Internet". Foreign Policy. 14 August 2020. <https://foreignpolicy.com/2020/08/14/trump-bans-tiktok-wechat-open-internet/>; Segal, A. 2020. "The Coming Tech Cold War With China". Foreign Affairs. 9 September 2020. <https://www.foreignaffairs.com/articles/north-america/2020-09-09/coming-tech-cold-war-china>; Yan, X. 2020. "Bipolar Rivalry in the Early Digital Age". The Chinese Journal of International Politics 13 (3): 313–41. 8 June 2020. <https://academic.oup.com/cjip/article/13/3/313/5854839>
- 9 Jones, B. 2020. "How US-China tensions could hamper development efforts". World Economic Forum Global Agenda. 16 September 2020. <https://www.weforum.org/agenda/2020/09/us-china-tensions-hamper-development-efforts/>
- 10 Edel C. and Rapp-Hooper, M. 2020. "The 5 Ways U.S.-China Competition Is Hardening". Foreign Policy. 18 May 2020. <https://foreignpolicy.com/2020/05/18/united-states-competition-coronavirus-pandemic-tensions/>; Gan, N. 2020. Op. cit.; Kassam, N. 2020. "Misinformation, Truth, and Trust". The Lowy Institute. April 2020. <https://interactives.loyyinstitute.org/features/covid19/issues/truth/>
- 11 See The Computation Propaganda Project. 2020. "Covid-19 News and Information from State-Backed Outlets Targeting French, German and Spanish-Speaking Social Media Users: Understanding Chinese, Iranian, Russian and Turkish Outlets". COMPROP DATA MEMO 2020.4. 29 June 2020. <https://comprop.oii.ox.ac.uk/wp-content/uploads/sites/93/2020/06/Covid-19-Misinfo-Targeting-French-German-and-Spanish-Social-Media-Users-Final.pdf> for a discussion of "infodemic"; also implicated is election interference and fomenting public anger. See also Mitchell, A., Jurkowitz, M., Oliphant, J.B. and Shearer, E. 2020. "Three Months In, Many Americans See Exaggeration, Conspiracy Theories and Partisanship in COVID-19 News". Pew Research Center. 29 June 2020. <https://www.journalism.org/2020/06/29/three-months-in-many-americans-see-exaggeration-conspiracy-theories-and-partisanship-in-covid-19-news/>
- 12 Reuters Staff. 2020. "Mass rallies and police data leaks in Belarus keep pressure on Lukashenko". 20 September 2020. <https://www.reuters.com/article/us-belarus-election/hackers-leak-personal-data-of-1000-belarusian-police-on-weekend-of-protests-idUSKCN26B09X>; Sanger, D.E. and N. Perloth, 2020. "More Hacking Attacks Found as Officials Warn of 'Grave Risk' to U.S. Government". 17 Dec. 2020. The New York Times. <https://www.nytimes.com/2020/12/17/us/politics/russia-cyber-hack-trump.html>; Yan. 2020. Op. cit.

- 13 Frew, J. 2020. "In the Frame: UK media coverage of drone targeted killing". January 2020. Drone Wars UK. <https://dronewars.net/wp-content/uploads/2020/01/InTheFrame-Web.pdf>; Ley Best, K., Schmid, J., Tierney, SI, Awan, J., Beyene, N.M., Holliday, M.A., Khan, R. and Lee, K. 2020. How to Analyze the Cyber Threat from Drones. 2020. Rand Corporation. https://www.rand.org/content/dam/rand/pubs/research_reports/RR2900/RR2972/RAND_RR2972.pdf
- 14 Austin, G. "Middle Power and Cyber-Enabled Warfare: The Imperative of Collective Security". The Diplomat. 2 February 2016. <https://thediplomat.com/2016/02/middle-powers-and-cyber-enabled-warfare-the-imperative-of-collective-security/>; Forrester, N. 2020. "New report reveals countries most targeted by 'significant' cyber-attacks". EU Security Brief. 13 July 2020. <https://securitybrief.eu/story/new-report-reveals-countries-most-targeted-by-significant-cyber-attacks>
- 15 Brown, F.Z., Brechenmacher, S. and Carothers, T. 2020. "How Will the Coronavirus Reshape Democracy and Governance Globally?" Carnegie Endowment for International Peace. 6 April 2020. <https://carnegieendowment.org/2020/04/06/how-will-coronavirus-reshape-democracy-and-governance-globally-pub-81470>
- 16 Nye, J.S. Jr. 2020. "Post-Pandemic Geopolitics". Project Syndicate. 6 October 2020. <https://www.project-syndicate.org/commentary/five-scenarios-for-international-order-in-2030-by-joseph-s-nye-2020-10?barrier=accesspaylog>
- 17 Piccoli, L., Dzankic, J., Perret, A., Ruedin, D., Jacob-Owens, T. and Bernasconi, L. 2020. International Travel Restrictions in Response to the COVID-19 Outbreak. nccr – on the move and GLOBALCIT. <https://tabsoft.co/3fxs9d0>
- 18 WTO OMC Data. Metadata. <https://data.wto.org/?idSavedQuery=c283c388-1051-4cc9-be62-80cec3396923>, accessed 1 December 2020.
- 19 United Nations. 2020. Population. <https://www.un.org/en/sections/issues-depth/population/>, accessed 1 December 2020.
- 20 Barker, T. 2020. "Europe Can't Win the Tech War It Just Started". Foreign Policy. 16 January 2020. <https://foreignpolicy.com/2020/01/16/europe-technology-sovereignty-von-der-leyen/>; Borrell, J. 2020. "China, the United States and us". European Union External Action Service. 31 July 2020. https://eeas.europa.eu/headquarters/headquarters-homepage/83644/china-united-states-and-us_en; Palit, A. 2018. "Indian trade is stuck in non-alignment". Financial Express. 23 August 2018. <https://www.financialexpress.com/opinion/indian-trade-is-stuck-in-non-alignment/1288878/>; Strategic Comments. 2020. "India's non-alignment in the telecommunications sector". 24 August 2020. <https://www.tandfonline.com/doi/full/10.1080/13567888.2020.1814071>; Wintour, P. 2020. "Dawn of Asian century puts pressure on EU to choose sides, says top diplomat". The Guardian. 25 May 2020. <https://www.theguardian.com/world/2020/may/25/asian-century-marks-end-of-us-led-global-system-warns-eu-chief>
- 21 Wu, W. 2020. "US-China relations: Middle East countries under pressure to take sides against Beijing: former Chinese envoy". South China Morning Post. 21 August 2020. <https://www.scmp.com/news/china/diplomacy/article/3098367/us-china-relations-middle-east-countries-under-pressure-take>
- 22 Ghafar, A.A. and Jacobs, A.L. 2020. "China in the Mediterranean: Implications of expanding Sino-North Africa relations". July 2020. Brookings. <https://www.brookings.edu/research/china-in-the-mediterranean-implications-of-expanding-sino-north-africa-relations/>; Piccone, T. 2020. "China and Latin America: A pragmatic embrace". Brookings. July 2020. <https://www.brookings.edu/research/china-and-latin-america-a-pragmatic-embrace/>
- 23 Gzero Media. 2020. "Guterres on virtual UNGA: 'Huge loss in efficiency' for diplomacy". 17 September 2020. <https://www.gzeromedia.com/guterres-on-virtual-unga-huge-loss-in-efficiency-for-diplomacy>
- 24 North, A. 2020. "Turkey's disruptive Caucasus power play risks regional war". Nikkei Asia. 15 October 2020. <https://asia.nikkei.com/Opinion/Turkey-s-disruptive-Caucasus-power-play-risks-regional-war>; Petkova, M. 2020. "What has Russia gained from five years of fighting in Syria?" Al Jazeera. 1 October 2020. <https://www.aljazeera.com/features/2020/10/1/what-has-russia-gained-from-five-years-of-fighting-in-syria>
- 25 Brown, F.Z., Brechenmacher, S. and Carothers, T. 2020. "How Will the Coronavirus Reshape Democracy and Governance Globally?" Carnegie Endowment for International Peace. 6 April 2020. <https://carnegieendowment.org/2020/04/06/how-will-coronavirus-reshape-democracy-and-governance-globally-pub-81470>
- 26 Darmawan, A.R. 2020. "The China-US Rivalry and the Pandemic: Challenges to ASEAN Neutrality". AsiaGlobal Online. 27 August 2020. <https://www.asiaglobalonline.hku.hk/china-us-rivalry-and-pandemic-challenges-asean-neutrality>; Stromseth, J. 2020. "Don't Make Us Choose: Southeast Asia in the throes of US-China rivalry". Foreign Policy at Brookings. October 2019. https://www.brookings.edu/wp-content/uploads/2019/10/FP_20191009_dont_make_us_choose.pdf
- 27 Thomas, L., Kajimoto, T. and Shalal, A. 2020. "G20 strikes historic debt pact to help poorer states hit by COVID". Reuters. 13 November 2020. <https://www.reuters.com/article/us-g20-debt/g20-strikes-historic-debt-pact-to-help-poorer-states-hit-by-covid-idUSKBN27T1R8>
- 28 Lee, Y.N. 2020. "Coronavirus could cause more countries to default on their debt, economist says". CNBC. 15 April 2020. <https://www.cnbc.com/2020/04/15/coronavirus-more-countries-could-default-on-debt-economist-says.html>

- 29 Council on Foreign Relations. 2020. "The Emerging Arctic: A CFR InfoGuide Presentation". <https://www.cfr.org/emerging-arctic/#/emerging-arctic>. Nucera, G.G. 2019. "International Geopolitics and Space Regulation". Planetary Science. 23 May 2019. <https://oxfordre.com/planetaryscience/view/10.1093/acrefore/9780190647926.001.0001/acrefore-9780190647926-e-40>
- 30 Gall, C. 2020. "Roots of War: When Armenia Talked Tough, Azerbaijan Took Action". 27 October 2020. The New York Times. <https://www.nytimes.com/2020/10/27/world/europe/armenia-azerbaijan-nagorno-karabakh.html>; Smith, J. 2020. "The Galwan Killings are the Nail in the Coffin for China and India's Relationship". 26 June 2020. Foreign Policy. <https://foreignpolicy.com/2020/06/26/galwan-border-china-india-war-conflict/>; See also Al Jazeera. 2020. "Eritrea, Tigray and Ethiopia's brewing civil war". 8 November 2020. <https://www.aljazeera.com/news/2020/11/8/fears-on-eritreas-secret-role-in-ethiopias-brewing-civil-war>; Dahir, A.L. 2020. "Morocco Launches Military Operation in Western Sahara Buffer Zone". The New York Times. 13 November 2020. <https://www.nytimes.com/2020/11/13/world/middleeast/morocco-military-operation-western-sahara.html>
- 31 Alliance for Multilateralism. 2020. <https://multilateralism.org/>
- 32 Council on Foreign Relations. 2020. Op. cit.
- 33 Berkley, S. 2020. "Gavi COVAX AMC: a shot in the arm for international cooperation". GAVI. 6 November 2020. <https://www.gavi.org/vaccineswork/gavi-covax-amc-shot-arm-international-cooperation>
- 34 Bennis, A. 2020. "Middle Power Diplomacy: From State to Thematic Diplomacy". Global Policy Journal. 6 April 2020. <https://www.globalpolicyjournal.com/blog/06/04/2020/middle-power-diplomacy-state-thematic-diplomacy>
- 35 United Nations. 2020. "Inclusive, Networked Multilateralism Vital for Better World Governance, Says Secretary-General, at General Assembly's Seventy-Fifth Anniversary Meeting". Press Release. 21 September 2020. <https://www.un.org/press/en/2020/sgsm20264.doc.htm>
- 36 Compare Group of Thirty. 2020. "Reviving and Restructuring the Corporate Sector Post-Covid: Designing Public Policy Interventions." December 2020. https://group30.org/images/uploads/publications/G30_Reviving_and_Restructuring_the_Corporate_Sector_Post_Covid.pdf (arguing for policy interventions for the corporate sector based on three core principles).
- 37 Benner, T. 2020. "Competitive Cooperation: How to Think About Strengthening Multilateralism". Global Public Policy Institute. 28 October 2020. <https://www.gppi.net/2020/10/28/competitive-cooperation-how-to-think-about-strengthening-multilateralism>
- 38 Gavi. 2020. "Countries pledge nearly US\$ 1 billion to support equitable access to COVID-19 vaccines". 6 October 2020. <https://www.gavi.org/news/media-room/countries-pledge-nearly-us-1-billion-support-equitable-access-covid-19-vaccines>
- 39 Aylor, B., Datta, B., DeFauw, M., Gilbert, M., Knizek, C. and McAdoo, M. 2020. "Designing Resilience into Global Supply Chains". BCG Publications. 3 August 2020. <https://www.bcg.com/publications/2020/resilience-in-global-supply-chains>; The Economist. 2020. "Who runs the world?" 18 June 2020. <https://www.economist.com/special-report/2020/06/18/who-runs-the-world>



CHAPTER 5

Imperfect Markets: A Disorderly Industrial Shakeout

Emerging from the shock and government stimulus of COVID-19, a volatile shakeout threatens the global business landscape. Protectionism, technological transformation and social unrest—among other trends—have been disrupting economic activity for some years, but the pandemic has given them fresh momentum.

As they seek to shrug off the effects of the pandemic, business ecosystems in many countries are facing the risks of sclerotic, regressive torpor or accelerated creative destruction. Indecisive or misguided leadership has the potential to exacerbate these trends, causing ripples through the global economy and locking in catastrophic outcomes. Indeed, a disorderly shakeout would precipitate economic stagnation in advanced economies and lost potential in emerging and developing markets, greater bifurcation between major and minor companies and the collapse of millions of small businesses, and more inequality and attrition of long-term global sustainable development imperatives.

