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Insight Report

COVID-19 Risks Outlook
A Preliminary Mapping and Its Implications

In partnership with Marsh & McLennan and Zurich Insurance Group

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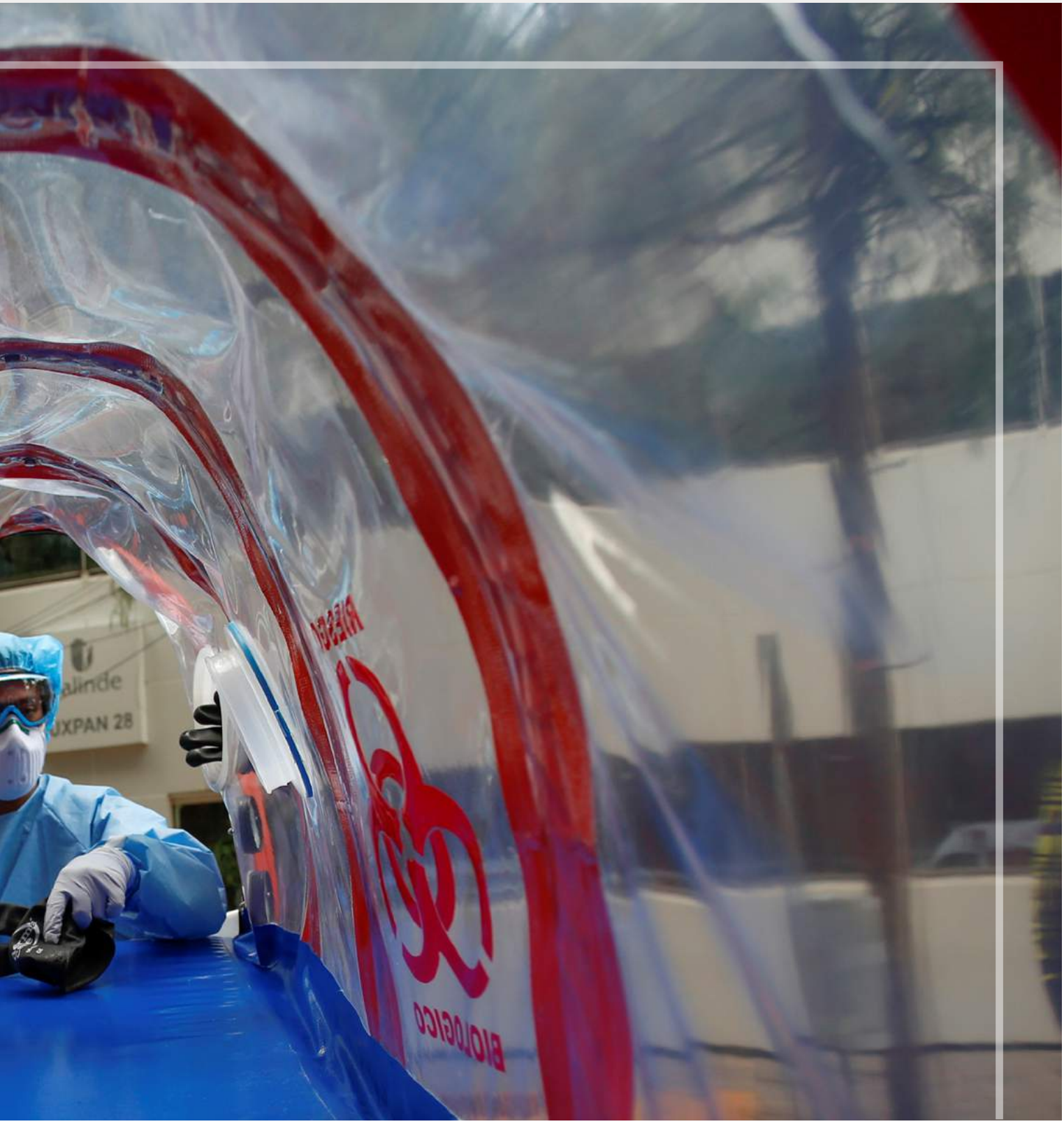
Introduction



REUTERS/GUSTAVO GRAF MALDONADO

The first global pandemic in over 100 years, COVID-19 spread across the world at an unprecedented speed. At the time of writing, over 4.5 million cases have been confirmed and more than 300,000 people have perished.[1] Populations in 120 countries have been subjected to lockdowns[2] to control the virus and prevent health systems from being overwhelmed. This triggered an economic crisis with dire societal consequences, affecting the lives and livelihoods of most of the global population: 500 million people are at risk of falling into poverty.[3]

The crisis has exposed fundamental shortcomings in pandemic preparedness, socio-

economic safety nets and global cooperation. Governments and businesses have struggled to address compounding repercussions in the form of workforce challenges, disruptions in essential supplies and social instability. They have had to balance health security imperatives against the economic fallout and rising societal anxieties, while relying on digital infrastructure in unprecedented ways.

As countries seek to recover, some of the more lasting economic, environmental, societal and technological challenges and opportunities are only beginning to become visible. While societies, governments and businesses collectively grapple with these possibilities, it is vital to anticipate the emerging risks generated by the repercussions from the pandemic. *The COVID-19 Risks Outlook* seeks to provide a preliminary picture of which familiar risks may be amplified by the crisis and which new ones may emerge, recognizing that key issues remain to be analysed – health and geopolitics among them. This report is an initial mapping that will be supplemented by further work including the World Economic Forum's annual *Global Risks Report*.

A new emerging risks landscape

This report taps into the views of nearly 350 senior risk professionals who participated in the COVID-19 Risks Perception Survey. They were asked to take a view on 31 risks across three dimensions: most likely for the world, most concerning for the world and most worrisome for companies (see Appendix B for the full results).

The economic fallout from COVID-19 dominates companies' risks perceptions. Two-thirds of respondents identified a prolonged global recession as a top concern for business. Half identified bankruptcies and industry consolidation, the failure of industries to recover and a disruption of supply chains as crucial worries. The third most worrisome fallout for companies is an increase in cyberattacks and data fraud – according to 50% of respondents – as well as the breakdown of IT infrastructure and networks, a top concern for companies according to nearly 30% of respondents. Companies are also concerned with geopolitical disruptions to business, with more than 40% of respondents rating tighter restrictions on the movement of people and goods among the most worrisome effects from COVID-19.

Aggregating the results and analysing the interconnections between them, four key areas of significant challenges emerge from the survey as global concerns, outlined below and further detailed in the corresponding chapters of this report.

Economic shifts: Emerging risks from structural change

Respondents reckon that economic risks in general – a prolonged recession of the global economy in particular – are the most likely and concerning fallout for the world and companies over the next 18 months. COVID-19 diminished economic activity, required trillions of dollars in response packages and is likely to cause structural shifts in the global economy going forward, as countries plan for recovery and revival. A build-up of debt is likely to burden government budgets and corporate balances for many years, global economic relations could be reshaped, emerging economies are at risk of submerging into a deeper crisis, while businesses could face increasingly adverse consumption, production and competition patterns. Although the dominance of economic concerns in the survey is to be expected,

these risks have far-reaching environmental, societal and technological implications and interconnections, also evident in the survey and analysed in this report.

Sustainability setbacks: Emerging risks from stalling progress

The gravest environmental fallout for the world is a shortfall of investment in climate action: 18% of respondents identified this risk as one of the most likely risk outcomes and 16% considered it to be one of the most concerning. Even though industrial production worldwide was cut by lockdowns and shutdowns, resulting in a sharp drop in emissions and pollution globally, COVID-19 could have severe post-crisis effects on the planet and its species. As countries start to emerge from the immediate health crisis and work on rebooting their economies, new working practices and attitudes towards traveling, commuting and consumption may make it easier to have a lower carbon and more sustainable recovery. But omitting sustainability criteria in recovery efforts or returning to an emissions-intensive global economy risks hampering the climate-resilient low-carbon transition. Years of progress could be lost through underinvestment in infrastructure adaptation, withdrawals from previous commitments and weaker climate activism. This would give way to a vicious cycle of continued environmental degradation, biodiversity loss and further zoonotic infectious disease outbreaks.

Societal anxieties: Emerging risks from social disruptions

Another infectious disease outbreak is of greatest concern among societal risks for the world, according to 40% of respondents, with 30% identifying this as a likely outcome. In addition to the dangers to public health, the pandemic and resulting lockdowns and shutdowns could have long-lasting effects on people and societies. High structural unemployment – perceived as the second most concerning risk for the world – is likely to exacerbate inequality and affect mental health and societal cohesion, in addition to its direct economic consequences. Individual and social well-being are also likely to be affected by an accelerated automation of the workforce, which 25% of respondents indicated is likely to result from the coronavirus crisis. One-third of respondents also expect a developing economy to collapse in the medium term, which would have dire humanitarian consequences as vulnerable groups would suffer the worst impacts. There are also growing risks to personal freedom, well-being, and the educational and wealth prospects of the young generation.

Technology dependence: Emerging risks from abrupt adoption

Technology has been central to the way people, companies and governments have managed the COVID-19 crisis and the contact-free economy may also create new employment opportunities in the post-pandemic world. However, a greater dependence on technology has increased cybersecurity risks. According to 38% of the risk experts surveyed, new working patterns leading to cyberattacks and data fraud are the most likely technological fallout risk for the world. The rapid roll-out of new technology solutions has exacerbated other risks, such as digital fragmentation, privacy violations and inequality. Thus, COVID-19 is likely to challenge the relationship between technology and governance, while mistrust or misuse of technology could have long-lasting effects on society.