With governments still deliberating how best to pivot away from the current emergency footing that they have created beneath much of the world's economy and workforce, and with companies anticipating a much-changed business landscape in the future, avoiding these potential outcomes

is critical to maintaining the long-term sustainability and resilience of businesses.

A disruptive trilemma

New challenges to doing business are likely to emerge from three key sources: national agendas, technology that is running riot, and heightened public scrutiny.

Nationally focused agendas

The pandemic has strengthened the mandate of states to safeguard national economic well-being. Both survival and recovery are critical, and pressure is mounting to ensure both aspects in a post-pandemic world while at the same time keeping a firm eye on national security. How governments manage the challenge of stemming the losses arising from COVID-19 while prioritizing future-oriented stimulus packages will shape the risks that individual companies face.

Micro, small and medium-sized enterprises (MSMEs) have been hardest hit by COVID-19. They are often collectively the largest employers in a country: in China, for example, they generate around 80% of employment. An estimated 18% of companies in China went bust between February and May.¹ In the United States, 20% of firms with fewer than 500 employees

REUTERS/NOBLE



Amplified protectionism may increase costs and uncertainty in the business environment

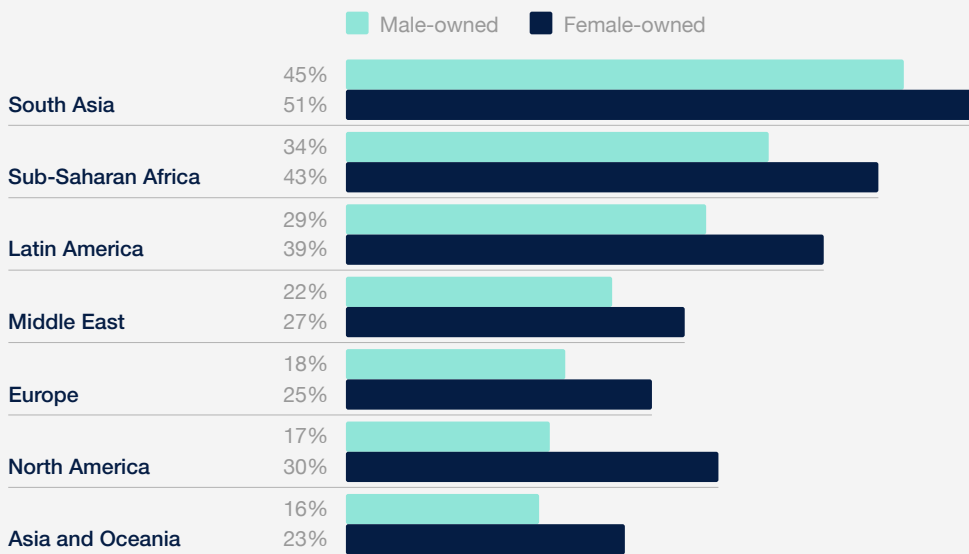
closed permanently between March and August.² Many that survived the initial lockdowns remain dependent on state support—the result of continuing restrictions and decreased consumer confidence.

Minority- and women-owned firms have also been disproportionately affected, because many are in the food services, retail and accommodation sectors. Women-owned businesses have been more affected regardless of geography or market type (see Figure 5.1).³ Women and minorities were already under-represented in entrepreneurship, and poorly planned withdrawal of state support risks setting back efforts to build more inclusive local economies.⁴

In those countries that are starting to emerge from the immediate emergency, governments are experiencing a tension between committing immediate fiscal support for vulnerable businesses and the livelihoods they sustain while at the same time addressing pre-COVID structural shortcomings, maintaining financial stability and pressure on reserves and currency, and ensuring growth in the long term to enable a sustainable economic recovery.⁵ MSMEs should be encouraged to make strategic investments for their efficient future operation, such as providing support for finding alternative markets and conditional grants, accessing support for training and redeployment, and for digitalization and specific programs for

FIGURE 5.1

Gender Gap in Business Closure Rates



Female-owned businesses surveyed (8,200) vs male-owned businesses surveyed (13,237)

Source: Goldstein, M., Gonzalez Martinez, P., Papineni, S. and Wimpey, J. 2020. "The Global State of Small Business during COVID-19: Gender Inequalities". World Bank Blogs. 8 September 2020. <https://blogs.worldbank.org/developmenttalk/global-state-small-business-during-covid-19-gender-inequalities>

start-ups.⁶ Without this nudge, businesses might suffer future paralysis or collapse under debt obligations. Reports already predict defaults on a significant proportion of public and private loans in Brazil,⁷ India,⁸ and the United Kingdom.⁹ Global Risks Perception Survey (GRPS) respondents echo these concerns: “asset bubble burst” and “debt crises” appear as critical threats in the medium term.

Similarly, while a low-interest high-stimulus context is allowing many businesses to weather the global pandemic, when in the recovery phase, sustaining large, non-performing “zombie” firms risks starving other businesses of potential talent and capital and drags down long-term economic productivity.¹⁰ Managing ballooning public debt, particularly in advanced economies, depends on these fragile productivity gains.

20%:

approximate share of MSMEs that closed in China and the US

If growth is not realized, a return to austerity may look attractive to governments. But this would limit progress on crucial development agendas such as investment in the transition to net zero carbon emissions and resilience to climate and digital threats, as well as rebuilding social security systems laid bare by COVID-19.

Alternatively, against a backdrop of more *dirigiste* policy-making during the pandemic, some political leaders may be emboldened to pick winners—to decide which businesses will survive and which will not—for political reasons rather than to enable a more sustainable future economy. Propping up poorly performing businesses leaves national accounts and citizens with little opportunity to recapture any benefit from bailing out private enterprise, especially in the context of globally inconsistent corporate tax regimes.

Under such circumstances, lessons from the 2008–2009 Financial Crisis suggest that large companies benefiting from this corporate welfare while still rewarding executives and shareholders will likely suffer political and social backlash post-crisis, and they will also have to confront future regulatory responses.¹¹

Separately, the global business environment may become costlier and more uncertain as a result of amplified protectionist trends, as some states increasingly turn inwards in a bid to strengthen self-sufficiency and protect domestic jobs (see [Chapter 4, Middle Power Morass](#)). In some economies, companies operating in industries critical to national resilience may face proposals for expropriation, nationalization or an increased government stake;¹² in other sectors, firms may be encouraged or coerced to onshore supply chains and bring back jobs.¹³ Smaller businesses may suffer a wave of restructuring and potential bankruptcies as they grapple with increased operational and investment costs to realign supply chains at a time when they are already experiencing lower profit margins and depleted reserves due to the recent economic slump.

Workforce constraints have also emerged as a pertinent issue in many countries. More restrictive migration policies and general economic hardships from a combination of COVID-19 fallout dovetailing with deepening protectionism are making it harder for companies to attract and retain foreign talent.¹⁴

Inevitably, as the national security agenda and geopolitical tensions intensify, some global companies also face greater challenges in accessing foreign markets.¹⁵ Bans of communication apps and a new wave of sanctions issued by the two largest economies—the United States and China—underline the consequences of protectionism.¹⁶ As geopolitical concerns deepen with respect to data privacy, the 5G race and under-regulated merger and acquisition (M&A) activity, large businesses will need to contend with continued political interference regarding ownership, ethical concerns, investment strategies and intellectual property rights.¹⁷



REUTERS/KUMAR

Technology run riot

COVID-19 lockdowns have accelerated the digital-physical hybridization enabled by the Fourth Industrial Revolution (see Chapter 2, Error 404).¹⁸ Almost overnight, businesses worldwide have faced the need to strengthen their digital presence to survive and adapt, even in heavily regulated industries. Years of digital transformation plans have been implemented within weeks.¹⁹

For the technology giants, this has been a major opportunity. Demand grew rapidly for services ranging from e-commerce and remote working technologies to online gaming and streaming. In early January 2021, the world's five biggest tech companies represented 23% of the S&P 500 by market capitalization, a 4.6% increase from late January 2020.²⁰

As other sectors struggle, the big technology players will likely emerge from the pandemic with stronger, more diverse revenue streams and enhanced

investment power. Barriers to entry in the digital marketplace are likely to increase at an even faster pace—even before the pandemic, the amount of computing power for a leading artificial intelligence system was doubling every two months, an increase of 300,000 times since 2012.²¹ Implications also flow to smaller firms in the form of higher costs and control of critical data and digital infrastructure²²—and even to financial stability for emerging and developing markets.²³ The recovery will also give fresh impetus to large technology companies' acquisition of start-ups,²⁴ as well as their expansion into other sectors²⁵—such as retail, healthcare, transportation and logistics.²⁶

It is not yet clear whether governments and society will tolerate the growing dominance of a small number of big players—with revenues larger than that of most countries—that are able to ward off legal challenges and expand their influence across industries and government agendas.²⁷ Indeed, in the medium term, respondents to the GRPS rank “tech governance failure” as a top critical risk. Policy-makers also now have more incentives for increasing scrutiny, with growing concerns about antitrust issues, digital harms, disinformation, and foreign ownership implications for national security and data privacy.²⁸ They could opt for tougher regulation—or even attempt to break up these companies—in

Businesses will need to manage social license risks and shareholder desire for quarterly growth

23%:

share of the five biggest tech firms in the S&P 500

a bid to improve oversight and strengthen competition, aiming to benefit innovation and consumers. Geopolitical schisms could make for different playing fields in different parts of the world (see [Chapter 4, Middle Power Morass](#)). Businesses may need to prepare for panic in financial markets and altered sales reach, as well as identify alternative service providers—if they exist—in the short-term disruption following government intervention.²⁹

Heightened public scrutiny

COVID-19 has laid bare systemic inequalities in economies of all wealth levels.³⁰ Consumers and employees are now scrutinizing corporate values more intensely. Societies have become more sceptical about the relationship between

business and governments, especially regarding the probity of contracting and outsourcing.³¹ Though immediate employment challenges dominate public attention, businesses must anticipate and respond to these bottom-up societal risks.

That business has a positive impact on wider society is a belief questioned by an increasing number of people.³² In one survey, only a third of respondents believed that business does a good job of partnering with non-governmental organizations (NGOs) or government.³³ Although immediate employment challenges may temporarily shift public attention away from unethical business practices, bribery and corruption are likely to continue worrying citizens in many economies.³⁴ Advanced economies are seeing more litigation against companies on topics including climate risk.³⁵ Many countries have seen significant popular protests against corporations.³⁶

Beyond its impact on employment, COVID-19 has exposed how social fabrics have been widely weakened by structural inequalities. Activists are spotlighting businesses that are perceived to have been exploitative during the pandemic—

REUTERS/PINCA



for example, re-contracting workers who were essential during lockdowns as gig workers with minimum to no benefits or health insurance coverage.³⁷ In the coming years, attention will likely pass to firms that have rapidly automated processes and operations at the expense of their workers.³⁸ Acknowledging sectoral differences, businesses will also have to consider implications of new workplace practices for maintaining client relationships, fewer choices in some parts of the business, and unequal impacts on junior versus senior staff.

Businesses that reflect societal values can strengthen societal trust and reduce inequality

A creative recovery

Companies that misjudge their actions and investments in the face of these shifts, and that fail to appreciate the scale of the rethinking required, face uncertainties amid shocks. But those emerging from the COVID-19 crisis with their resilience tested can embrace a huge opportunity to fast-track progress to a better normal.

The dire economic impacts of COVID-19, combined with historically low interest rates and the social costs of austerity, have spurred governments to make unprecedented economic interventions. As they shift emphasis from economic stability to the goal of building back better, there is scope to catalyse an inclusive and green recovery that delivers broad societal benefits, meeting the imperatives of the Paris Agreement and the 2030 Agenda for Sustainable Development.³⁹ While this form of recovery may require the next wave of fiscal support to be more conditional than the support that has been seen to date, it also behoves businesses in all sectors and of all sizes to ensure that sustainability is a core pillar of their recovery and new positioning.

Against this backdrop, new partnerships can be forged. Under the right governance frameworks, especially in the realm of data privacy, big tech can work with governments to strengthen resilience, enhance efficiencies and deliver new targeted services such as accessible finance products for disadvantaged groups (see Chapter 1, *Global Risks 2021*). Technology-based services can help to create new business ecosystems and level up opportunities, closing digital divides. Large companies can help smaller ones in their value chain to set sustainability objectives, formulate standards and measure progress.⁴⁰

The transformation of businesses and industries requires agile and distributed workforces, hybrid working options, and comprehensive reskilling and upskilling of employees.⁴¹ Companies will need to rethink their physical space and organizational design as they transition employees into new roles and navigate the opportunities of automation and digitalization—without reinforcing the systemic inequalities laid bare by COVID-19.

These opportunities can help deliver on the promise of multistakeholder capitalism—facilitating a shared and sustained value creation that strengthens a company's long-term prosperity. Businesses that reflect societal values, with clarity of purpose not merely empty rhetoric, can support a broad-based and sustainable economic recovery and growth, as well as the strengthening of societal trust and reduction of inequality. Such outcomes are critical for meeting current and future crises.