An opportunity to build back better

The method for analysing the data draws from 15 years of experience on *The Global Risks Report* series, looking at how risks interconnect with and shape each other. The results of the survey and the associated analyses are not intended as forecasts. Instead, they are a reminder of the need for proactive action today to shape the desired new normal rather than one that may develop if emerging risks are not addressed. The crisis offers a unique opportunity to shape a better world. As economies restart, there is an opportunity to embed greater societal equality and sustainability into the recovery, accelerating rather than delaying progress towards the 2030 Sustainable Development Goals and unleashing a new era of prosperity.

When it comes to the socio-economic agenda, there has been a collective re-evaluation of who performs "essential work" and a new understanding of essential public services such as health, education, care and other safety nets. Countless local and international initiatives have spread online and offline to ensure that those in need receive basic goods and services. Despite the grim economic outlook, the solidarity created by the COVID-19 pandemic offers the possibility of investing in building more cohesive, inclusive and equal societies. When it comes to the environmental agenda, the implementation of green stimulus programmes holds the potential to fundamentally change the way economies and industries operate, especially as societal behaviour change may spur more sustainable consumption and mobility habits. For businesses, the opportunity exists to accelerate a transformation towards more sustainable and digital operating models, while enhancing productivity. When it comes to the Fourth Industrial Revolution, technology has demonstrably helped societies manage the crisis and provided a window into the benefits of more technology-enhanced ways of learning, working and producing – from telemedicine to logistics to the knowledge economy. There is potential for a new era of innovation, growth and enhanced technology governance in the service of societal and environmental goals.

Yet, to ensure positive outcomes from this crisis, the immediate and longer-term emerging risks must be managed. The aim of this report is to raise awareness and trigger timely debate as governments and businesses design post-lockdown measures. Collaboration between the public and private sectors has helped solve some of the most urgent challenges associated with the pandemic, opening the door to accelerating such approaches further in the future. The World Economic Forum will use its unique role as the International Organization for Public-Private Cooperation to support the global recovery and transformation, through purpose-driven communities and platforms for insight and action, building on its 50 years of commitment to drive progress through multistakeholder cooperation.

As ever, the Forum is grateful to its partners Marsh & McLennan and Zurich Insurance Group for their support and collaboration on the Global Risks Initiative and for bringing their expertise, networks and insights to bear on this important report.

Pandemics in the *Global Risks Report* series

Pandemics have traditionally suffered from a panic–neglect cycle. Quiet periods see no action, early warnings of an outbreak tend to be overlooked, significant response and funding are late and uncoordinated, and valuable lessons from the crisis are not institutionalized. Successive editions of *The Global Risks Report* have recognized the challenges brought by disease-related risks and sought to raise awareness.

Stressing the need for greater global collaboration, the 2016 edition recognized that the Ebola crisis would "not be the last serious epidemic the world faces" and that "public health outbreaks are likely to become ever more complex and challenging".

The 2018 edition took stock of the ongoing struggle to contain antimicrobial resistance, while the 2019 report highlighted the growing threat from manufactured biological threats (released deliberately or by accident), against the backdrop of a rising number of naturally occurring infectious disease outbreaks.

The 2020 report featured a chapter on stretched health systems and pointed out fundamental weaknesses in pandemic preparedness across the world. The subsequent pandemic has further highlighted the necessity for more fundamental investment in health and revealed the need for greater investment in other socio-economic priorities.

FIGURE 0.1

Most likely fallout for the world

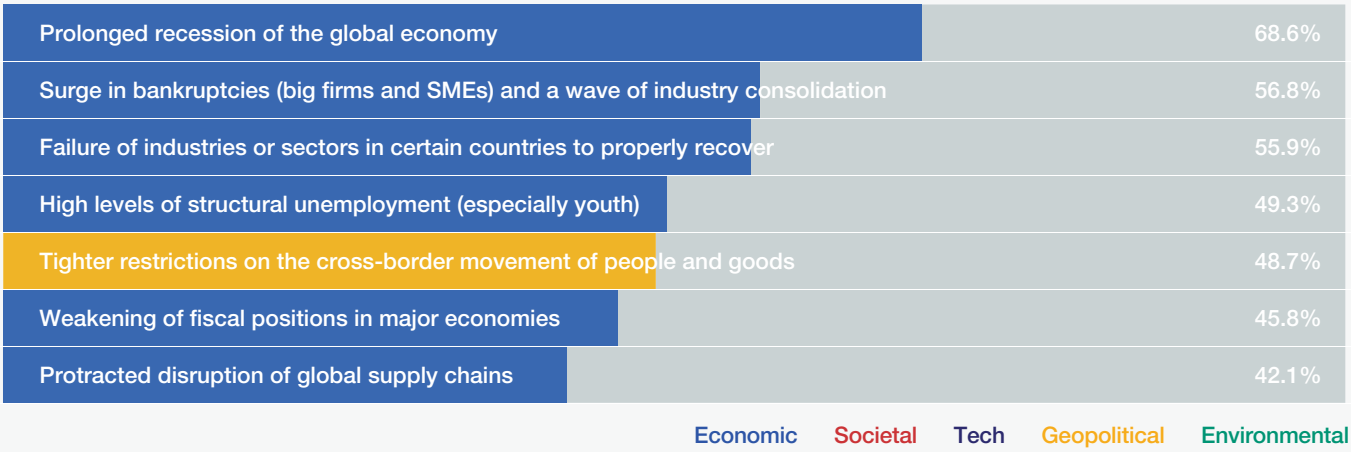


FIGURE 0.2

Greatest concern for the world

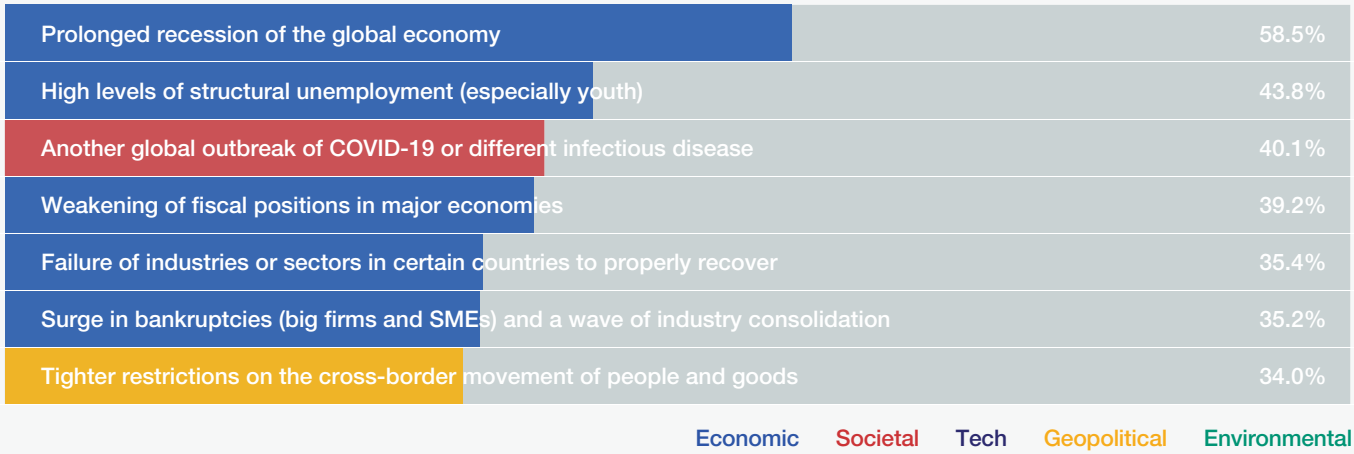
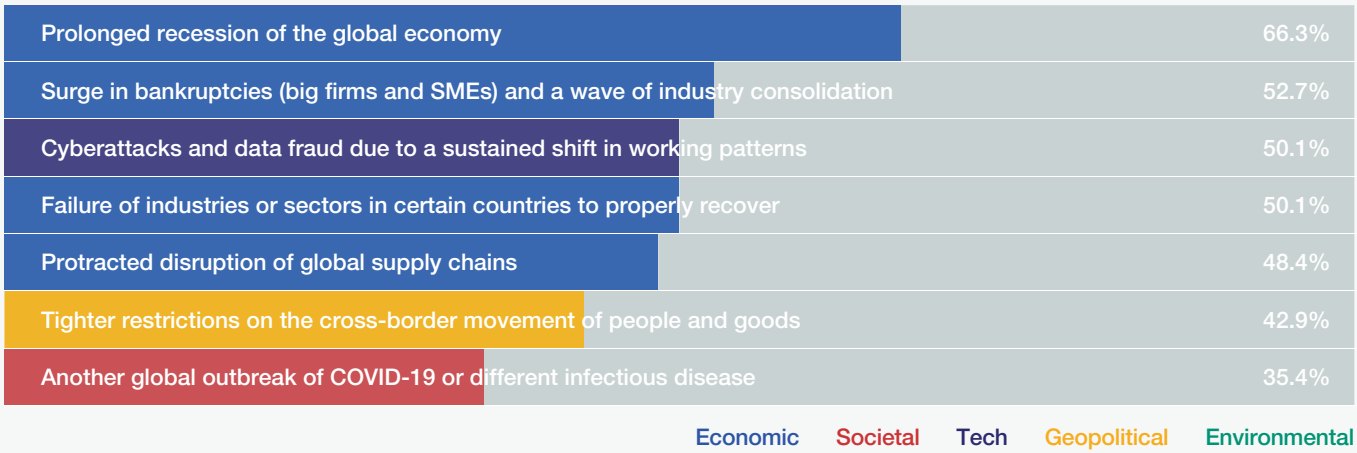


FIGURE 0.3

Most worrisome for your company



CHAPTER 1

Economic shifts
Emerging risks from structural change

REUTERS/NASA NASA

COVID-19 has forced drastic containment measures, diminished economic activity and required fiscal and monetary actions worth trillions of dollars to protect jobs and markets while the economy is in hibernation. More structural shifts are to come as economies balance between managing the pandemic and managing the economic fallout of the lockdown in the near term, while planning for recovery and revival in the medium to long term.

Unsurprisingly, the risk professionals surveyed for this report found a "prolonged recession of the global economy" as the top risk. This overarching concern is related to a continued perception of the risk of bankruptcies of large and small firms alike,

and the potential failure of certain sectors to fully recover despite the unprecedented response from governments. Similarly, the structural unemployment this is likely to cause – especially for youth – and its effects on demand emerge among the top 10 concerns. Public debt, the disruption of global value chains and barriers to the cross-border movement of people and goods round out the key risks.

Public debt – who will pay the bill and might today's spending lead to a new age of austerity?

Public debt in the G20 economies reached a historically high level of 90% of GDP in 2019, which meant that the margin for stimuli through higher debt was already narrow.[4] As countries deploy massive assistance and stimulus packages, public debt is now expected to reach new records; in advanced economies alone, it is expected to increase from 105% of GDP in 2019 to 122% in 2020.[5] Most governments are likely to face increasingly burdened budgets for many years, others may face a structural weakening of their fiscal positions, and some could become at risk of defaulting.

> 122% of GDP: public debt in advanced economies for 2020

How governments will seek to recuperate public finances, whether they will need to and who will absorb the impact of fiscal imbalances are largely uncertain. Higher taxes in the future may present one option. However, since shutdowns have affected most sectors, higher levies are likely to be borne by the few sectors that have fared well – multiple groceries, pharmaceuticals and software companies have already announced large-scale hiring plans[6] – which would risk countering their capacity to support the recovery.

Reallocating or reducing public budgets may be another option. Through the pandemic, public expenditure has been critical to guarantee pay for furloughed workers, procure critical goods and strengthen health systems. Exit strategies will also depend on large public spending, as governments will need to secure tests, therapeutic drugs, vaccinations or a combination of the above. Any austerity measures and reallocation may therefore affect other critical areas, including infrastructures, non-health scientific research and development, and climate action (see Chapter 2) – all of which have critical long-term benefits for the global economy, environment and society at large – as well as potentially shifting financial costs to future generations.

Global economic relations – can trade and FDI recover?

Before the crisis, the global economy was already under strain from trade tensions, low investment, weak confidence and high debt. Nonetheless, a sudden and deep contraction of the global economy was not on the horizon. Now, the International Monetary Fund anticipates world output to drop by 3% in 2020[7] – much worse than during the 2008/2009 financial crisis – global trade is predicted to collapse between 13% and 32%[8] and foreign direct investment (FDI) inflows are estimated to fall between 30% and 40%.[9]

Weaker global economic relations are expected in a recession, but this crisis is different. In a worldwide lockdown with a halt on non-essential activities and cross-border movements, typical strategies to revive trade and FDI may not be adequate. Lowering tariffs to stimulate affected sectors is contingent on the normalization of trade, and incentives for FDI may only have a partial effect, as investors face uncertainty on when, which or even how

long markets will reopen. There may also be tighter FDI restrictions, as some economies seek to prevent aggressive takeover deals.[10]

As an economically exogenous shock, COVID-19 could also accelerate the reshuffling of geo-economic influence since impact and recovery will differ substantially between economies. The euro area is anticipated to be the hardest hit, with China, India and Indonesia the only G20 countries expected to grow in 2020.[11] Through April, China, Germany and Japan had begun returning to normal well before other countries reached peak infections (Figure 1.1). Such shifts may redistribute global influence and enhance greater regionalization. Geopolitical rent-seeking, attempts to concentrate trade and FDI, deteriorating trust and geo-economic rivalries may not only worsen the impact of the crisis and complicate global recovery; they could also exacerbate its already dire humanitarian consequences. For example, the pandemic has put an additional 130 million people at risk of starvation – for a total of 265 million – yet multiple countries have banned the export of key foods.[12]

Emerging economies – in danger of submerging into a deeper crisis?

COVID-19 has unfolded in a staggered manner around the world, as has the response from governments, leading to a dissimilar magnitude of economic fallout across each country. So far, emerging economies are expected to contract by 1.0%, as opposed to 6.1% for advanced economies, which were already at risk of stagnant growth. Although emerging economies had exhibited higher growth before the crisis, many were affected later than economies in the developed world, and the impact could be amplified by vulnerabilities in welfare systems.

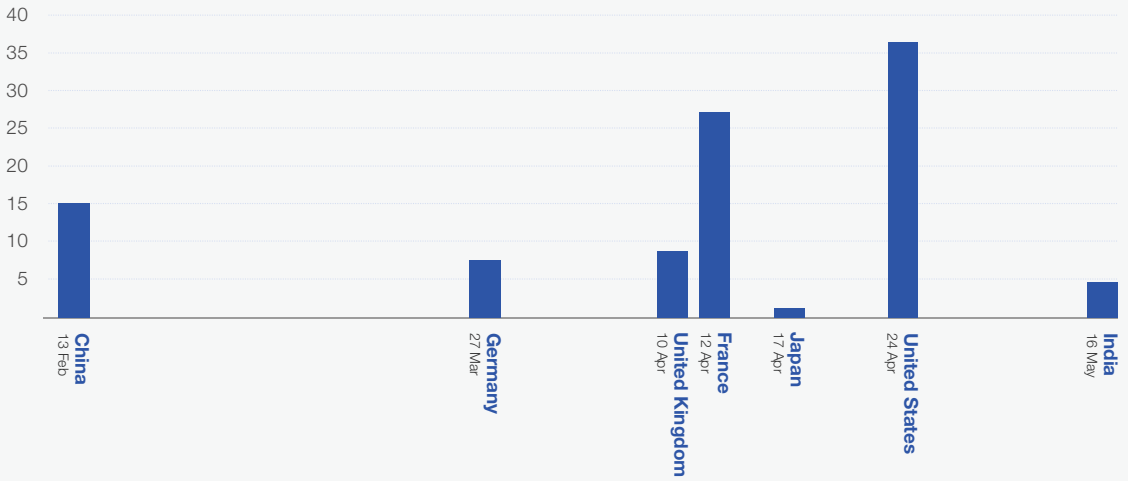
Most emerging markets face a twin battle of weaker health systems and lower capacity to shore up their economies. At the time of writing, initial responses had remained below 4% of

FIGURE 1.1

Timeline of peak confirmed daily cases of SARS-CoV-2

(thousands, as of 17 May 2020)

Source: Johns Hopkins University (JHU), "COVID-19 Dashboard by the Center for Systems Science and Engineering (CSSE)", USA



GDP in many emerging markets, compared to between 14% and 28% in advanced economies (Figure 1.2).[13] COVID-19 thus risks creating second-order effects in emerging economies that could significantly worsen the fallout of the ongoing crisis – for example, mass youth unemployment leading to social unrest, or the inability to tend to vulnerable groups such that public health is weakened further.

With peak infections yet to come in many countries and larger fiscal responses likely to be needed, currency and commodity price shocks are already pressuring limited fiscal capacities in developing economies by reducing revenues and raising the cost of debt. At the time of writing, the WTI crude oil price had fallen by more than 60%,[15] while the Brazilian real, Mexican peso, Russian rouble, South African rand and Turkish lira had on average depreciated over 28%.[16] Depreciations, the dependency on imported goods and the scarcity of key products could also plunge emerging economies into an inflationary spiral, which would primarily affect vulnerable groups already struck by unemployment and the lack of social safety nets.

> 2.4% per year: consumption growth during the Great Recession

Business environment – an end to the mass global consumption and production economic model?

Business confidence is at its lowest since the financial crisis,[17] as businesses consider the long-term impact of the current lockdown on consumption and production patterns. Global supply chains are currently critical to rapidly producing and distributing essential goods worldwide, including personal protection equipment and a possible vaccine against COVID-19, and deeply tied to restoring consumption, production and employment as countries come out of lockdowns.

As businesses look to overcome severe disruption from COVID-19 lockdowns through reshoring and establishing new parallel supply chains, these adjustments could solidify into longer-term standard arrangements. Some of this may enhance resilience and create new local opportunities. But it may also restrict vital cooperation and economic flows, particularly when nationalistic tendencies have intensified as countries look to safeguard their citizens and economies. For example, many countries have restricted exports of food and medical supplies during 2020.[18] In the long term, governments fearing another outbreak and supply shortages could seek to minimize reliance on imports through hard barriers to trade. Many countries are also seeing a strong push for limiting foreign participation in their economies,[19] and a mass onshoring of companies[20] or whole industries.[21] Global markets are thus at risk of drastically shrinking, which could put companies of all sizes out of business.

Even in markets where access is not obstructed after shutdowns are lifted, businesses might face more adverse domestic environments than before the pandemic. Widespread bankruptcies and industry consolidation – the second most worrisome risk for companies in the survey – may introduce new systemic risks, endanger people's livelihoods, batter small and medium-sized enterprises (SMEs) and disempower consumers. Prior to the current crisis, debt accumulation was also burdening the private sector. In 2019, corporate debt reached record levels in China and the United States and was listed by the IMF as a key vulnerability

in the global financial system.[22] Private debt is likely to increase significantly in the current context, adding to the risk of bankruptcies and unemployment.