Endnotes

- 1 Zhang, X. 2020. "Survey: China's small and medium-sized enterprises rebounded after the COVID-19 lockdown, but economic problems linger". IFPRI Blog Research Post. International Food Policy Research Institute (IFPRI). 22 October 2020. <https://www.ifpri.org/blog/survey-chinas-small-and-medium-sized-enterprises-rebounded-after-covid-19-lockdown-economic>
- 2 The Economist. 2020. "How small businesses have dealt with the crisis". 23 July 2020. <https://www.economist.com/business/2020/07/23/how-small-businesses-have-dealt-with-the-crisis>
- 3 Africa Gender Innovation Lab, World Bank. 2020. "COVID-19 Pandemic Through a Gender Lens". Africa Knowledge in Time Policy Brief 1 (2). <https://openknowledge.worldbank.org/bitstream/handle/10986/34016/COVID-19-Pandemic-Through-a-Gender-Lens.pdf?sequence=4&isAllowed=y>; Liu, S. and Parilla, J. 2020. "Businesses owned by women and minorities have grown. Will COVID-19 undo that?" Brookings Metro's COVID-19 Analysis. 14 April 2020. <https://www.brookings.edu/research/businesses-owned-by-women-and-minorities-have-grown-will-covid-19-undo-that/>
- 4 OECD (Organisation for Economic Co-operation and Development). 2019. OECD SME and Entrepreneurship Outlook 2019. Policy Highlights. <https://www.oecd.org/industry/smes/SME-Outlook-Highlights-FINAL.pdf>
- 5 Baldwin, R. and Weder di Mauro, B. 2020. Mitigating the COVID Economic Crisis: Act Fast and Do Whatever It Takes. London: CEPR Press. <https://voxeu.org/content/mitigating-covid-economic-crisis-act-fast-and-do-whatever-it-takes>; IMF (International Monetary Fund). 2020. Fiscal Monitor – Policies for the Recovery. October 2020. <https://www.imf.org/en/Publications/FM/Issues/2020/09/30/october-2020-fiscal-monitor>; Steel, I. and Harris, T. 2020. "Covid-19 economic recovery: fiscal stimulus choices for lower-income countries." ODI. October 2020. https://www.odi.org/sites/odi.org.uk/files/resource-documents/fiscalstimulus_covid_final.pdf
- 6 OECD (Organisation for Economic Co-operation and Development). 2020. "Coronavirus (COVID-19): SME policy responses". Updated 15 July 2020. <https://www.oecd.org/coronavirus/policy-responses/coronavirus-covid-19-sme-policy-responses-04440101/#section-d1e9755>
- 7 Moody's. 2020. "Moody's: Coronavirus recoloca economias em patamares mais baixos, orientadas por risco de ativos em 2020 e nos próximos anos". Research Announcement. 22 September 2020; https://www.moody.com/research/Moodys-Coronavirus-resets-economies-at-lower-base-driving-asset-risk--PBC_1245733
- 8 Joh, A., Anand, N. and Potkin, F. 2020. "Coronavirus brings Asia's booming online lending sector to a juddering halt". Reuters. 2 June 2020. <https://www.reuters.com/article/us-health-coronavirus-asia-lending-analy/coronavirus-brings-asias-booming-online-lending-sector-to-juddering-halt-idUSKBN23A04F>
- 9 Inman, P. 2020. "Only state investment can revive Britain's zombie economy". The Guardian. 24 October 2020. <https://www.theguardian.com/business/2020/oct/24/only-state-investment-can-revive-britains-zombie-economy>
- 10 Banerjee, R. and Hofmann, B. 2018. "The rise of zombie firms: causes and consequences". BIS Quarterly Review. September 2018. https://www.bis.org/publ/qtrpdf/r_qt1809g.htm; The Economist. 2020. "The corporate undead: Why COVID-19 will make killing zombie firms off harder". 26 September 2020. <https://www.economist.com/finance-and-economics/2020/09/26/why-covid-19-will-make-killing-zombie-firms-off-harder>
- 11 Bostock, B. 2020. "Denmark and Poland are refusing to bail out companies registered in offshore tax havens". Business Insider. 20 April 2020. <https://www.businessinsider.com/coronavirus-companies-tax-havens-banned-denmark-poland-bailout-2020-4?r=US&IR=T>; Irwin, N. 2020. "How Bailout Backlash and Moral Hazard Outrage Could Endanger the Economy". The New York Times. 4 May 2020. <https://www.nytimes.com/2020/05/04/upshot/bailout-backlash-moral-hazard.html>
- 12 Denning, L. 2019. "De Blasio's ConEd Threat Is a Sign of What's to Come". Bloomberg Opinion. 23 July 2019. <https://www.bloomberg.com/opinion/articles/2019-07-23/de-blasio-s-coned-takeover-threat-is-a-sign-of-whats-to-come>; British Medical Journal. 2020. "Is it time to nationalise the drug industry?" 4 March 2020. <https://www.bmj.com/company/newsroom/is-it-time-to-nationalise-the-drug-industry/>
- 13 The Economist Intelligence Unit. 2020. "EIU Global Outlook: Siding with the US or with China?" 23 October 2020. <https://www.eiu.com/n/eiu-global-outlook-siding-with-the-us-or-with-china/>
- 14 Iwamoto, K. 2020. "Local jobs or global talent? Singapore faces COVID-era conundrum". Nikkei Asia. 3 November 2020. <https://asia.nikkei.com/Spotlight/Asia-Insight/Local-jobs-or-global-talent-Singapore-faces-COVID-era-conundrum>
- 15 Economist Intelligence Unit. 2020. Turning inwards: what Asia's self-sufficiency drive means for businesses and investors". <https://www.eiu.com/n/campaigns/turning-inwards/>
- 16 Bloomberg News. 2020. "India TikTok Ban Threatens China's Rise as Global Tech Power". 30 June 2020. <https://www.bloomberg.com/news/articles/2020-06-30/india-s-app-ban-threatens-china-s-rise-as-a-global-tech-power>; European Council. 2020. "Russia: Council renews economic sanctions over Ukrainian crisis for six more months". Press Release. 29 June 2020. <https://www.consilium.europa.eu/en/press/press-releases/2020/06/29/russia-council-renews-economic-sanctions-over-ukrainian-crisis-for-six-more-months/>; Fairman, C. 2020. "The Summer of the Ban". Council on Foreign Relations Blog Post. 21 September 2020. <https://www.cfr.org/blog/summer-ban>; Salmon, F. 2020. "The corporate victims of U.S.-China tensions".

- Axios. 6 August 2020. <https://www.axios.com/corporations-china-us-tiktok-05dda237-0ab1-4d9d-a496-856387a13138.html>; Verma, P. and Fassilhi, F. 2020. "U.S. Imposes Sanctions on Iran's Oil Sector". The New York Times. 26 October 2020, updated 30 November 2020. <https://www.nytimes.com/2020/10/26/world/middleeast/trump-sanctions-iran-oil.html>; Wong, C.H. 2020. "China to Sanction U.S. Weapons Makers Over Taiwan Sales". The Wall Street Journal. 27 October 2020. <https://www.wsj.com/articles/china-to-sanction-u-s-weapons-makers-over-taiwan-sales-11603708713>
- 17 Financial Times. "'The party is pushing back': why Beijing reined in Jack Ma and Ant". 5 November 2020. <https://www.ft.com/content/3d2f174d-aa73-44fc-8c90-45c2a554e97b>; Schneider-Petsinger, M., Wang, J., Jie, Y. and Crabtree, J. 2019. "US–China Strategic Competition: The Quest for Global Technological Leadership". Asia-Pacific Programme and the US and the Americas Programme. Research Paper. Chatham House. <https://www.chathamhouse.org/sites/default/files/CHHJ7480-US-China-Competition-RP-WEB.pdf>
- 18 Davis, N. 2016. "What is the fourth industrial revolution?" World Economic Forum. 19 January 2016. <https://www.weforum.org/agenda/2016/01/what-is-the-fourth-industrial-revolution/>
- 19 Oertli, K. 2020. "How digital innovations helped banks adapt during COVID-19". World Economic Forum. 20 August 2020. <https://www.weforum.org/agenda/2020/08/how-digital-innovations-helped-banks-adapt-during-covid-19/>
- 20 Financial Times. 2020. "Prospering in the pandemic: the top 100 companies". 19 June 2020. <https://www.ft.com/content/844ed28c-8074-4856-bde0-20f3bf4cd8f0>; Levy, A. and Konish, L. 2020. "The five biggest tech companies now make up 17.5% of the S&P 500 — here's how to protect yourself". CNBC. 28 January 2020. <https://www.cnbc.com/2020/01/28/sp-500-dominated-by-apple-microsoft-alphabet-amazon-facebook.html>; Sibilis Research. "U.S. Stock Market Sector Weightings" database. <https://sibilisresearch.com/data/sp-500-sector-weightings/>, accessed 1 December 2020; Yahoo Finance. 2021. <https://finance.yahoo.com/>, accessed 5 January 2021; S&P Global. 2021. <https://www.spglobal.com/spdji/en/indices/equity/sp-500/#data>, accessed 5 January 2021.
- 21 Amodei, D. and Hernandez, D. 2018. "AI and Compute". OpenAI. 16 May 2018, correction 7 November 2019. <https://openai.com/blog/ai-and-compute/>
- 22 OECD (Organisation for Economic Co-operation and Development). 2020. Digital Disruption in Banking and its Impact on Competition. <http://www.oecd.org/daf/competition/digital-disruption-in-financial-markets.htm>
- 23 FSB (Financial Stability Board). 2020. "BigTech Firms in Finance in Emerging Market and Developing Economies – Market developments and potential financial stability implications". 12 October 2020. <https://www.fsb.org/wp-content/uploads/P121020-1.pdf>
- 24 Loten, A. 2020. "Large Tech Companies Prepare for Acquisition Spree". The Wall Street Journal. 21 May 2020. <https://www.wsj.com/articles/large-tech-companies-prepare-for-acquisition-spree-11590053401>
- 25 Leonard, M. 2020. "RBC: Amazon Logistics' planned 2020 growth exceeds previous 3 years combined". Supply Chain Dive Brief. 21 September 2020. <https://www.supplychaindive.com/news/rbc-amazon-logistics-delivery-stations-growth/585565/>
- 26 Covarrubias, M., Gutiérrez, G. and Philippon, T. 2019. "From Good to Bad Concentration? US Industries over the Past 30 Years". NBER Macroeconomics Annual 2019. National Bureau of Economic Research. <https://www.journals.uchicago.edu/doi/abs/10.1086/707169>
- 27 Treverton, G.F. and Esfandiari, P. 2020. "Viewing tech giants as a geopolitical force". The Hill. 31 January 2020. <https://thehill.com/opinion/technology/480823-viewing-tech-giants-as-a-geopolitical-force>
- 28 European Commission. 2020. "Shaping Europe's digital future: The Digital Services Act package". 22 June 2020, updated 16 December 2020. <https://ec.europa.eu/digital-single-market/en/digital-services-act-package>; European Parliament and European Council. 2016. General Data Protection Regulation. 27 April 2016. <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32016R0679>; Financial Times. 2020. "EU targets Big Tech with 'hit list' facing tougher rules". 11 October 2020. <https://www.ft.com/content/c8c5d5dc-cb99-4b1f-a8dd-5957b57a7783>; Financial Times. 2020. "US antitrust case accuses Google of strangling competition". 20 October 2020. <https://www.ft.com/content/f8b2def2-0cb0-4a2d-941d-b965f6037dbb>; GOV.UK. U.K. Competition and Markets Authority, Consumer Protection Guidance. Last update 16 December 2020. <https://www.gov.uk/topic/competition/consumer-protection>; Department of Justice. 2020. United States of America vs. Google LLC. Filed 20 October 2020. <https://www.justice.gov/opa/press-release/file/1328941/download>; U.S. House of Representatives Judiciary Committee, Subcommittee on Antitrust, Commercial and Administrative Law of the United States House of Representatives. 2020. Investigation of Competition in Digital Markets. Majority Staff Report and Recommendations. Washington, DC: United States House of Representatives. 2020. https://judiciary.house.gov/uploadedfiles/competition_in_digital_markets.pdf; McDonald J. 2020. "China steps up pressure on Alibaba with anti-monopoly probe". AP News. 24 December 2020. <https://apnews.com/article/china-7f61ed3c62a53e4e3552bfaf06994b33>
- 29 The Guardian. 2020. "Yes, the tech giants are big – in truth, probably too big to break up". 2 August 2020. <https://www.theguardian.com/business/2020/aug/02/tech-giants-too-big-break-up-panic-markets-facebook>
- 30 Lall, S. and Wahba, S. 2020. "No Urban Myth: Building Inclusive and Sustainable Cities in the Pandemic Recovery". World Bank. 18 June 2020. <https://www.worldbank.org/en/news/immersive-story/2020/06/18/no-urban-myth-building-inclusive-and-sustainable-cities-in-the-pandemic-recovery>

- 31 Griffin, S. 2020. "Covid-19: NHS England should manage test and trace system, says Independent SAGE". BMJ 271: m4330. 9 November 2020. <https://www.bmj.com/content/371/bmj.m4330>; Haydar, N. 2020. "Manus Island detention centre contracts did not show value for money, audit office finds". ABC Live Blog post. 28 May 2020. <https://www.abc.net.au/news/2020-05-28/home-affairs-paladin-manus-island-audit-review/12297076>
- 32 Deloitte. 2019. The Deloitte Global Millennial Survey 2019. <https://www2.deloitte.com/content/dam/Deloitte/global/Documents/About-Deloitte/deloitte-2019-millennial-survey.pdf>
- 33 Edelman. 2020. 2020 Edelman Trust Barometer. <https://www.edelman.com/trustbarometer>
- 34 Transparency International. 2020. Corruption Perception Index 2019. https://www.transparency.org/files/content/pages/2019_CPI_Report_EN.pdf
- 35 Columbia Law School, Sabin Center for Climate Change Law. U.S. Climate Change Litigation database. <http://climatecasechart.com/>, accessed 15 December 2020.
- 36 Physical protest and digital movements, in a year of lockdowns, have occurred in reaction to corporate actions such as Extinction Rebellion's actions in a range of cities targeting companies— from producers to financiers— involved in the fossil fuel industry. See Reuters. 2020. "Climate activists spray 'fake oil' onto Barclays HQ in London's Canary Wharf". <https://www.reuters.com/article/us-climate-change-britain-barclays-idUSKBN22J10P>. Another example is the boycott calls for Disney's filming of Mulan in Xinjiang Province, China. See Qin, A. and Wong, E. 2020. "Why Calls to Boycott 'Mulan' Over Concerns About China Are Growing". The New York Times. 8 September 2020, updated 24 September 2020. <https://www.nytimes.com/2020/09/08/world/asia/china-mulan-xinjiang.html>
- 37 Sonnemaker, T. 2020. "15 organizers behind worker movements at Amazon, Google, Uber, Kickstarter, and other tech companies say the industry has reached an inflection point and that things aren't going back to the way they were before (UBER, AMZN, GOOG, GOOGL)". Business Insider. 21 July 2020. <https://www.businessinsider.com/amazon-google-uber-kickstarter-tech-workers-labor-organizing-movement-protests-2020-7>
- 38 World Economic Forum. 2020. The Future of Jobs Report 2020. October 2020. http://www3.weforum.org/docs/WEF_Future_of_Jobs_2020.pdf
- 39 Andrijevic, M. and Rogelj, J. 2020. "How the global coronavirus stimulus could put Paris Agreement on track". Carbon Brief blog guest post. 15 October 2020. <https://www.carbonbrief.org/guest-post-how-the-global-coronavirus-stimulus-could-put-paris-agreement-on-track>; Mazzucato, M. 2020. "Capitalism After the Pandemic: Getting the Recovery Right". Foreign Affairs. November/December 2020. <https://www.foreignaffairs.com/articles/united-states/2020-10-02/capitalism-after-covid-19-pandemic>
- 40 Financial Times. 2020. "Big business is no longer the planet's biggest problem". 30 September 2020. <https://www.ft.com/content/936b4ab0-ac10-4860-a84f-02bfaa694b25>
- 41 World Economic Forum and Mercer. 2020. "Resetting the Future of Work Agenda: Disruption and Renewal in a Post-COVID World". White Paper. October 2020. http://www3.weforum.org/docs/WEF_NES_Resetting_FOW_Agenda_2020.pdf



Hindsight: Reflections on Responses to COVID-19

COVID-19 has revealed key lessons about how the global community responds to crisis. Despite some remarkable examples of determination, cooperation and innovation, most countries struggled with at least some aspects of crisis management—and the world has not yet come together to mitigate the fallout. While it is too early to draw definitive lessons, this chapter distils some early observations across different response areas.

If the lessons drawn from this crisis inform decision-makers only how to better prepare for the next pandemic—rather than enhancing the processes, capabilities, and culture for galvanizing effort around other major concerns—the world will have fallen into the familiar risk management trap of planning for the last crisis rather than anticipating the next (see Box 6.1).

Global cooperation

In a connected world, an outbreak anywhere is a risk everywhere—and, on average, a new infectious disease emerges in humans every four months, with 75% of these new diseases coming from animals.¹ This section takes stock of global preparedness by looking at four key areas of the COVID-19 response: institutional

authority, risk financing, information collection and sharing, and equipment and vaccines.

Institutional authority

Response to risks like a pandemic requires effective global cooperation, information sharing and coordination. The H1N1 and Ebola outbreaks in the 2010s highlighted the need to strengthen the World Health Organization (WHO)'s competencies,² yet some areas of weakness have intensified. The WHO lacks independent investigative powers and also lacks the ability to sanction non-compliant member states (by design and charter); its authority has been further challenged in recent years by nationalist behaviours in many countries. Throughout the crisis, the WHO's advice at times competed with that of several governments. This conflict reiterated the challenges that, at times of urgency, the multilateral system faces to function in a way that is commensurate to the scale of global crises.

Beyond the WHO, other international actors struggled to mount a coordinated response to the global health, societal and economic crisis. For example, the United Nations Security Council was slow in reaching a resolution to support the Secretary-General's call for a global ceasefire.³ The G7 and the G20, hampered by domestic and bilateral political issues, also failed to mount a collective response commensurate with the scale of the impacts, although they had been able to do this in previous crises.⁴ This was seen in an initial failure to increase available resources for international finance organizations and to suspend debt repayments.⁵

Risk financing

The WHO's annual budget—US\$2.4 billion⁶—is far outweighed by the economic and development costs of the pandemic so far. In the early stages of the pandemic, delivery of supplementary crisis funding proved to be a slow process. It took two months to meet an initial funding goal of US\$675 million.⁷ International finance organizations were faster to mobilize to help low- and middle-income nations prepare healthcare services and support households during lockdowns. However, here too greater preparedness is needed:⁸ although funding was available in March or

BOX 6.1

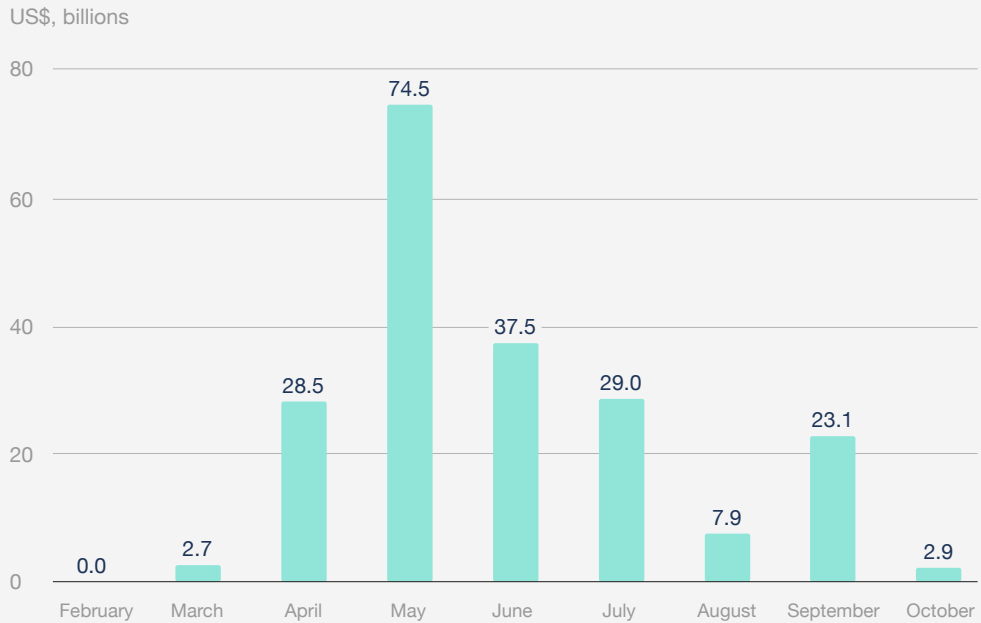
Pandemics and Crisis Response in the *Global Risks Report Series*

The *Global Risks Report* has frequently discussed the risk of pandemics to health and livelihoods. The 2020 edition flagged how health systems across the world were generally stretched; the 2018 and 2019 editions highlighted biological threats and antimicrobial resistance; and the 2016 edition stressed that the Ebola crisis would “not be the last serious epidemic” and that “public health outbreaks are likely to become ever more complex and challenging”.

The report has also explored aspects of managing risk and building resilience to crises: the 2018 and 2019 editions, for example, looked at the impacts of complexity and cognitive bias on risk assessment and response. The experience of COVID-19 so far offers an opportunity to update our understanding.

FIGURE 6.1

Approved International Finance Institute Financing by Month



Source: Segal, S., Henderson, J. and Gerstel, D. 2020. CSIS Economics Program, data from a collection of international finance institutions press releases. 24 November 2020, <https://www.csis.org/analysis/international-financial-institutions-covid-19-funding-rebounds-september-remains-below>

Early response efforts were hampered by the lack of robust data-sharing systems

April when pre-determined triggers were in place, in the absence of those triggers relief took longer to disburse (see Figure 6.1).

Based on the dire economic and development consequences of the pandemic thus far and experience from previous infectious diseases, the benefits from investing more in preparedness globally would have been a valuable investment especially if also coupled with the enhancement of health systems. This will continue to be the case and is true across different types of disasters.⁹

Information collection and sharing

Early response efforts were hampered by the lack of robust data-sharing systems that would enable large-scale and near-

real-time analysis on information such as testing and infection rates, fatality numbers, personal mobility, and viral genome sequences.¹⁰ Although such systems were rapidly developed, they were often restricted by a lack of open data standards.

Collaboration between the private and public sectors did work well in some cases. For example, in March 2020, the World Economic Forum launched the COVID Action Platform and communicated weekly updates from governments, the World Health Organization, and vaccine manufacturers with more than 1,800 executives and leaders. The platform has helped channel the supply of essential equipment through the Pandemic Supply Chain Network.

Technology companies also provided mobility data that helped authorities understand the potential spread and better target responses.¹¹ Scientists sequenced and shared more than 32,000 viral genomes, enabling researchers to trace more quickly the origin of outbreaks

As vaccine rollouts begin, rapid dissemination of challenges and best practices will be key for success

and laying the foundation for more robust pandemic surveillance in the future.¹² Information on the relative success of medical treatment options was rapidly disseminated by medical professionals and pharmaceutical companies, improving outcomes across the world.

Equipment and vaccines

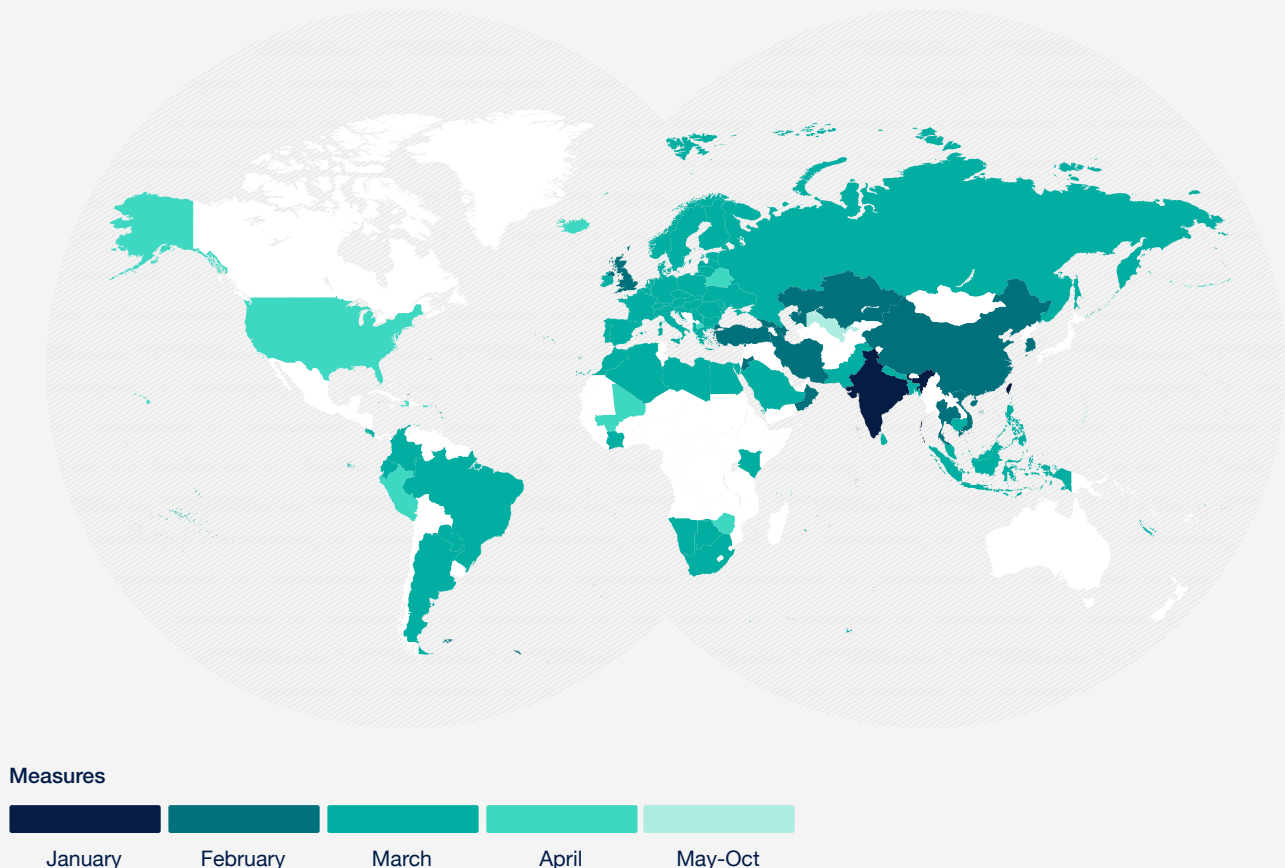
Early competition to secure personal protective equipment (PPE) and medical supplies made it harder to optimize their development and distribution. Governments requisitioned masks that had been ordered by foreign buyers, and, in some cases, stock was reportedly sold to higher bidders on airport runways.¹³ As of October 2020, more than 90 jurisdictions had implemented export controls (see Figure 6.2).¹⁴ On a more positive note, innovative public-private partnerships emerged as supply chains were rapidly reconfigured to meet demand.¹⁵

Vaccine development progressed rapidly through collaboration among private companies and universities facilitated by government funding, although it is still unclear how concerns about intellectual

FIGURE 6.2

Export Controls on Medical Supplies and Medicines

Exports of medical supplies and medicines: 92 jurisdictions are reported executing a total of 215 export controls since the beginning of 2020 (last updated 16 October 2020)



Source: World Bank. "COVID-19 Trade Policy Database: Food and Medical Products." Brief. <https://www.worldbank.org/en/topic/trade/brief/coronavirus-covid-19-trade-policy-database-food-and-medical-products>

property rights, pricing and procurement will be handled.¹⁶ Initiatives to deploy vaccines equitably to low- and middle-income countries, such as the G20's COVID-19 Tools Accelerator, have been hampered by funding and distribution challenges. More than 180 countries have signed up to take part in the WHO's COVAX initiative to facilitate lower-cost bulk purchases of vaccines. However, low- and middle-income countries may receive only a small fraction of their doses for frontline workers until advanced economies have achieved a vaccine coverage of 20%.¹⁷

Other implementation challenges for vaccine programmes still require resolution—for example, distribution (cold chain requirements, global glass vial availability and supply logistics for low-density areas) and application (defining priority groups, recording doses given and countering vaccine hesitancy). As vaccine rollouts begin, rapid dissemination of challenges and best practices will be key for successful iteration across economies.