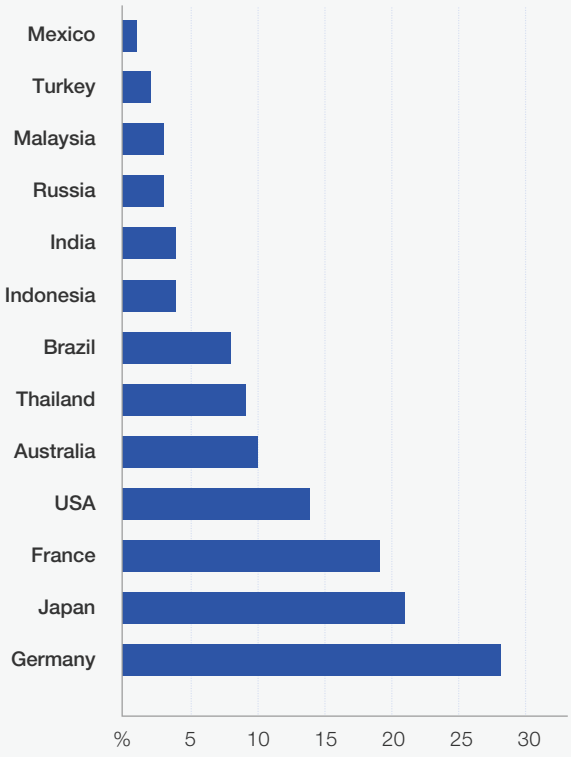
The coronavirus pandemic could also trigger permanent changes in consumer behaviour, which would pose new challenges to businesses. The current collapse in demand for oil is one example, but data from countries that have lifted lockdowns also indicates more widespread changes as consumers reassess their choices: spending less, reducing social interaction and limiting the use of certain goods and services. Following the financial crisis, global consumption grew at the slowest pace for any 10-year period on record (Figure 1.3),[23] a downward trend that is likely to continue now. Businesses may also face reputational costs and pushback from consumers depending on their behaviours in the current crisis, especially in relation to employment.

Public sector – from bigger government to bolder government?

The current crisis has vastly expanded the role of government in attempting to ensure economic hibernation while health systems battle the pandemic and in managing the societal fallout of the crisis. It has also become clear that governments that had previously invested in healthcare, digital infrastructure, safety nets and active labour market policies have fared better than those that did not have such systems in place. As they became lenders, insurers and payers of last resort, governments not only have a chance to work towards a more robust national resilience framework, but to leverage this moment to place incentives for more sustainable development together with their support.[24]

FIGURE 1.2

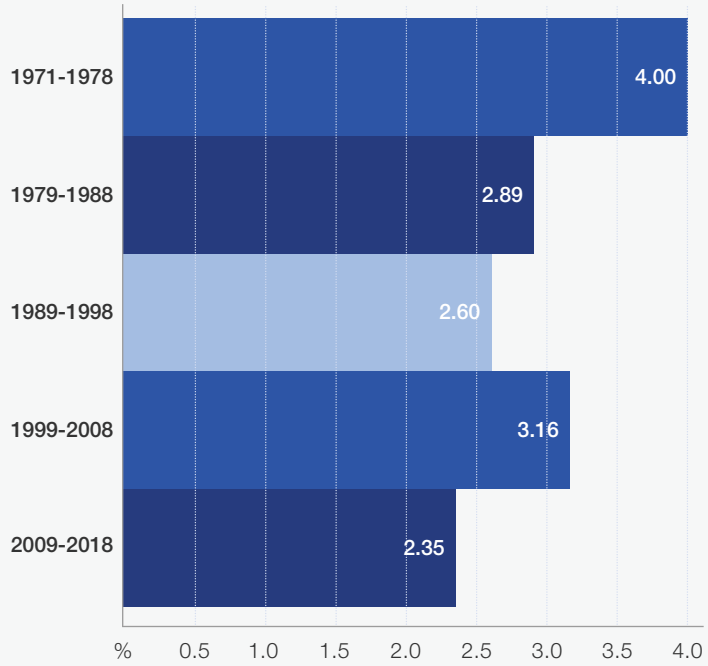
Fiscal response in selected G20 economies (% of GDP)[14]



Source: IMF, "Policy Responses to COVID-19", 17 May 2020

FIGURE 1.3

Final global consumption expenditure (10-year average percent growth), 1971-2018



Source: The World Bank, World Bank Open Data

On the one hand, it is possible for stimulus packages, public work projects, financial reforms and new regulations to seek to embed more inclusive and sustainable approaches across economies. This would enhance and accelerate the trend towards a “stakeholder capitalism” that builds into the economic recovery ways to address critical challenges such as climate change, societal cohesion, technology regulation and healthcare provision. On the other hand, it is possible that the present moment vastly expands the size and power of government without introducing positive directionality – or by exacerbating inequalities and reducing economic dynamism.

CHAPTER 2

Sustainability setbacks

Emerging risks from stalling progress

REUTERS/MICHAEL CARONNA

As countries start to emerge from the immediate health crisis and work on rebooting their economies, potential divergent trends on the role of sustainability in those efforts create emerging risks of a slowing or multi-speed transition of economies and industries. On the one hand, calls for a green recovery by a range of leaders, sustainability-focused stimulus packages by large economies, and potential changes in production models and consumer behaviours may support the sustainability agenda. On the other hand, brown stimulus measures, cuts in sustainability investment, weaker commitments to climate and nature action, and

the impact of low oil prices create new risks of stalling progress. This might tip the world towards a vicious cycle of climate degradation, biodiversity loss and future infectious disease outbreaks – possibly with severe effects on the broader 2030 sustainable development agenda.

Public salience – one priority among many?

Governments, businesses and society have become increasingly aware of the risks to the long-term well-being of the planet. This was indicated by the 2019 Global Risks Perception Survey, in which a multistakeholder community rated environmental risks as the top five global risks for the next decade. In the COVID-19 Risks Perception Survey, conducted in April and considering an 18-month period, risk professionals appeared to be primarily concerned with the state of the economy – a "sharp erosion of global decarbonization efforts" does not appear in the top fallout from the current crisis.

> 65% of citizens in the G20 support a green recovery

In a positive interpretation, these results could indicate confidence that governments and businesses will uphold commitments to reduce emissions. But the risk remains that countries might reduce support for the renewable energy sector, or not include Paris Agreement requirements in their recovery programmes to ease economic activity, protect strategic industries and jobs.[25]

Another interpretation of those results is that decarbonization and related aspects such as climate change adaptation and resilience have become lower priority in the face of the immediate health and economic crises, despite the clear lessons to be learned from the pandemic on the importance of resilience planning. If the issue loses salience in the public agenda, some leaders could see an opportunity to refrain from making what might be unpopular decisions. Almost one of every five respondents to the survey points to "anger with political elites and distrust of government" as a likely outcome of the pandemic fallout, underlining that governments need to read public opinion carefully as they develop response strategies. However, a recent Ipsos MORI survey in 29 countries, including all G20 economies, shows that public support for prioritizing climate change and environmental protection in the economic recovery from COVID-19 remains high: 65% of respondents globally support a green recovery and consider it important that government actions prioritize climate change.[26] A reversal to past practices of treating the green agenda as a "nice to have" may thus backfire.

Another risk at the intersection of COVID-19 and public perception is a potential increase in climate scepticism. While a science-based approach has been crucial to managing pandemic response, some groups have voiced increasing discontent – and disinformation – about the findings of virologists and the influence of technocracy.[27] Similarly, populist backlash could emerge as climate sceptics associate the draconian economic impact of COVID-19 with the level of economic disruption required to achieve the Paris Agreement targets. Depending on how these tendencies evolve, the vilification of experts and science in the context of the pandemic could worsen the outlook for climate action. Similarly, renewed trust in science could help to strengthen action to meet climate targets.

Where food and climate challenges do not appear to be directly linked to the COVID-19 recovery, however, there is a risk of losing public and political attention as well as funding. For example, many parts of Africa have been affected by severe droughts, impacting food supply and social stability.[28] In addition, the continent has been hit by a locust plague that is expected to return over the summer, threatening food security and livelihoods.[29] As global attention is focused on the COVID-19 response, aid and development agencies have struggled to maintain support to alleviate the catastrophes the continent is facing.

Restarting the economic engine – heading for a brown recovery?

The unprecedented lockdown measures to contain coronavirus transmission have had positive short-term effects on the environment. They have caused air pollution from industrial, commuting and travel activity to reduce drastically around the globe. Besides the well-documented general health risks, the latest research also suggests that long-term exposure to air pollution increases COVID-19 mortality by up to 15%[30] (see also Figure 2.1). Yet, as economies restart after the Great Lockdown, there is a risk of underinvestment in the green agenda and a prioritization of economic recovery "at all costs".

Global emissions dropped in the first months of 2020 (in China by 25% - see Figure 2.2) and are expected to fall by 8% compared to 2019.[32] However, staying on track to meet the 1.5°C target would require a decrease in global emissions of 7.6% every year until the end of this decade.[33] In 2009, recession reduced global emissions by almost 1%, but in the subsequent year emissions rose by 5% as economic stimulus measures kicked in.[34] This time around, the global economy is expected to contract by 3% in 2020,[35] much worse than a decade ago, and the pressures for prioritizing a rapid rebound are high.[36]

Failing to embed green policies in COVID-19 stimulus packages, maintaining outdated subsidy models, perpetuating resource-intensive business practices and underinvesting in green infrastructure risk a new peak in global energy consumption and greenhouse gas emissions. Oil prices remaining historically low for a sustained period of time could add to this risk, especially in natural resource-dependent economies. A risk could therefore emerge around economies opting for a "brown recovery" rather than investing in green growth as they restart their economic engines.