National-level responses

National-level responses have varied given different starting points: income level, health system maturity, geographic

and demographic characteristics, culture and type of political regime. Nonetheless, early lessons can be drawn in five areas: governmental decision-making, public communication, health system capabilities, lockdown management, and financial assistance to the vulnerable. These areas are interdependent: a weak performance in one area has spill-over effects elsewhere.

Governmental decision-making

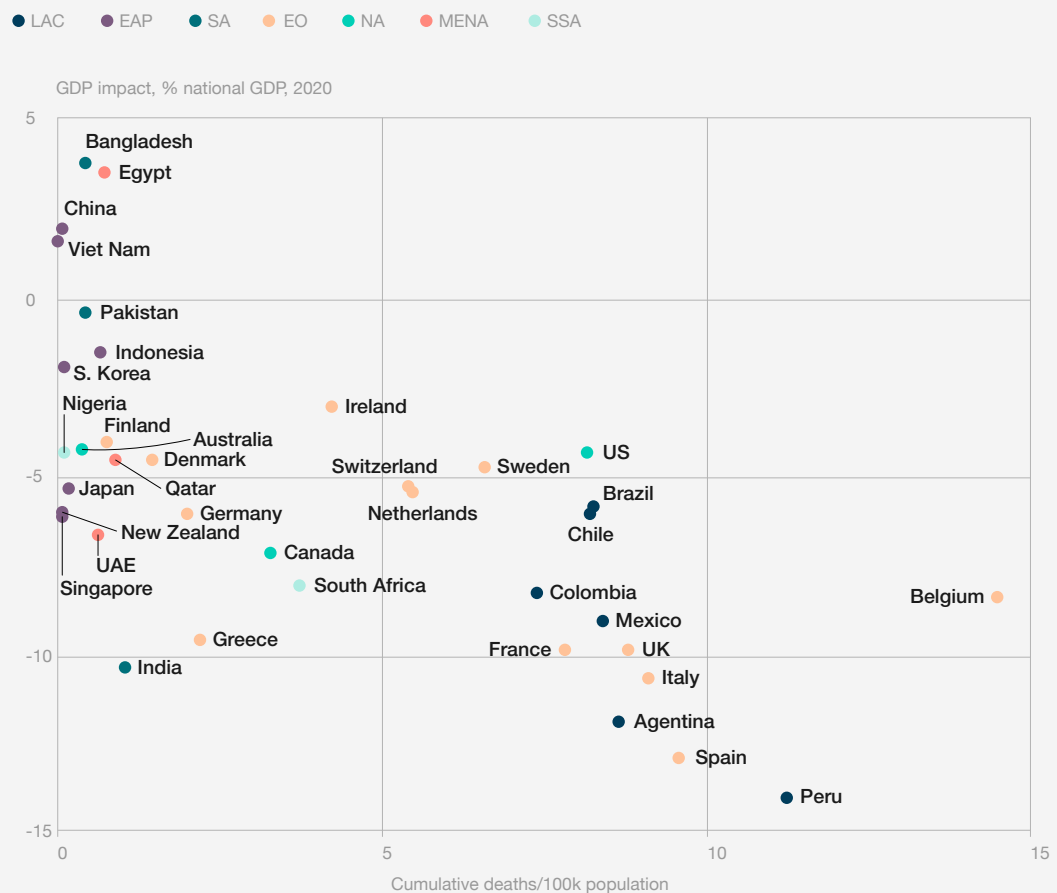
In the early days, with imperfect and evolving information, all governments understandably struggled to balance health security with economic impact and community sentiment.¹⁸ However, some countries subsequently proved more able than others to formulate clear strategies and adapt them as new information became available.¹⁹ Countries that already had a pandemic high on their risk registers could appreciate the different dimensions of the risk, the key considerations and mitigation options, and the evidence needed to inform decisions. While some were able to put the lessons from stress tests and table-top exercises into practice, others failed to apply previously developed response strategies.²⁰ Some also failed to appreciate lessons learned in other countries once the pandemic had begun, losing valuable time to build

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FIGURE 6.3

Expected GDP Decline versus Cumulative Deaths, as of 30 November 2020



Source: Johns Hopkins University & Medicine. "Mortality Analyses." Coronavirus Resource Center. <https://coronavirus.jhu.edu/data/mortality> (accessed on 1 December 2020); International Monetary Fund. "Real GDP growth". Oct. 2020. https://www.imf.org/external/datamapper/NGDP_RPCH@WEO/OEMDC/ADVEC/WEOWORLD/SRB (accessed on 1 December 2020); World Bank. "World Bank Country and Lending Groups". 2020. <https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups> (accessed on 1 December 2020)

Note: EAP = East Asia and the Pacific; EO = Europe; LAC = Latin America and the Caribbean; MENA = Middle East and North Africa; NA = North America; SA = South Asia; SSA = Sub-Saharan Africa.

capacity, understand vulnerabilities and develop contingencies.²¹ This lack of understanding grew more complicated as strains mutated and emerged with higher levels of transmissibility.²²

Separately, concern has also grown about the scope and duration of new emergency powers and the consolidation of a less-consultative mode of leadership.²³ In some countries, the side-lining of key public servants, soured relationships among government actors, and the failure to heed expert advisory body recommendations have exacerbated challenges to a successful response.²⁴

Communication with populations

Governments that most successfully sustained popular confidence in 2020 were typified by regular and consistent public reporting, transparency about the limits of knowledge at any given time, and visible alignment between politicians and experts in areas such as epidemiology and behavioural science.²⁵ Behaviour tended to be more chaotic where governmental messaging lacked clarity, measures seemed discriminatory, national and local leaders espoused different agendas, and competing narratives sowed doubt²⁶—exacerbated by misinformation on social media (see Chapter 2, Error 404).²⁷

Health system capabilities

Many countries made extraordinary efforts to expand health system capacity in the first wave of the pandemic—for example, by delaying elective care, reallocating medical professionals, and building whole new temporary hospitals. However, in addition to PPE shortcomings discussed above, health systems also often overlooked the challenge of controlling infections in high-impact facilities such as care homes, where age and poor health gave rise to high numbers of deaths (see Figure 6.3). In many cases, there was also insufficient forethought paid to chronic exhaustion among health system personnel, as subsequent waves of the pandemic coincided with the need to attend to other conditions that had worsened during lockdowns²⁸—e.g. for the 41% of adults in the United States who delayed or avoided medical care.²⁹ Health workers have already begun leaving the profession (see Chapter 1, [Global Risks 2021](#)). Mental health issues across populations—including anxiety, depression and post-traumatic stress—are also set to increase (see Chapter 1, [Global Risks 2021](#) and Chapter 3, [Pandemics](#)).

41%:

adults in the US who delayed or avoided medical care

Many countries struggled with testing, tracking and contact tracing,³⁰ even though these were seen as critical to keeping outbreaks under control and economies open.³¹ Such systems were often slow to identify where infections were spreading: from international travel, meat packing facilities, large social gatherings, or accommodation for migrant construction workers.³²

Lockdown management

National lockdowns had some successes: for example, the shielding of vulnerable

individuals often worked well in advanced economies, with public-private collaboration ensuring delivery of food supplies. However, disruption of schooling and workplaces caused a wide range of impacts in countries of all income levels (see Chapter 3, [Pandemics](#)),³³ including an exacerbation of digital divides (see Chapter 2, [Error 404](#)). Box 6.2 compares the characteristics of lockdown responses across regions.

After the gradual opening up of economies caused cases to rise again, many governments were reluctant to revert to extended nationwide lockdowns, instead trying short (two-to four-week) “circuit breakers” or more nuanced local restrictions (such as curfews, hospitality closures, bans on inter-household mixing, and travel constraints).³⁴ The timing and conditions for the deployment of these measures, and their prospects of success in controlling the spread of the virus, generated fraught policy discussions, and mixed outcomes resulted in some governments returning to more restrictive national approaches.³⁵

Financial assistance for individuals

Lockdown measures caused a sharp downturn in economic output, endangering jobs and businesses. Wealthier countries sought to define and deliver relief packages (see Chapter 1, [Global Risks 2021](#)) for the most-affected groups and supported employers in their efforts to retain employees.³⁶ However, the phasing out of support will leave many businesses with difficult employment decisions (see Chapter 5, [Imperfect Markets](#)). Rapidly rising unemployment in the second half of 2020 began to put additional pressure on other welfare system provisions and exacerbated mental health challenges. Developing economies with limited public finances often faced the difficult choice between lockdowns with no or little financial assistance for those who lost their livelihoods and keeping their economies open at the risk of rapid spread of the virus and overwhelmed health systems. In many economies, informal markets also complicated the distribution of financial assistance.

Responding to COVID-19 : Regional Characteristics

Perceived effectiveness of regional and global COVID-19 response in the GRPS

1 = COMPLETE FAILURE, 5 = COMPLETE SUCCESS



Sub-Saharan Africa

Regional: 3.07

Global: 2.51

Experience with infectious diseases meant health professionals and political leaders in Africa were on high alert and coordinating as soon as the region’s first cases were reported. Relatively swift policy responses to limit spread and the benefits of a younger age profile compensated for health system weaknesses and kept mortality rates lower than they might have been in the initial wave, although infection and mortality rates were rising at the time of publication.



Central and Latin America

Regional: 2.99

Global: 2.40

Countries in Central and Latin America implemented some of the world’s most stringent travel controls and lockdowns, with the virus arriving later than in other areas. However, cultural resistance in some countries, a high degree of employment informality, limited social protection mechanisms and decades of health system underfunding resulted in lower levels of compliance, stretched health systems and high mortality rates.



East Asia and the Pacific

Regional: 3.52

Global: 2.37

Remembering the SARS epidemic, many countries in East Asia moved quickly, implementing a combination of travel bans, lockdowns and extensive testing with contact tracing, quickly targeting fresh outbreaks. High degrees of compliance, comfort with technology, cultural norms of collective responsibility and familiarity with mask-wearing helped public health measures “bend the curve”. With continuous upgrading of public health strategies, many countries are now looking to ease measures such as travel bans.

Taking advantage of their geography, many Pacific islands remain relatively unscathed as a result of the early closure of borders. More-advanced island economies, such as Australia and New Zealand, were able to implement and sustain strict lockdowns to contain periodic outbreaks.

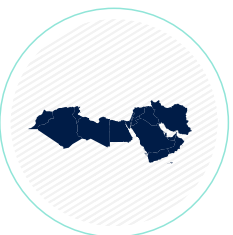


Europe

Regional: 2.99

Global: 2.40

In the highly interconnected economies of Europe, a combination of sovereign priorities, regional autonomy or devolved powers, and sensitivity to the rights of individuals complicated the national implementation of public health measures and international collaboration. Pressure to re-establish normalcy over the summer of 2020 precipitated a new wave of cases in autumn. Governments proved reluctant to re-impose national lockdowns.



Middle East and North Africa

Regional: 2.68

Global: 2.46

In the Middle East and North Africa, capacities and responses varied greatly but relatively young populations may have spared the region from higher death tolls; however, data in some locations are uncertain. Some nations with advanced medical systems and regimes able to enforce lockdowns and other social restrictions along with border controls have managed successive waves of infections. Other, poorer nations, and those that are fragile and in conflict situations, however, are suffering exacerbated economic and humanitarian challenges.



North America

Regional: 2.00

Global: 2.51

North America, particularly the United States, saw similar challenges to Europe regarding national versus local priorities and individual freedoms. High levels of political divisiveness amplified disinformation and eroded public trust. On the other hand, financial and manufacturing capabilities were rapidly harnessed to build medical supply capacity and begin vaccine development.



South Asia

Regional: 2.86

Global: 2.72

Some South Asian countries locked down early to try to avoid overwhelming their healthcare systems. The health results were mixed and the impacts on livelihoods were severe, with the underprivileged most affected. A staged unlocking of social and economic activity aimed to mitigate these effects. Other countries had less restrictive policy programmes, and most were challenged by limited governmental capacity and willingness to respond.

Note: Please see Appendix B for a more detailed description of the methodology.

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Endnotes

- 1 McDermott, J. and Grace, D. 2012. "Agriculture-associated disease: Adapting agriculture to improve human health". In Reshaping agriculture for nutrition and health, Fan, S. and Pandya-Lorch, R. (eds). Washington, DC: International Food Policy Research Institute (IFPRI). <http://ebrary.ifpri.org/cdm/ref/collection/p15738coll2/id/126825>
- 2 Hoffman, S. J., and Silverberg, S. L. 2018. "Delays in Global Disease Outbreak Responses: Lessons from H1N1, Ebola, and Zika". American Journal of Public Health 108 (3): 329–33. March 2019. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5803810/>; Kruck, A., Opperman, K., Spencer, A. and Kamradt-Scott, A. 2017. "What Went Wrong? The World Health Organization from Swine Flu to Ebola". Political Mistakes and Policy Failures in International Relations (October): 193–215. 9 October 2017. <https://europemc.org/article/pmc/pmc7122988>
- 3 UN Security Council. 2020. "Security Council Underlines Support for Secretary-General's Global Ceasefire Appeal, Fight against COVID-19, Unanimously Adopting Resolution 2532 (2020)". Press Release. 1 July 2020. <https://www.un.org/press/en/2020/sc14238.doc.htm>
- 4 Bernes, T. "COVID-19: The Failure of G20". Council on Foreign Relations. <https://www.cfr.org/sites/default/files/pdf/COVID-19%20The%20Failure%20of%20G20.pdf>
- 5 Stewart, P. 2020. "When the System Fails: COVID-19 and the Costs of Global Dysfunction". Foreign Affairs. July/August 2020. <https://www.foreignaffairs.com/articles/world/2020-06-09/when-system-fails>
- 6 WHO (World Health Organization). 2019. Programme budget 2020–2021. <https://www.who.int/about/finances-accountability/budget/WHOPB-PRP-19.pdf?ua=1>
- 7 Buranyi, S. "The WHO v coronavirus: why it can't handle the pandemic". The Guardian. 10 April 2020. <https://www.theguardian.com/news/2020/apr/10/world-health-organization-who-v-coronavirus-why-it-cant-handle-pandemic>
- 8 Hill, R., Patel, D., Yang, Y. and Gascoigne, J. 2020. "Funding covid-19 response: Tracking global humanitarian and development flows to meet crisis needs". Centre for Disaster Prevention, COVID-19 Blog Series. 25 June 2020. <https://www.disasterprotection.org/latest-news/funding-covid-19-response-tracking-global-humanitarian-and-development-flows-to-meet-crisis-needs>
- 9 Commission on a Global Health Risk Framework for the Future, National Academy of Medicine. 2016. The Neglected Dimension of Global Security: A Framework to Counter Infectious Disease Crises. Washington, DC: National Academies Press. <https://www.ncbi.nlm.nih.gov/books/NBK368391/>; Stutzman, H., Micah, A.E. and Dieleman, J.L. 2020. "Funding Pandemic Preparedness: A Global Public Good". Think GlobalHealth. 23 April 2020. <http://www.thinkglobalhealth.org/article/funding-pandemic-preparedness-global-public-good>; Kaniewski, D. 2020. "The Value of Disaster Planning Outweighs Its Cost — Sixfold." Brink. 19 November 2020. <https://www.brinknews.com/the-value-of-disaster-planning-outweighs-its-cost-sixfold/>
- 10 Cosgriff, C.V., Ebner, D.K. and Celi, L.A. 2020. "Data sharing in the era of COVID-19". The Lancet - Digital Health: Correspondence 2 (5): E224. 1 May 2020. [https://www.thelancet.com/journals/landig/article/PIIS2589-7500\(20\)30082-0/fulltext](https://www.thelancet.com/journals/landig/article/PIIS2589-7500(20)30082-0/fulltext)
- 11 Oliver Wyman. The COVID-19 Pandemic Navigator. <https://pandemicnavigator.oliverwyman.com/>, accessed 12 January 2021.
- 12 Watson, C. May 2020. "How countries are using genomics to help avoid a second coronavirus wave". Nature. 27 May 2020. <https://www.nature.com/articles/d41586-020-01573-5>
- 13 Lister, T., Shukla, S. and Bobille, F. 2020. "Coronavirus sparks a 'war for masks' as accusations fly". CNN. 3 April 2020. <https://edition.cnn.com/2020/04/03/europe/coronavirus-masks-war-intl/index.html>
- 14 World Bank. 2020. "COVID-19 Trade Policy Database: Food and Medical Products". Brief. 4 May 2020, updated 16 October 2020. <https://www.worldbank.org/en/topic/trade/brief/coronavirus-covid-19-trade-policy-database-food-and-medical-products>
- 15 Miller, N. 2020. "How factories change production to quickly fight coronavirus". BBC Worklife. 13 April 2020. <https://www.bbc.com/worklife/article/20200413-how-factories-change-production-to-quickly-fight-coronavirus>
- 16 Financial Times. 2020. "Poorer countries join WHO call for virus patents to be shared". 29 May 2020. <https://www.ft.com/content/b964cfb2-5f2e-4cb7-b9ad-535481495eaa>
- 17 WHO (World Health Organization). 2020. "Fair allocation mechanism for COVID-19 vaccines through the COVAX Facility. Final working version". 9 September 2020. <https://www.who.int/publications/m/item/fair-allocation-mechanism-for-covid-19-vaccines-through-the-covax-facility>
- 18 Pisano, G.P., Sadun, R. and Zaninin, M. 2020. "Lessons from Italy's Response to Coronavirus". Harvard Business Review. 27 March 2020. <https://hbr.org/2020/03/lessons-from-italys-response-to-coronavirus>

- 19 The combination of agile governance and digital capabilities in South Korea and Taiwan, China, minimized both health and economic impacts in those locations. See, e.g., Manatan, M. 2020. "Agile Governance Crushing COVID-19: Taiwan and South Korea". *The Diplomat*. 22 May 2020. <https://thediplomat.com/2020/05/agile-governance-crushing-covid-19-taiwan-and-south-korea/>
- 20 Maxmen, A. and Tollefson, J. 2020. "Two decades of pandemic war games failed to account for Donald Trump". *Nature*. 4 August 2020. <https://www.nature.com/articles/d41586-020-02277-6>; Pegg, D. 2020. "What was Exercise Cygnus and what did it find?" *The Guardian*. 7 May 2020. <https://www.theguardian.com/world/2020/may/07/what-was-exercise-cygnus-and-what-did-it-find>; Shin, H. 2020. "South Korea's emergency exercise in December facilitated coronavirus testing, containment". *Reuters*. 30 March 2020. <https://www.reuters.com/article/us-health-coronavirus-southkorea-drills-idUSKBN21H0BQ>
- 21 Joassart-Marcelli, P. 2020. "The Pandemic Exposes Dangers of the Informal Economy: And It Is Not Just Developing Countries That Are in Trouble". *Foreign Affairs*. 18 May 2020. <https://www.foreignaffairs.com/articles/united-states/2020-05-18/pandemic-exposes-dangers-informal-economy>; Taylor, A. 2020. "As covid-19 cases surge, global study paints grim picture for elder-care homes". *The Washington Post*. 16 October 2020. <https://www.washingtonpost.com/world/2020/10/15/long-term-elder-care-coronavirus-nursing-homes-research-lessons/>
- 22 *Financial Times*. 2020. "UK warns of threat from new Covid-19 variant". 15 December 2020. <https://www.ft.com/content/015e7e84-c526-4166-ab17-5af8d689cdac>; *TimesLive*. 2020. "Got questions about the new Covid-19 variant? Health department has lots of answers". 19 December 2020. <https://www.timeslive.co.za/news/south-africa/2020-12-19-got-questions-about-the-new-covid-19-variant-health-department-has-the-answers/>. For a global overview of genome mutations of the novel coronavirus, see Nextstrain team. Genomic epidemiology of novel coronavirus – Global subsampling. <https://nextstrain.org/ncov/global>. See also WHO (World Health Organization). 2020. "SARS-CoV-2 mink-associated variant strain – Denmark". *Disease Outbreak News*. 6 November 2020. <https://www.who.int/csr/don/06-november-2020-mink-associated-sars-cov2-denmark/en/>
- 23 Extending this observation, according to Freedom House, the condition of democracy and human rights has grown worse in 80 countries since the beginning of the coronavirus outbreak. See Freedom House. 2020. "NEW REPORT: Democracy under Lockdown – The Impact of COVID-19 on Global Freedom". Press Release. 2 October 2020. <https://freedomhouse.org/article/new-report-democracy-under-lockdown-impact-covid-19-global-freedom>
- 24 *The Economist*. 2020. "Across the world central governments face local covid-19 revolts". 12 October 2020. <https://www.economist.com/international/2020/10/12/across-the-world-central-governments-face-local-covid-19-revolts>; Select Subcommittee on the Coronavirus Crisis. 2020. "Select Subcommittee Analysis Shows Pattern Of Political Interference By The Trump Administration In Coronavirus Response". Press Release. 2 October 2020. <https://coronavirus.house.gov/news/press-releases/select-subcommittee-analysis-shows-pattern-political-interference-trump>
- 25 Edelman. 2020. "2020 Edelman Trust Barometer Spring Update: Trust and the Covid-19 Pandemic". 5 May 2020. <https://www.edelman.com/research/trust-2020-spring-update>
- 26 OECD (Organisation for Economic Co-operation and Development). 2020. "Transparency, communication and trust: The role of public communication in responding to the wave of disinformation about the new Coronavirus". *OECD Policy Responses to Coronavirus (COVID-19)*. 3 July 2020. <https://www.oecd.org/coronavirus/policy-responses/transparency-communication-and-trust-bef7ad6e/>
- 27 Cinelli, M., Quattrocchi, W., Galeazzi, A., Valensise, C.M., Brugnoli, E., Schmidt, A.L., Zola, P., Zollo, F. and Scala, A. 2020. "The COVID-19 social media infodemic". *Nature Scientific Reports* 10: 16598 (2020). 6 October 2020. <https://www.nature.com/articles/s41598-020-73510-5>; WHO (World Health Organization). 2020. "Immunizing the public against misinformation". 25 August 2020. <https://www.who.int/news-room/feature-stories/detail/immunizing-the-public-against-misinformation>
- 28 Gerada, C. and Walker, C. 2020. "Covid fatigue is taking an enormous toll on healthcare workers". *BMJ*. 4 May 2020. <https://blogs.bmj.com/bmj/2020/05/04/covid-fatigue-is-taking-an-enormous-toll-on-healthcare-workers/>
- 29 Czeisler, M.E., Marynak, K., Clarke, K.E.N., Salah, Z., Shakya, I., Thierry, J.M., Ali, N. McMillan, H., Wiley, J.F., Weaver, M.D., Czeisler, C.A., Rajaratnam, S.M.W. and Howard, M.E. 2020. "Delay or Avoidance of Medical Care Because of COVID-19–Related Concerns — United States, June 2020". *CDC – Morbidity and Mortality Weekly Report (MMWR)* 19 (36): 1250–57. 11 September 2020. <https://www.cdc.gov/mmwr/volumes/69/wr/pdfs/mm6936a4-H.pdf>
- 30 OECD (Organisation for Economic Co-operation and Development). 2020. "Testing for COVID-19: A way to lift confinement restrictions". *OECD Policy Responses to Coronavirus (COVID-19)*. 4 May 2020. <https://www.oecd.org/coronavirus/policy-responses/testing-for-covid-19-a-way-to-lift-confinement-restrictions-89756248/#figure-d1e1240>
- 31 ILO (International Labour Organization). 2020. *ILO Monitor: COVID-19 and the world of work*. Fourth edition. 27 May 2020. https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/documents/briefingnote/wcms_745963.pdf

- 32 Aschwanden, C. 2020. "How 'Superspreading' Events Drive Most COVID-19 Spread". Scientific American. 23 June 2020. <https://www.scientificamerican.com/article/how-superspreading-events-drive-most-covid-19-spread1/>
- 33 Azevedo, J. P., Hasan, A., Goldemberg, D., Iqbal, S. A., Geven, K., "Simulating the Potential Impacts of COVID-19 School Closures on Schooling and Learning Outcomes: A Set of Global Estimates". Working Paper No. 9284. Washington, DC: World Bank. <https://openknowledge.worldbank.org/handle/10986/33945>
- 34 Mahese, E. 2020. "Covid-19: How does local lockdown work, and is it effective?" BMJ 2020; 370: m2679. 3 July 2020. <https://www.bmj.com/content/370/bmj.m2679>
- 35 Hale, T., Angrist, N., Cameron-Blake, E., Hallas, L., Kira, B., Majumdar, S., Petherick, A., Phillips, T., Tatlow, H. and Webster, S. 2020. "Variation in government responses to COVID-19". Blavatnik School of Government (BSG) Working Paper Series, BSG-WP-2020/032, Version 8.0. 22 October 2020. <https://www.bsg.ox.ac.uk/sites/default/files/2020-10/BSG-WP-2020-032-v8.pdf>
- 36 Retention schemes were in place to support about 50 million jobs in OECD nations by May 2020. See OECD (Organisation for Economic Co-operation and Development). 2020. "Job retention schemes during the COVID-19 lockdown and beyond". OECD Policy Responses to Coronavirus (COVID-19). 12 October 2020. <http://www.oecd.org/coronavirus/policy-responses/job-retention-schemes-during-the-covid-19-lockdown-and-beyond-0853ba1d/>

POSTSCRIPT

FORESIGHT ON FRONTIER RISKS

In collaboration with the Global Future Council on Frontier Risks

COVID-19 has demonstrated the rapid and cascading impacts of a global catastrophic risk manifested. Pandemics—as well as climate change, debt crises, cyberattacks and others—are high-likelihood, high-impact risks on which we focus our attention each year in the *Global Risks Report*.

We expand our analysis this year to ask high-level risk experts about potential shocks that are less well known but would have huge impacts if manifested. The purpose of this non-exhaustive list is to encourage more expansive thinking about the universe of risk possibilities in the next decade.

The goal is to better enable preparation, rather than paralysis, as well as resilience in the face of crisis. The list below sets out some of the potential frontier risks that are on the minds of risks analysts.