Some governments have already relaxed or suspended environmental protection regulations to ease industrial activity.[37] The roll-back of such standards could incur a serious setback in the long run, if they are not duly put back into force after the emergency state is over. The choices made in reviving specific sectors will have a long-term impact. Business travel and travel for leisure have drastically decreased in the last few months, and consumer habits may go through a lasting change. While the short-term impact on sustainability has been positive, as the transport sector makes up for about a quarter of global CO2 emissions,[38] the jobs impact has been devastating and has created pressure for rapid recovery. However, demand for travel is likely to bounce back and restarting the global economy will be difficult without aviation. The optimism regarding emissions from the transport sector could be short-lived if no structural and innovative

> 8%: expected fall in global emissions in 2020

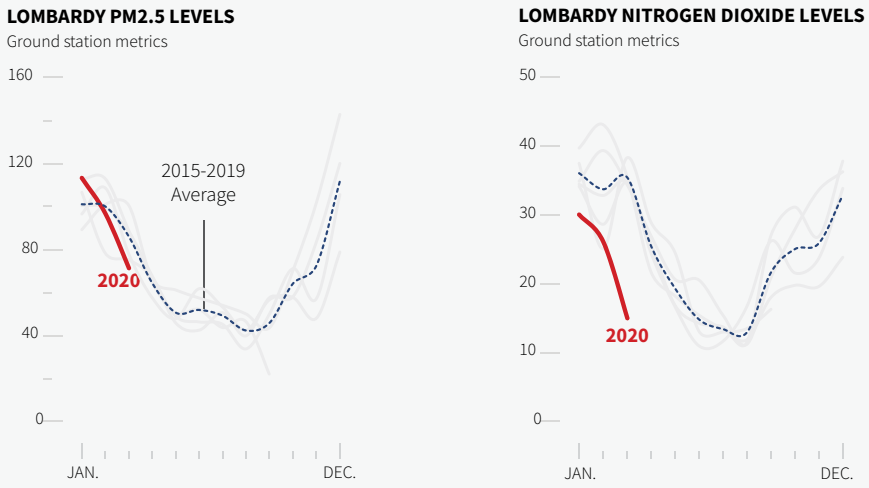
changes are made to alternative fuels, energy efficiencies or policies and initiatives on carbon taxes, credits and other offset schemes.

Green incentives, investments and capacity – uneven global commitment and coordination?

Even as public perceptions and local decisions shape the nature of national recovery efforts, global and regional coordination remain necessary for managing emissions, environmental destruction and meeting the Sustainable Development Goals. The European Union's approach of linking its Green Deal to coronavirus recovery plans is an example of seeking to integrate the economic reboot with

FIGURE 2.1

Comparison of average PM2.5 nitrate pollution in Bergamo, northern Italy, 2020[30]

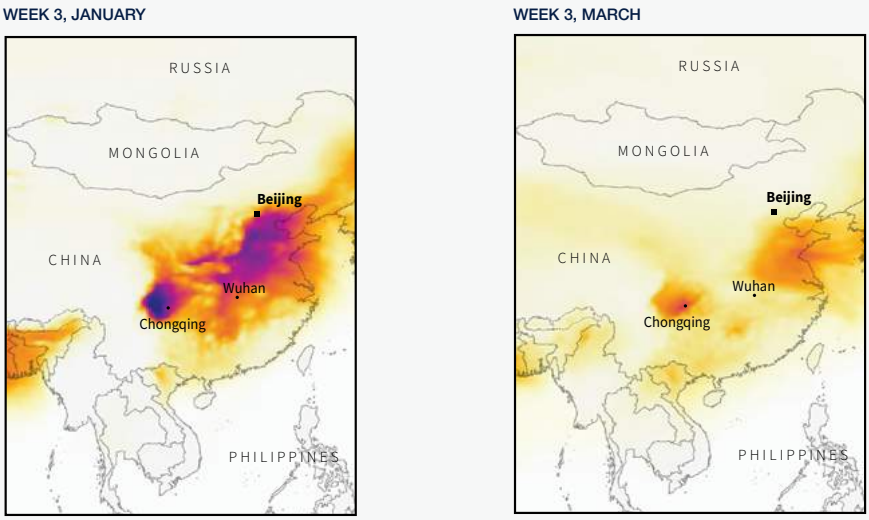


PM2.5 – Fine particulate matter air pollutant

Source: Reuters, "Improvements in air quality in northern Italy", https://pictures.reuters.com/archive/CLIMATE-CHANGE-CORONAVIRUS-POLLUTION-C-ET1EG4H0MDP32.html

FIGURE 2.2

PM2.5 nitrate pollution, weekly averages in China, January and March 2020



Source: Reuters, "Clearer air in China", https://pictures.reuters.com/archive/CLIMATE-CHANGE-CORONAVIRUS-POLLUTION-C-ET1EG4H0MST33.html

sustainability objectives, putting a particular focus on the role of technology and the circular economy. However, even in countries committed to the EU's Green Deal, the restart may not be solely green. Some have implemented subsidies and credit guarantees aimed at industries with high emissions, similar to countries in other regions.[39] And while managing the jobs impact of the green transition was already a concern, this pressure has intensified in the current environment, potentially increasing the risk of uneven and uncoordinated efforts globally.

Similarly, increased public debt and public budget cuts are likely to hamper efforts to uphold climate resilience and nature protection. As "weaker fiscal positions" materialize, which ranked among the top risks, lower public investment in sustainability and climate resilience is probable – a trend that may unfold differently in emerging and developed economies, depending on the speed of recovery. In Brazil, for example, the budget for rainforest protection had already been cut in 2019, leading to lower institutional capacity and less patrolling staff on the ground to combat illegal deforestation in the Amazon. This has immediate repercussions for indigenous people and wildlife.[40] The fires that raged through South America and Australia in 2019-2020 also demonstrated the importance of local ecosystems to the world's climate and biodiversity. As such, should local environmental protection continue to weaken, COVID-19 may have severe second-order effects on global warming, biodiversity loss, livelihoods and health.

Beyond regulations and policy incentives, the global private sector will play a crucial role in the cohesion of the international response. As businesses seek to restructure supply chains, redesign manufacturing systems and respond to changing consumer demands, global sustainability could be shaped for years to come by the decisions taken today. A recent World Economic Forum White Paper found that "implementing effective change management", "adapting to and embracing new technologies" as well as "lack of resources" rank among the top eight challenges for business executives when it comes to transforming their operations post-COVID-19[41] – all making a fast transition to more sustainable and digital business models more difficult. In addition, lower earnings may jeopardize business readiness to invest in more sustainable and climate-resilient operations.

Even as COVID-19 highlights the need for global cooperation to address global challenges, nationalist tendencies are likely to worsen in the current environment. Combined with the physical limitations created by the pandemic, they may affect the efforts for global coordination. For example, this year's UN Climate and Biodiversity conferences were postponed to 2021. In a year when these conferences were to give strategic direction and set post-2020 goals, the delay may impact new commitments and make more ambitious targets harder to achieve. Furthermore, to reach breakthroughs at such conferences, months of diplomatic efforts are necessary – and time and resources are at risk of being deviated to other priorities. Finally, the shift from physical to digital congregation of climate activist movements worldwide may reduce public awareness and scrutiny, and with

> Treating the sustainability agenda as a "nice to have" may backfire

it the impetus for action by governments and businesses.

Health and the environment – a new propensity for future pandemics?

Climate and biodiversity protection are intimately linked to the vicious circle that runs the risk of driving future pandemics. Growing evidence suggests that large-scale infectious disease outbreaks may become more frequent as viruses stored in permafrost or polar ice shields get released due to global warming. Equally, the loss of biodiversity and wildlife habitats due to deforestation and agricultural and urban expansion is a driver of zoonotic diseases as pathogens spread more easily to new hosts. On average, one new infectious disease emerges in humans every four months and 75% of them come from animals; one of them was the novel coronavirus.[42] The risk of neglecting climate and biodiversity protection in the face of COVID-19 would hence not only be a setback on the sustainability agenda, but create greater risk of future pandemics. Water security, too, directly impacts the propensity for and response to infectious diseases. Clean and stable water supplies are crucial to ensuring basic hygiene. Yet globally, billions of people lack access to safe water, sanitation and handwashing facilities.[43] Tackling this basic problem will be important to containing the novel coronavirus – especially in emerging and developing economies – and one factor helping to prevent future outbreaks.

CHAPTER 3

Societal anxieties
Emerging risks from social disruptions

MARZIO TONIOLO VIA REUTERS

COVID-19 and the resulting economic crisis may lead to sustained unemployment, deeper inequality, generational frictions and continued stress on people's well-being. Two risks with significant societal effects were identified by the survey respondents as top challenges by likelihood and concern for the world: "high levels of structural unemployment" and the "restricted movement of people and goods". The social dimensions of these economic risks will be felt by people worldwide and create substantial societal consequences for the long term.

Income and wages – a rise in new and growing inequalities?

The global economic fallout of the pandemic is expected to leave deep scars on the job market. Unemployment in the US, for instance, skyrocketed to 25% in only seven weeks.[44] While extraordinary fiscal measures and safety nets have been deployed in many advanced economies to protect jobs, maintain a link between employers and employees through furloughs, and provide income support and wage-sharing, it remains to be seen if these measures can prevent mass lay-offs in the aftermath of the crisis. The International Labour Organization forecasts massive unemployment with SMEs and the informal sector having particular difficulty in sustaining or recovering business.[45] Meanwhile, the sudden freeze in commercial activity and services has hit the poorer population disproportionately,[46] in many places forcing households to face the dilemma of having to choose between going to work to generate income for bare necessities, or staying home to protect their health and that of their families.[47]

> Gender inequalities may worsen from cuts and lay-offs

In numerous economies the shift to remote work during the lockdown has been rapid, but it has primarily been effective for – and applicable to – white collar work. Many occupations requiring physical presence are less able to adapt.[48] Gender inequalities may worsen as men and women occupy different roles among the jobs affected by cuts and lay-offs.[49] The pressure for automation and digitalization is likely to increase from the current shock, even among sectors that recover, thus exacerbating technology-based job disruptions for which workers are ill-prepared. This would particularly affect at-risk workers without access to reskilling, upskilling and redeployment support,[50] adding to a growing digital divide. For those in sectors that do not fully recover, the risk of long-term unemployment and poverty is high, especially in the absence of retraining, income support and other active labour market policies.

Higher demand for "essential workers", often among the lowest paid, may help improve their wages and job quality. However, their continued exposure to health risks during the current pandemic and in future ones could create concern among workers in these roles and discomfort among society more broadly. The rise of remote work for high-skilled workers is likely to further create labour market imbalances and a growing premium for those with the most mobile skills.

Finally, employers will need to manage the psychological effects of the lockdowns on their workforce as they return to work – for example, employees' low morale following isolation, hyper-stress from confinement or a general fear of large gatherings and face-to-face meetings. Additionally, hasty public- and private-sector policies run the risk of complicating return sequencing, which would increase the chances of leaving behind some of the workforce. While some companies prepare to adapt to new regulations in offices, others may plan for a permanent shift to remote work for parts of their workforce or hybrid approaches,[51] making permanent some of the inequalities revealed by remote work today.

Public services – security, safety nets and public goods under pressure?

While the short-term efforts in advanced economies have been largely welcomed in

backing health systems and jobs, there is concern about their longer-term viability. Additionally, such support in many developing economies is largely missing and pandemic-related priorities risk disrupting the limited funding for other societal imperatives.

In many advanced economies, mounting budget deficits[52] from countries spending aggressively[53] to secure their social protection systems – focusing on healthcare and unemployment benefits – coupled with weak growth in the medium term could mean less funding for security, housing, food, education or other key social programmes.[54] Beyond the immediate crisis, failure to adequately and permanently fund public healthcare systems could overwhelm them in some economies. Not only does this increase the risk of successive waves of infections of COVID-19, but also of exacerbating other growing threats, such as non-communicable diseases, vaccine hesitancy or the effects of climate change.

Additionally, ongoing humanitarian crises and military conflicts are in danger of worsening,[55] while new ones could emerge. Disrupted global supply chains and protectionist measures could lead to increased food insecurity, particularly in developing countries;[56] forced migration is likely to increase from worsening conditions for economic advancement; and a decrease in humanitarian aid may follow stressed public budgets – a leading concern for the world, flagged by one of every four risk experts surveyed and among the most likely to occur according to one of every five.

Personal freedom – a long-lasting impact on civil liberties?

To decrease the spread of the virus, longstanding human, civil and political rights such as freedom of movement, assembly or worship have been limited in many countries, which in turn has unavoidably limited access to public areas and services that fulfil vital necessities. These measures have proven effective to "flatten the curve of infections" and have generally received popular support, as reflected in soaring approval ratings for many country leaders during the early stages of the pandemic, between February and April.[57] However, certain restrictions, especially those relating to technological surveillance, could be maintained beyond the pandemic,[58] challenging some core civil liberties. Such constraints on personal freedoms could have long-lasting effects on people's social behaviour and their political activity,[59] with potentially a bigger shift towards new ways of exercising political and social rights online. This would increase pressure to expand e-government and exacerbate exposure to the associated cybersecurity risks and citizen privacy concerns.

> Constraints on personal freedom could have lasting effects on behaviour

Furthermore, ambiguous, contradicting or unreliable information from official channels about the necessary steps to be taken to contain the virus further – or avoid a second wave – and re-launch the economy[60] could permanently undermine people's trust in institutions and spark anger against government policies in general, even against policies that aim to ease the economic fallout of the pandemic. Additionally, disagreement between varying levels of governments and societies could see increased tensions about the distribution of competencies for future catastrophes this magnitude.

Public health – a rise in non-communicable diseases and mental health concerns?

Uncertainty about the post-pandemic economic and societal landscapes has already had an immediate impact on people's well-being. Remote work, while a privilege in comparison to those wholly at risk of losing jobs, has created additional new stresses for remote workers. Tight containment policies have seen individuals and families being locked in for weeks, and workers and students alike barred from their jobs or education. With homeschooling the only solution to continued education, the psychological burden is increased on parents and children alike. Early lockdown studies found that up to 45% of adults felt adverse effects on mental health,[61] up to 37% showed signs of psychological distress[62] and up to 70% felt this period was the most stressful of their careers.[63] At the same time, those deprived of social interaction reported feeling highly worried about the impacts of isolation.[64] Additionally, there are specific risks for women and girls in particular, as an increase in domestic violence has been reported across the globe.

In the long term, health effects from the lockdowns will put additional stress on healthcare systems. Studies based on earlier lockdowns during pandemics found increased levels of post-traumatic stress disorder.[65] It is estimated that a 1% increase in unemployment leads to a 2% increase in the prevalence of chronic illness.[66] While some restrictions will ease over the following months, others will most likely stay in place for a longer period – including "social distancing" – and perhaps for as long as 2022 according to several studies.[67] On top of the health issue, this could lead to a change of conventional social behaviour that could increase lasting levels of xenophobia,[68] a citizens-only approach to policy-making[69] or even an intra-national communal divide[70] if the fear of infection looms over daily lives. Feelings of stigmatization, loneliness or abandonment could increase with dire effects for those who are unable to adapt to the "new normal"; a recent study in the United States found that social distancing interventions risk increasing suicide rates.[71] Mental health effects are likely to vary as exposure to restrictions differs between professions, age groups and health status. Groups highly vulnerable to COVID-19 could face prolonged preventive lock-ins that can lead to severe fatigue and increased anxiety. Similarly, people close to retirement are at risk of being affected disproportionally by the crisis, as job insecurity would compound with the stresses of an underperforming economy, reduced pensions, an embattled consumption power and not being able to fully make up for the lost time and income. The pandemic could accentuate the risk of increased old age poverty,[72] as the UN Secretary-General has warned.

> 80%: students out of school during lockdowns worldwide

With the greater focus on the pandemic, many other services in healthcare systems, including those related to serious non-communicable diseases such as cancer and heart disease, have been affected and may continue to suffer from underinvestment in the near future, opening up new sources of societal distress and public health concerns.

Youth under pressure – a new lost generation?

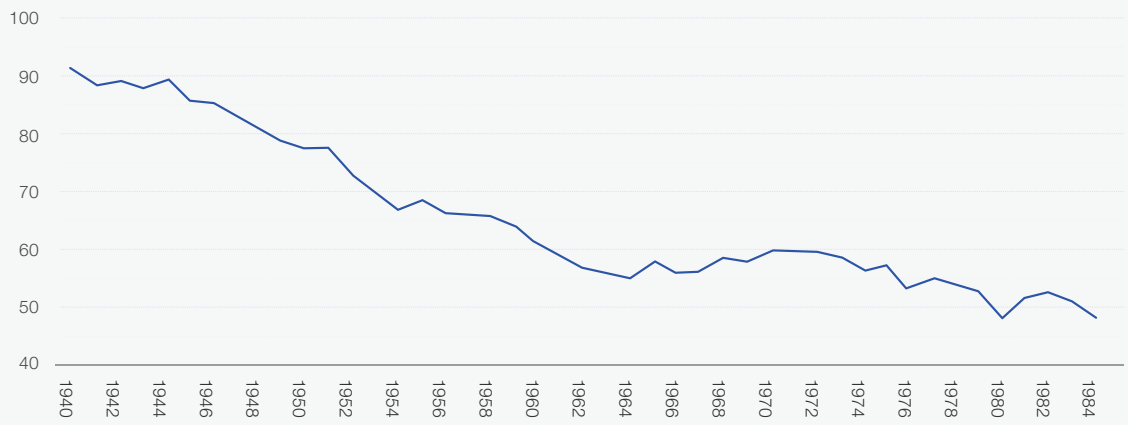
A 2018 study showed that "the Great Recession and its aftermath significantly widened the

wealth gap between young and old".[73] Just a decade after the 2008/2009 financial crisis, the Great Lockdown poses significant educational and employment challenges that could bring about a second lost generation.