Accidental war	An inter-state skirmish escalates to war as governments fail to control action in the absence of accurate information. Weakened multilateralism leads to failure to contain.
Anarchic uprising	Young activists, fed up with corruption, inequality and suffering, mobilize against elites. AI-powered social media is exploited to spread disinformation, fomenting social chaos.
Brain-machine interface exploited	Companies, governments or individuals utilize burgeoning “mind-reading” technology to extract data from individuals for commercial or repressive purposes.
Collapse of an established democracy	A democracy turns authoritarian through the progressive hollowing out of the body of law. A legal rather than a violent coup erodes the system, with knock-on effects on other democratic systems.
Geomagnetic disruption	A rapid reversal of the Earth’s geomagnetic poles generates destabilizing consequences for the biosphere and human activity.
Gene editing for human enhancement	Governments begin classified genetic engineering programmes. A class of people is born with genetic capabilities better suited for space, Arctic, or deep-sea survival, setting off a genetic arms race between geopolitical rivals with undetermined ethical consequences.
Neurochemical control	Malicious use of pharmaceutical neurochemicals aims to control adversaries. Governments begin to use these drugs for non-lethal law enforcement.
Permafrost melt releases ancient microorganisms	A warming planet leads to permafrost melt in the Arctic. An ancient virus, unknown in modern science, is released into the air, soil, and water systems.
Deployment of small-scale nuclear weapons	New technology allows for proliferation of low-yield warheads, blurring deterrence frameworks and leading to global nuclear war.

* The views in this section represent those of the Global Future Council on Frontier Risks and not of the World Economic Forum or its partners.



Appendices

Appendix A:

Descriptions of Global Risks 2021

Global Risks

A “global risk” is defined as an uncertain event or condition that, if it occurs, can cause significant negative impact for several countries or industries within the next 10 years.

To ensure legibility, the names of the global risks have been abbreviated in the figures. The portion of the full name used in the abbreviation is in bold.

	Global Risk	Description
Economic	Asset bubble burst in large economies	Prices for housing, investment funds, shares and other assets in a large economy increasingly disconnected from the real economy
	Collapse of a systemically important industry	Collapse of a systemically important global industry or firm with an impact on the global economy, financial markets and/or society
	Debt crises in large economies	Corporate and/or public finances overwhelmed by debt accumulation and/or debt servicing in large economies, resulting in mass bankruptcies, defaults, insolvency, liquidity crises or sovereign debt crises
	Failure to stabilize price trajectories	Inability to control an unmanageable increase (inflation) or decrease (deflation) in the general price level of goods and services
	Proliferation of illicit economic activity	Global proliferation of informal and/or illegal activities that undermine economic advancement and growth: counterfeiting, illicit financial flows, illicit trade, tax evasion, human trafficking, organized crime etc.
	Prolonged economic stagnation	Near-zero or slow global growth lasting for many years
	Severe commodity shocks	Abrupt shocks to the supply and demand of systemically important commodities at a global scale that strain corporate, public and/or household budgets: chemicals, emissions, energy, foods, metals, minerals etc.
Environmental	Biodiversity loss and ecosystem collapse	Irreversible consequences for the environment, humankind, and economic activity, and a permanent destruction of natural capital, as a result of species extinction and/or reduction
	Climate action failure	Failure of governments and businesses to enforce, enact or invest in effective climate-change adaptation and mitigation measures, preserve ecosystems, protect populations and transition to a carbon-neutral economy
	Extreme weather events	Loss of human life, damage to ecosystems, destruction of property and/or financial loss at a global scale as a result of extreme weather events: cold fronts, fires, floods, heat waves, windstorms etc.
	Human-made environmental damage	Loss of human life, financial loss and/or damage to ecosystems as a result of human activity and/or failure to co-exist with animal ecosystems: deregulation of protected areas, industrial accidents, oil spills, radioactive contamination, wildlife trade etc.
	Major geophysical disasters	Loss of human life, financial loss and/or damage to ecosystems as a result of geophysical disasters: earthquakes, landslides, geomagnetic storms, tsunamis, volcanic activity etc.
	Natural resource crises	Chemical, food, mineral, water or other natural resource crises at a global scale as a result of human overexploitation and/or mismanagement of critical natural resources

	Global Risk	Description
Geopolitical	Collapse of a multilateral institution	Dissolution of a global multilateral institution established to resolve economic, environmental, geopolitical and/or humanitarian crises with regional or global implications: border disputes, environmental commitments, migration crises, health emergencies, trade disputes etc.
	Fracture of interstate relations	Economic, political and/or technological rivalries between geopolitical powers, resulting in a fracture of bilateral relations and/or growing tensions
	Geopolitization of strategic resources	Concentration, exploitation and/or mobility restriction by a state, of goods, knowledge, services or technology critical to human development with the intent of gaining geopolitical advantage
	Interstate conflict	Belligerent bilateral or multilateral conflict between states with global consequences: biological, chemical, cyber and/or physical attacks, military interventions, proxy wars etc.
	State collapse	Collapse of a state with global geopolitical importance as a result of internal conflict, breakdown of rule of law, erosion of institutions, military coup, regional and global instability
	Terrorist attacks	Large-scale, scattered or isolated terrorist attacks carried out by individuals or non-state groups with ideological, political or religious goals, resulting in loss of life, severe injury and/or material damage
	Weapons of mass destruction	Deployment of biological, chemical, cyber, nuclear and radiological weapons, resulting in loss of life, destruction and/or international crises
Societal	Collapse or lack of social security systems	Non-existence or widespread bankruptcy of social security systems and/or erosion of social security benefits: disability, elderly, family, injury, maternity, medical care, sickness, survivor, unemployment etc.
	Employment and livelihood crises	Structural deterioration of work prospects and/or standards for the working-age population: unemployment, underemployment, lower wages, fragile contracts, erosion of worker rights etc.
	Erosion of social cohesion	Loss of social capital and a fracture of social networks negatively impacting social stability, individual well-being and economic productivity, as a result of persistent public anger, distrust, divisiveness, lack of empathy, marginalization of minorities, political polarization etc.
	Failure of public infrastructure	Unequitable and/or insufficient public infrastructure and services as a result of mismanaged urban sprawl, poor planning and/or under-investment, negatively impacting economic advancement, education, housing, public health, social inclusion and the environment
	Infectious diseases	Massive and rapid spread of viruses, parasites, fungi or bacteria that cause an uncontrolled contagion of infectious diseases, resulting in an epidemic or pandemic with loss of life and economic disruption
	Large-scale involuntary migration	Large-scale involuntary migration induced by climate change, discrimination, lack of economic advancement opportunities, persecution, natural or human-made disasters, violent conflict, etc.
	Pervasive backlash against science	Censure, denial and/or scepticism towards scientific evidence and the scientific community at a global scale, resulting in a regression or stalling of progress on climate action, human health and/or technological innovation
	Severe mental health deterioration	Pervasiveness of mental health ailments and/or disorders globally and across multiple demographics, negatively impacting well-being, social cohesion and productivity: anxiety, dementia, depression, loneliness, stress etc.
Widespread youth disillusionment	Youth disengagement and lack of confidence and/or loss of trust with existing economic, political and social structures at a global scale, negatively impacting social stability, individual well-being and economic productivity	

	Global Risk	Description
Technological	Adverse outcomes of technological advances	Intended or unintended negative consequences of technological advances on individuals, businesses, ecosystems and/or economies: AI, brain-computer interfaces, biotechnology, geo-engineering, quantum computing etc.
	Breakdown of critical information infrastructure	Deterioration, saturation or shutdown of critical physical and digital infrastructure or services as a result of a systemic dependency on cyber networks and/or technology: AI-intensive systems, internet, hand-held devices, public utilities, satellites, etc.
	Digital inequality	Fractured and/or unequal access to critical digital networks and technology, between and within countries, as a result of unequal investment capabilities, lack of necessary skills in the workforce, insufficient purchase power, government restrictions and/or cultural differences
	Digital power concentration	Concentration of critical digital assets, capabilities and/or knowledge by a reduced number of individuals, businesses or states, resulting in discretionary pricing mechanisms, lack of impartial oversight, unequal private and/or public access etc.
	Failure of cybersecurity measures	Business, government and household cybersecurity infrastructure and/or measures are outstripped or rendered obsolete by increasingly sophisticated and frequent cybercrimes, resulting in economic disruption, financial loss, geopolitical tensions and/or social instability
	Failure of technology governance	Lack of globally accepted frameworks, institutions or regulations for the use of critical digital networks and technology, as a result of different states or groups of states adopting incompatible digital infrastructure, protocols and/or standards

Appendix B:

Global Risks Perception Survey and Methodology

The Global Risks Perception Survey (GRPS) is the World Economic Forum's source of original risks data, harnessing the expertise of the Forum's extensive network of business, government, civil society and thought leaders. Survey responses were collected from 8 September to 23 October 2020 among the World Economic Forum's multistakeholder communities (including the Global Shapers Community), the professional networks of its Advisory Board, and members of the Institute of Risk Management. The results of the GRPS are used to create the Global Risks Horizon, the Global Risks Landscape, and the Global Risks Network presented

at the beginning of the report, and to offer insights used throughout.

Both the GRPS and the *Global Risks Report* adopt the following definition of global risk:

- **Global risk:** A “global risk” is an uncertain event or condition that, if it occurs, can cause significant negative impact for several countries or industries within the next 10 years.

Updates in the GRPS 2020

New list of risks

The list of 35 global risks included in the survey was updated in 2020.

This year, 12 new risks were added as a result of observed economic, geopolitical, societal and technological trends, as well as exacerbated or emerging trends from the COVID-19 crisis that have the potential to have long-term effects. These new risks are: (1) “collapse of a multilateral institution”, (2) “collapse of a systemically important industry”, (3) “collapse or lack of social security systems”, (4) “digital inequality”, (5) “digital power concentration”, (6) “failure of technology governance”, (7) “fracture of interstate relations”, (8) “geopolitization of strategic resources”, (9) “pervasive backlash against science”, (10) “prolonged economic stagnation”, (11) “severe mental health deterioration” and (12) “widespread youth disillusionment”.

The names and definitions of the remaining 23 risks have been revised and, where applicable, have been modified and/or expanded to reflect new ways in which the risks may materialize and the potential adverse outcomes they may cause. However, to ensure comparability over time, names and definitions were modified insofar as the fundamental concept of the risk remained consistent with previous versions of the survey. In three cases, previous risks considered to be different manifestations of the same risk were merged: (1) cyberattacks and data fraud were merged into “failure of cybersecurity measures”, (2) inflation and deflation into “failure to stabilize price trajectories” and (3) food crisis and water crisis into “natural resource crises”.

New sections

The GRPS 2020 features four new sections:

1. **Global Risks Horizon:** recognizes that respondents may have varying perceptions on the evolution of global risks within a 10-year horizon.
2. **Global Risks Network:** recognizes that respondents may be subject to different degrees of exposure to global risks, as well as to the existence of negative feedback loops by which global risks amplify each other.
3. **Global Risk Response:** aims to complement risk identification with risk response by asking respondents to identify blind spots and opportunities for global response.
4. **COVID-19 Response:** at the specific point in time during which the survey was conducted, this section compares how respondents perceive the effectiveness of the response to the COVID-19 crisis and its fallout at a global and regional scale.

Methodology

The Global Risks Horizon

For each of the 35 global risks listed in Appendix A, respondents were asked to identify when they believe a risk will become a critical threat to the world, within the following timeframes:

- Short-term threats: 0–2 years
- Medium-term threats: 3–5 years
- Long-term threats: 5–10 years

A simple tally for each of the 35 global risks was calculated on this basis. The results are illustrated in the Global Risks Horizon 2021 (Figure I).

Global Risks Landscape

For each of the 35 global risks listed in Appendix A, respondents were asked to score (1) the likelihood of each global risk occurring over the course of the next 10 years and (2) the severity of its impact at a global level if it were to occur, both on a scale from 1 to 5, as follows:

- Likelihood: a value of 1 for “very unlikely” and 5 for “very likely” to occur over the next 10 years
- Impact: a value of 1 for “minimal” impact and 5 for “catastrophic” impact at a global level

To reduce timing bias, respondents were reminded to score each of the 35 risks over a 10-year period. To reduce framing bias, except for the extremes, the values within the 1–5 scale were not assigned specific wording. Respondents could leave the question completely blank. Partial responses for any risk—those scoring only the likelihood of occurrence or only the severity of impact—were not included in the results.

A simple average for both likelihood and impact for each of the 35 global risks was calculated on this basis. The results are illustrated in the Global Risks Landscape 2021 (Figure II).

Global Risks Network

From the list of the 35 global risks listed in Appendix A, respondents were asked to rank order the three risks they consider to be the most concerning, second most concerning and third most concerning for the world. The results were aggregated according to the following scoring scheme:

- 3 points each time a risk was selected as the most concerning risk

- 2 points each time a risk was selected as the second most concerning risk
- 1 point each time a risk was selected as the third most concerning risk

Respondents were then asked to select up to five risks they consider will be driving each of the risks that were previously selected as top concerns over the course of the next 10 years, in no particular order. Two risks could be selected as drivers of each other. For example, in the first step, a respondent could select “climate action failure” as the most concerning risk and “extreme weather events” as one of its drivers. In the second step, the respondent could select “extreme weather events” as the second most concerning risk and “climate action failure” as one of its drivers. However, a risk could not be selected as driving itself.

A simple tally of the number of times a risk was identified as a driver for each of the first, second and third most concerning risks was calculated on this basis. The results are illustrated in the Global Risks Network 2021 (Figure III). In that figure, the size of each of the most concerning risk nodes is scaled according to the above scoring scheme. The thickness of each of the links between a driver and a risk is scaled according to the above tally.

Global Risk Response

From the list of the 35 global risks listed in Appendix A, respondents were asked to rank order the three risks for which they consider the current global response falls short of their potential impact (“blind spots”) and the three risks for which they consider a coordinated global response has the most potential to prevent or mitigate (“opportunities”). The results for both categories were aggregated according to the following scoring scheme (see Figure B.2 Global Risk Response for a representation of the GRPS respondents’ response to risks):

- 3 points each time a risk was selected as the top blind spot or opportunity
- 2 points each time a risk was selected as the second blind spot or opportunity
- 1 point each time a risk was selected as the third blind spot or opportunity

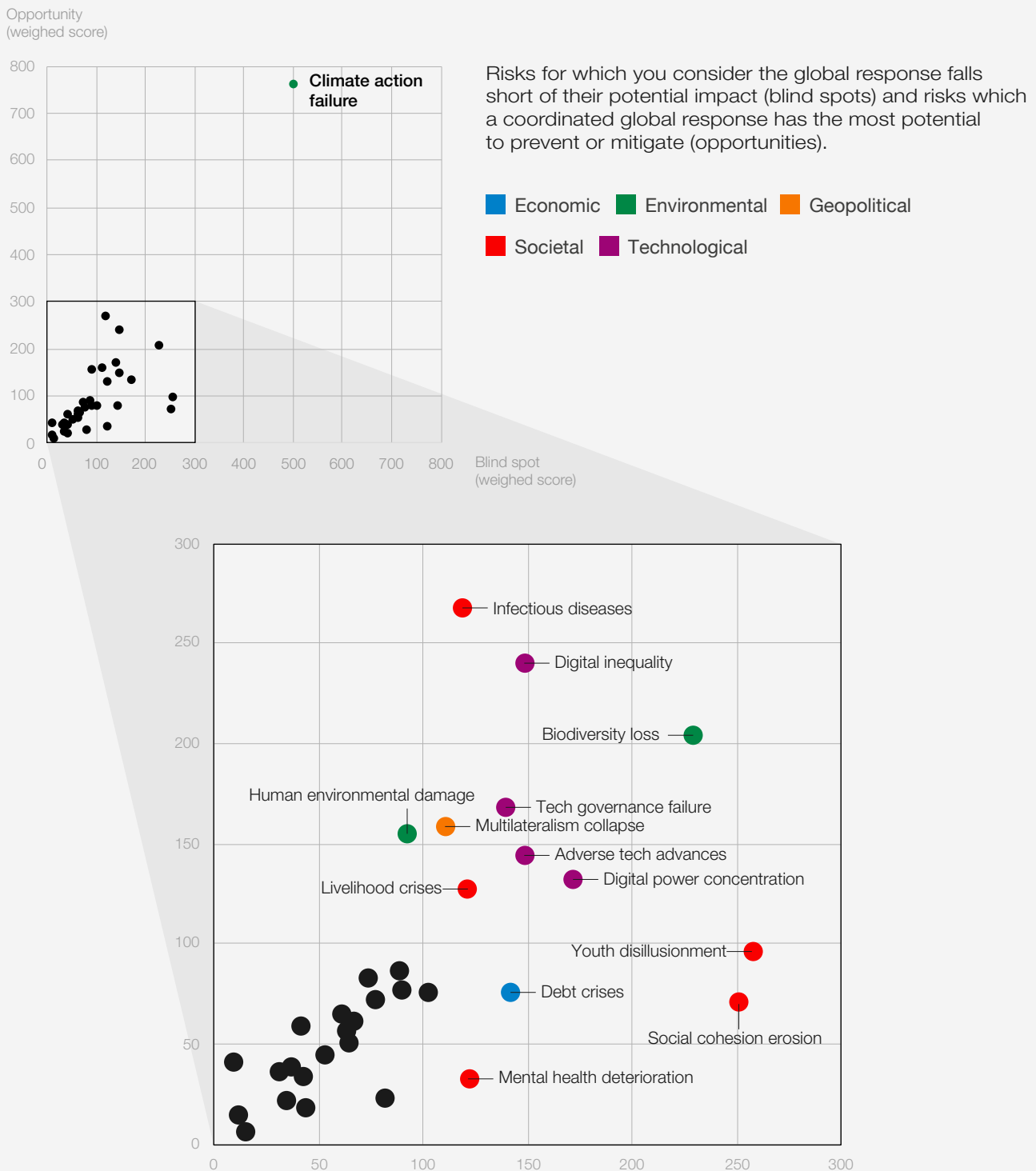
COVID-19 Response

Respondents were asked to rate the effectiveness of the response to COVID-19 in terms of protecting lives and livelihoods, globally and in their region, on a scale from 1 to 5 with 1 meaning a “complete failure” and 5 meaning a “complete success”.

Considering the different trajectories that COVID-19 has followed across countries and regions, a quantitative test was performed to check for timing bias in the responses to this question. Responses were evenly distributed in two groups according to their entry date. Average regional and

global scores were then compared between groups. Significant differences were not found within the survey dates: on average, the regional score differed by 5 centesimal points (or 1.90%) between groups and the global score by 9 centesimal points (or 3.20%).

FIGURE B.1
Global Risk Response



Source: World Economic Forum Global Risks Perception Survey 2020

Completion thresholds

We received 841 total responses to the GRPS to which we applied an overall standard deviation check and specific completion thresholds for each section of the survey:

- **Part 1.1 - Impact and Likelihood of Global Risks:** 664 respondents scored the impact and likelihood of at least one risk. Empty or partial responses for any risk—those scoring only the likelihood of occurrence or only the impact—were dismissed. 0 responses yielded a standard deviation of zero.
- **Part 1.2 - Assessment of Global Risks: Horizon:** 647 respondents placed at least one risk within a possible timeframe. Empty responses were dismissed. Four responses that yielded a standard deviation of zero (assigning numbers to the three possible timeframes) were dismissed. The remaining 643 responses were used to compute the results.
- **Part 2 - Global Risk Drivers:** 631 respondents ranked at least one concerning risk and assigned at least one driver. Three responses that contain the same risk in multiple ranks were dismissed. The remaining 628 responses were used to compute the results.

- **Part 3 - Global Risk Response:** 623 respondents identified at least one blind spot or opportunity. Empty responses were dismissed.

Blind spots: Six responses that contain the same risk in multiple ranks were dismissed. The remaining 617 responses were used to compute the results.

Opportunities: Six responses that contain the same risk in multiple ranks were dismissed. The remaining 617 responses were used to compute the results.

- **Part 4 - COVID-19 Response:** 626 respondents scored at least one level of response, either global or regional. Empty responses were dismissed.

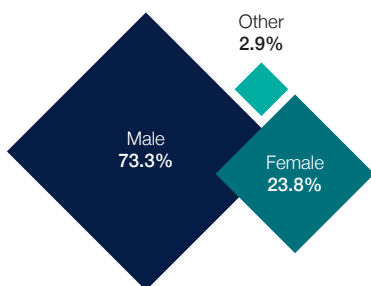
- **Sample distribution:** the 664 respondents from Part 1.1 were used to calculate the sample distribution by place of residence, gender, age and area of expertise.

Figure B.2 presents some key descriptive statistics and information about the profiles of the respondents.

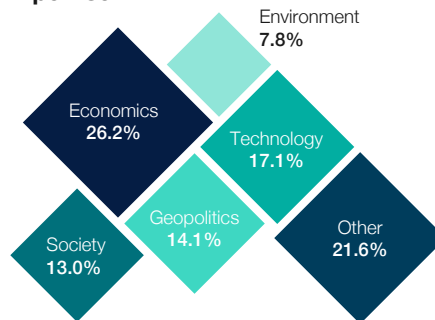
FIGURE B.2

Survey Sample Composition

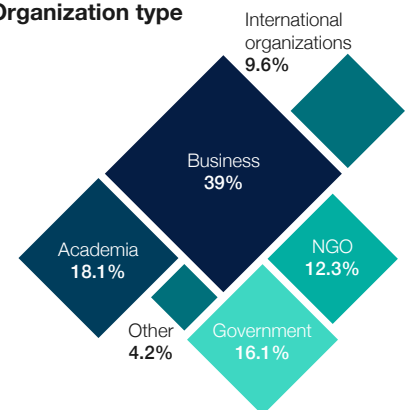
Gender



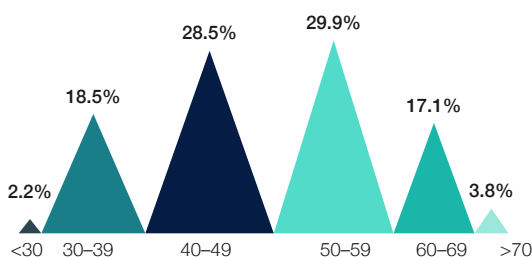
Expertise



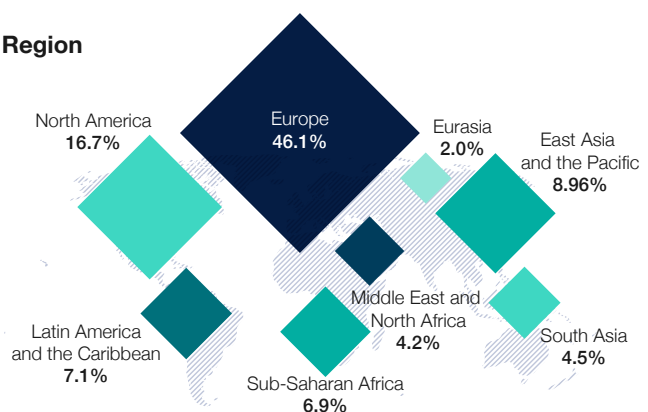
Organization type

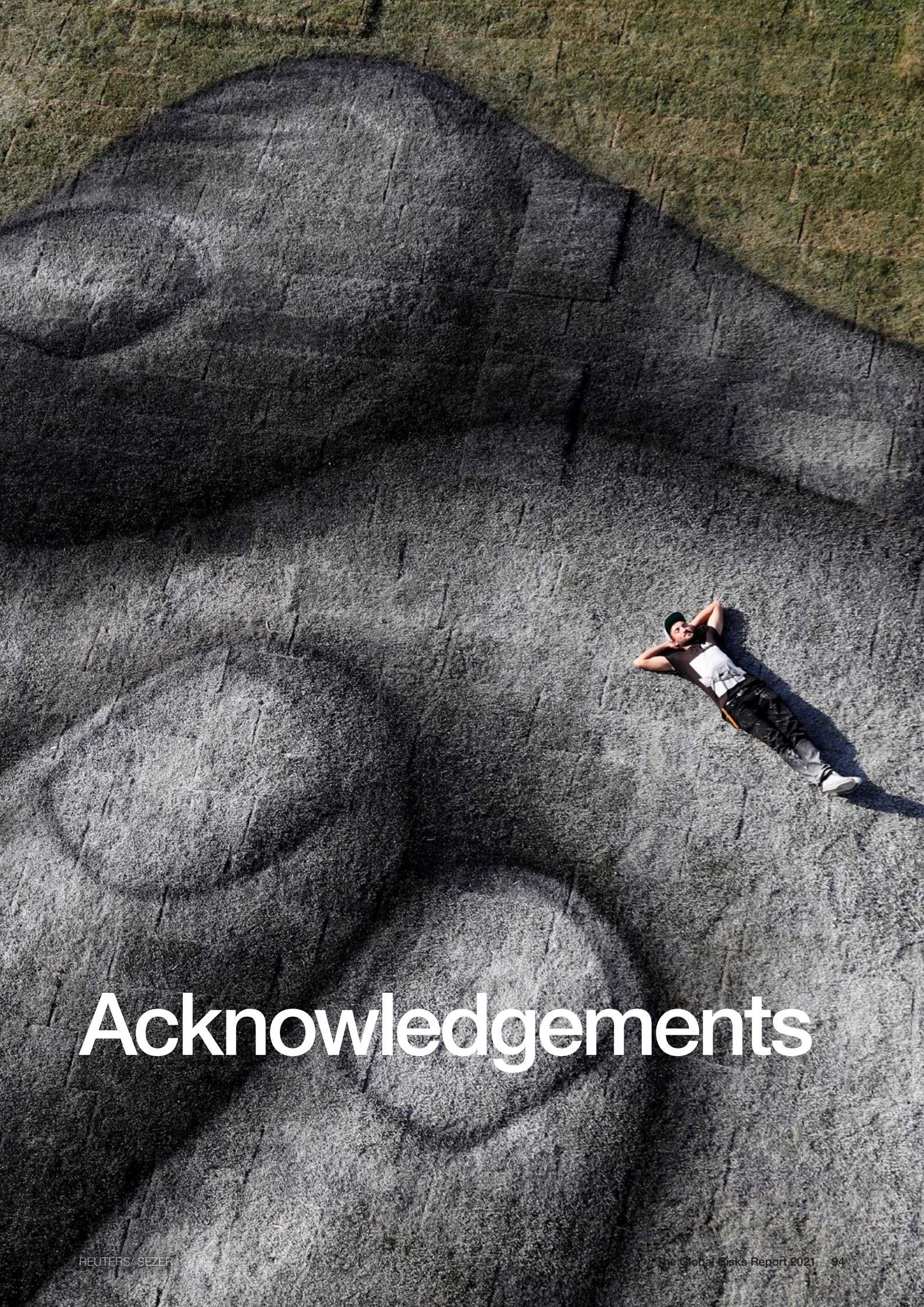


Age distribution



Region





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