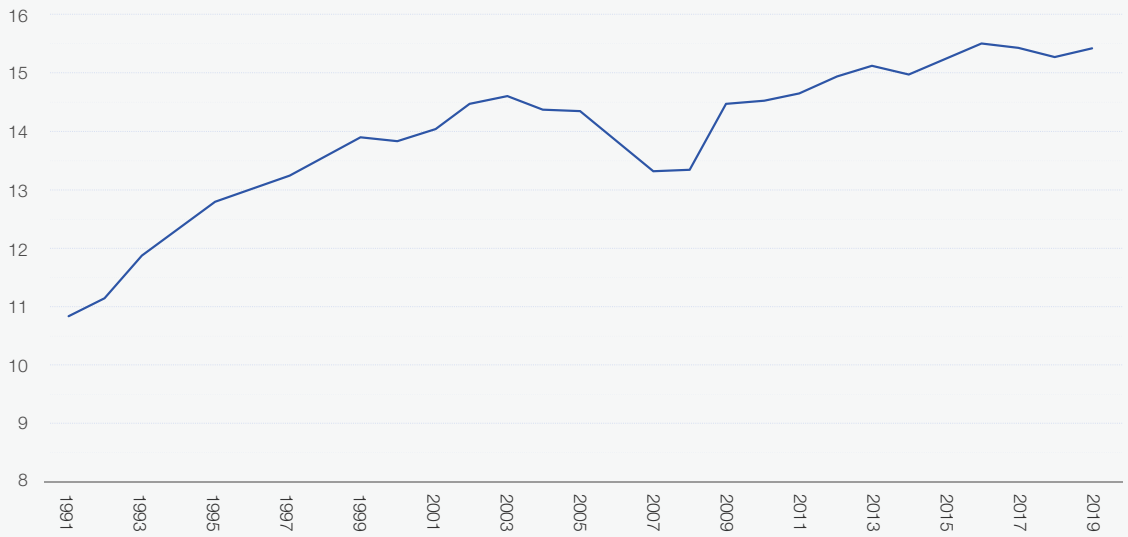
"It's an old people's disease" is a fundamental misperception, as COVID-19 will have lasting repercussions on youth. Whereas the elderly risk a higher rate of death and pension funding challenges, young workers and students of

FIGURE 3.1

Share of 30-year-olds earning more than their parents, US, by year of birth, 1940-1985



Global youth unemployment (% of total labour force ages 15-24), 1991-2019



Sources: (top) Chetty, et al., "The fading American Dream: Trends in absolute income mobility since 1940", *Science*, 2017, https://science.sciencemag.org/content/356/6336/398; (bottom) World Bank, "Unemployment, youth total (% of total labor force ages 15-24): (modelled ILO estimate)", https://data.worldbank.org/indicator/SL.UEM.1524.ZS?end=2019&start=2004

Generation Great Lockdown are at risk of becoming the next lost generation. Parts of this cohort have long been disenfranchised by the 2008/2009 financial crisis. Youth employment had just recently returned to pre-2008 levels in developed economies, while the share of young people earning more than their parents had become the lowest on record (Figure 3.1).[74] In developing countries, however, youth unemployment has risen steadily,[75] creating a risk of social unrest. The current crisis has a high potential of further aggravating labour market conditions for this generation.

> Generation Great Lockdown is at risk of becoming the next lost generation

Today's young workers are often self-employed, members of the casual, informal and gig-economy labour markets, or are employed by SMEs. These sectors were the first to be affected by the economic shutdowns.[76]

For those still pursuing education, the pandemic is likely to cause unprecedented new inequalities. It is estimated that by the end of March 2020, 80% of the world's enrolled students were out of school – more than 1.6 billion students of all ages.[77] Yet, education systems have been affected differently across regions by considerable online access gaps,[78] the lack of necessary tools to follow online courses or the inability to adapt educational spaces at home. These gaps have multiple cascading effects, such as failing courses, failing to access higher education, and premature and forced dropouts due to parents' unemployment, especially for girls and young women, which would complicate entry into the labour market and exacerbate inequality. Moreover, deeper educational shortfalls and the economic consequences of the pandemic could increase the risk of vulnerable youth being targeted by radical groupings or organized crime.[79] To not lose the Generation Great Lockdown, but instead enable it to become the Generation Great Reset, with all its opportunities, the public and private sectors should include investing in youth as a driving element of the recovery efforts.

CHAPTER 4

Technology dependence

Emerging risks from abrupt adoption

REUTERS/NICK OXFORD

Technology is a critical part of the response to the COVID-19 crisis. Videoconferencing platforms enable wide-scale “work from home”, while contact tracking applications and devices, fast data exchange and processing provide a dynamic picture of the virus that is vital for controlling the spread of infection. The lockdown has had economically destructive effects, but it has also fuelled the tech-enabled contact-free economy, including telemedicine, online retail, and social distancing delivery and logistics, which promise to boost employment in certain areas and sectors.

As in previous emergencies, pressure to find new ways to cope with unexpected challenges has spurred breakthroughs and accelerated pre-existing trends in the applications of digital technology. Necessity has pushed aside hesitations about the adoption of some technological solutions. However, rapid roll-outs and dramatic surges in the use of technological solutions increase risks of infrastructure overload and breakdown, cybercrime, privacy violations and inequality. While technology is fundamental to overcoming this crisis, its applications raise risks and challenges, from its potential impact on society to the inadvertent "hardwiring" of crisis management policies and the exposure of infrastructure vulnerabilities. Managing those risks is key, as it could lead to increased technology governance challenges.

> Necessity has pushed aside taboos about the adoption of some technological solutions

Automation and digitization – a risk of overcorrection?

The need to respond to economic disruptions caused by virus containment policies is driving and facilitating rapid advances in tech-driven production trends like automation and 3D printing, and related processes like distributed working and the onshoring of production. The weakness of well-organized yet fragile, just-in-time global supply chains was exposed as pandemic conditions quickly disrupted those supply chains, making protective clothing and chemicals for sanitation unavailable.

Innovations in local production technologies are now getting a boost from the rising demand for COVID-19-related medical material. The business interest in technology that had focused on efficiency gains in supply chains and inventory management is now balanced with equal or greater interest in how technology contributes to resilience. Although a mix of global, regional and local supply chains is likely to create more resilience through diversity of supply, a tech-enabled overcorrection against global trade and supply chains could reverse some of the wealth creation effects achieved via economic globalization in the last 40 years.

While the pandemic has increased remote work globally, additional protective health measures could make employers reluctant to bring back their entire workforces and incentivize the greater use of automation in new processes, even in areas that would be more optimally delivered and managed through augmentation – hybrid work between humans and machines – rather than automation. Employers may look to apply additional countermeasures, such as internal health surveillance applications and corporate messaging capabilities. Travel and work restrictions due to the lockdowns may cause companies and economies, especially those without access to a large pool of human resources or a cheap workforce, to re-evaluate their reliance on a human labour force, in the hope that automation offers improved resilience and security of supply for critical components.

A 2019 study estimated that almost half of American jobs will be at high risk of automation by the mid-2030s.[80] Companies see a rise in this trend as one of the top risks for the immediate future, as nearly a quarter of the COVID-19 Risks Perception Survey respondents highlighted "Additional unemployment from accelerated workforce automation" as one of the more likely fallouts from the crisis and one-fifth of respondents

flagged the same risk as a global concern. The acceleration of this trend could worsen a digital divide emerging within the workforce, characterized by a polarization of jobs and a widening gap in digital skills. The geo-economic factors connected with this trend could produce a similar automation divide between countries.

Adoption and regulation – long-term threats to privacy?

The over-hasty adoption of poorly regulated technologies may increase risks to privacy and civil liberties. Across the world, countries are experimenting with various technological solutions to track, monitor and prevent COVID-19 infections. Some governments have adopted apps that use Bluetooth signals between smartphones to see whether potential carriers of the novel coronavirus have been in close contact with other people. Others use biometric bracelets to track the emergence of potential COVID-19 cases in real time. The range of data about the wearer, including temperature, breathing and heart rates collected by the bracelets, goes beyond the bare-minimum rule used in most apps.

European countries have rolled out versions of similar software, but norms and regulations on privacy have limited the scope of data collected. Some argue that apps should only track proximity data to determine when users have been near someone with the virus, rather than provide a full record of individual movements. The location-tracking of individuals and technology that rates people's health risk and the centralization of sensitive data raise concerns on areas of privacy and civil liberties covered by EU data protection rules. Centralized data storage also concentrates risks and increases vulnerability to hacking as many of these applications are developed very quickly, often without the full cybersecurity protocols. Exceptions for health emergencies are included in privacy rules but, because they have not been needed before, they lack detailed definition.

Some of these approaches may only be effective if used by a critical mass of the population (between 50% and 75%),[81] prompting the question of whether they should be compulsory. In Hong Kong SAR, some residents thought to be infected with the virus were required to wear a wristband linked to a smartphone app that alerted authorities if they left their place of quarantine.

The COVID-19 crisis is obliging governments and citizens to explore where the boundaries of privacy and safety lie and how far they can be pushed. This will also concern employers that adopt technologies to monitor the health of their employees.[82] The risk of pushing too softly could be a second spike in infections, potentially triggering additional prolonged shutdowns and lasting social and economic damage. The risk of pushing too hard could be a popular backlash that sets back the use of technology in governance. For instance, the collection and misinterpretation of unreliable data could undermine trust in public health systems or the willingness to trust government generally.

> Over-hasty adoption of technologies may affect privacy and civil liberties

If – and more importantly where – the results are positive, popular acceptance of real-time tracking to support contact tracing may over time shift attitudes on other questions of privacy

and surveillance. However, cultural variations are also likely to come into play, with some populations more accepting than others.

> 75%: uptake needed for contact tracing apps to be reliable

Digital fragmentation could increase due to incompatible protocols and formats, or where incompatible ideological assumptions about the relative rights of an individual, the collective or privacy are encoded into systems. Incompatibility across borders poses an additional risk at a time when coordination to monitor and manage transboundary data privacy and cybercrime is needed more than ever.

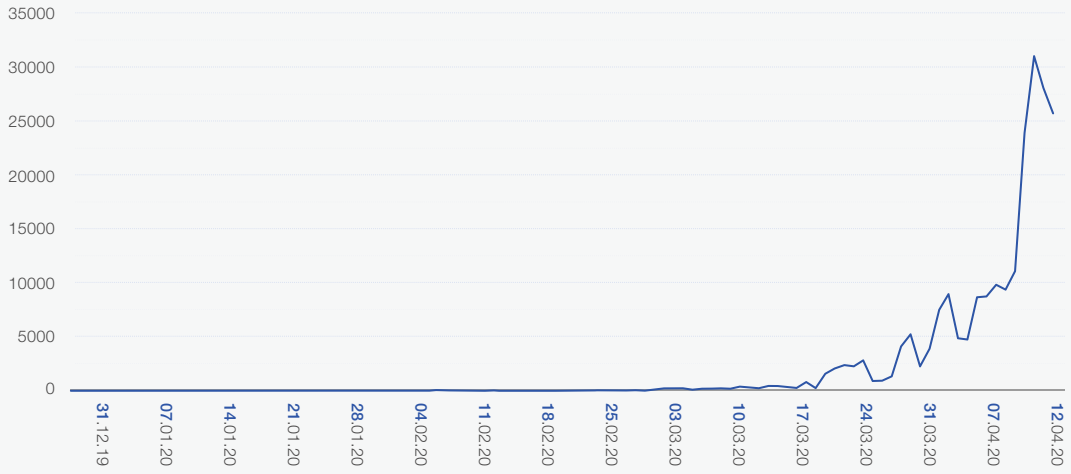
Digital infrastructure – a growing threat of cyber-risks?

The third greatest concern for companies according to the survey is that new working patterns may increase cyberattacks and data fraud. The techno-optimism that accompanied the rise of the internet was already dampened by rising cybercrime, concerns about the security of networked technologies, the risk of cyberwar and suspicions about data manipulation to shape perceptions. As the COVID-19 crisis accelerates dependency on technologically-enabled economic processes, it is also exacerbating those cyber-risks (see Figure 4.1).

A report by the UK National Cyber Security Centre (NCSC) and the US Department of Homeland Security identified several ways that cybercriminals are exploiting the pandemic.[83] For example, demand for information on the new virus, accompanied by fear, confusion and even the boredom of confinement, has multiplied opportunities for cybercriminals to deliver malware, ransomware and phishing scams. Phishing and malware distribution methods use “coronavirus”- or “COVID-19”-

FIGURE 4.1

Coronavirus-related cyberattacks detected worldwide by Check Point Research, 31 December 2019 to 14 April 2020[85]



Source: Check Point Software Technologies, “Coronavirus update: as economic stimulus payments start to flow, cyber-attackers want to get their share too”, Check Point Blog, https://blog.checkpoint.com/2020/04/20/coronavirus-update-as-economic-stimulus-payments-start-to-flow-cyber-attackers-want-to-get-their-share-too/

related wording as a lure. The most common type of scams relating to COVID-19 detected by the NCSC were those using a false UK government brand. A surge of new domain name registrations containing coronavirus or COVID-19 characterizes new scams and ransomware attacks, including those aimed at already stressed and overburdened medical institutions, as well as welfare schemes.[84]

The increase in working-from-home arrangements has also expanded the use of potentially vulnerable services, such as virtual private networks (VPNs), that lack adequate safeguards, amplifying the threat to individuals and organizations. The risk of disruption to critical information infrastructure is also enhanced by the vulnerability of services under strain from high demand, such as energy, financial services and healthcare. Meanwhile, a blurring of the line separating corporate and personal systems heightens the risk of exposing sensitive information not appropriately secured and monitored on personal devices.

The costs to business of cyberattacks was already on the rise before COVID-19. With more people connected and a larger "attack surface", those costs could spike. Effective steps to improve cybersecurity also need to navigate new risks. Recurring security checks must be balanced against the need for flexibility and productivity. The concern about employer intrusion into home networks may be rising. Insider risks – possibly motivated by resentment from layoffs and cost-cutting measures – could intensify as security controls come under stress from a remote working set-up.

Reputation risks are amplified by disrupted cash flows, business interruptions, failure to meet evolving customer needs and supply chain challenges caused by cyberattacks or data fraud. Technology to sustain voting processes or the distribution of social security is adding to the amount of digital dependency in government processes, and the risk of fraud, manipulation or subversion. As government becomes a larger user of technology, greater regulatory intervention in the sector could head off a crisis of trust in digital processes (commercial and public), but in some cases it could raise concerns about citizen–state relations.

CHAPTER 5

Implications for decision-makers

REUTERS/TOBIAS SCHWARZ

COVID-19 began as a health crisis, then quickly became an economic crisis and an energy crisis, highlighting the inherent interdependencies of global risks. The extent of the crisis will ultimately be determined by our collective ability to understand and act on these interdependencies across social, economic and political imperatives, in a spirit of partnership among civil, public and private sectors.

Critical global risks have not gone away – from climate degradation and biodiversity loss to conflict and political division – and many are actually exacerbated by the current crisis,

including cyberattacks, inequality, social instability and even the potential for future infectious disease outbreaks. But it is possible to see opportunity in the economic recovery. Bold policies hold out the hope for driving the transition towards a more socially just and sustainable global economy.

Based on an analysis of the main consequences from the pandemic and its potential second-order effects, the challenges and questions presented in this section are a starting point for framing the discussions that need to happen between businesses, governments and societies worldwide.

Understanding interdependencies exposed by the crisis

- How can economic recovery and fiscal policies be used to accelerate nationally determined emissions reduction commitments and drive a low-carbon transition?
- Will consumer behaviour change to the extent that some industries, such as travel, tourism, hospitality and entertainment, are fundamentally altered in their nature and delivery? How will that affect economic growth and employment?
- How can bold reforms be enacted while considering and protecting those most vulnerable to social and economic dislocation in the midst of this crisis?
- How will economic restructuring affect labour relations? How can businesses ensure both financial viability and obligations towards their workforces as they refashion workplaces and modes?
- What do new operating constraints mean for the functioning (and viability) of institutions that rely on interpersonal relations, such as universities?

Managing institutional change in the midst of crisis response

- How can the crisis help to re-energize, refocus or renew the value of multinational institutions to enhance global cooperation?
- What are the best principles to manage the social and political implications of balancing quick economic recovery and the threat of second or third waves of COVID-19 infections?
- How will governments right-size themselves to ensure efficiency and effectiveness in key areas, as they face both pressures for stronger capabilities and fiscal constraints?
- How can policies be debated to ensure tracking technologies are used to protect people's health, while safeguarding the basic values of privacy and other civil rights?

Building back better

- How can the declaration of "victory over the virus" be timed correctly and the opportunity to "build back better" be seized without fail?
- How can the solutions needed now be properly evaluated and targeted in ways that avoid hard-to-reverse realities that may be regretted in the future?
- How can societies be prepared for the healthcare challenges of the future – not

just pandemic preparedness but non-communicable diseases and longevity trends? How will social protection systems be funded?

- Should multilateral organizations remain the focus for funding and support to strengthen their ability to address global challenges, or should reform instead focus on enhancing national, regional or subnational structures?

- How should regulatory landscapes develop to ensure the delivery of new policy priorities and assist profound industry adaptation?

Building corporate, national and international resilience

- How can business and political leaders refresh their risk assessments? How can senior-level deliberation on complex and persistent threats be strengthened in ways that promote investment in resilience within their institutions?

- Recognizing high levels of anxiety and acts of extraordinary selflessness, how can all sectors energize societal interactions that spur new initiatives and broad-based resilience at the community level?

Accelerating the evolution of public-private partnerships

- Against the backdrop of evolving thinking about stakeholder capitalism, how might businesses rethink their purpose, responsibilities and commitments as they pursue their strategic commercial goals?

- At a time of change for many businesses, with shifting industry structures and competitive positions, the challenge is not only to survive, but to find the silver linings. Which sectors and players deserve public funding and support?

- How, when and with what guarantees will governments step back from their current role as the lender, insurer and payer of last resort?

These are just some of the questions for debate and discussion that will shape the global agenda in the coming period and in which the World Economic Forum and its multistakeholder community will continue to engage.

REUTERS/MICHAEL CARONNA

APPENDIX A

COVID-19 Risks Perception Survey methodology

The COVID-19 Risks Perception Survey harnesses the expertise of the World Economic Forum's extensive network of risk specialists in business, government, civil society and academia. The survey was conducted from 1 to 13 April 2020 among the Forum's community of risk professionals and the professional networks of Marsh & McLennan Companies (MMC) and Zurich Insurance Group (Zurich).

The survey's overall results are presented at the beginning of the report, with greater depth provided in Chapters 1-4. Both the survey and this outlook adopt the following definition of a "risk": A risk is an uncertain event or condition that, if it occurs, can cause significant negative impact for several countries or industries. The survey asked respondents to consider an 18-month timeframe for three questions.

Respondents were asked to select eight risks from a list of 31 that they considered to:

A. Be the most likely fallout for the world from the COVID-19 crisis over the next 18 months

B. Be of greatest concern for the world from the COVID-19 crisis over the next 18 months

C. Be the most worrisome for your company from the COVID-19 crisis over the next 18 months

For a list of these issues, see Appendix B, figures B.1-B.3 (pages 51-53) that summarize the results.

Respondents were also given the option to name one or more issues not included in the 31 risks listed that they expect to be an important fallout from COVID-19.

The share for each risk was obtained by dividing the number of respondents who selected that answer by the total number of answers to the survey. The risk choices were randomized for each respondent but remained the same throughout the survey.

A total of 522 responses to the survey were received, to which a minimum completion threshold of having answered at least one of the three questions completely was applied. The 347 responses that met this criterion were thus considered in the final results.

APPENDIX B

Survey results and sample distribution

FIGURE B.1

Most likely fallout for the world

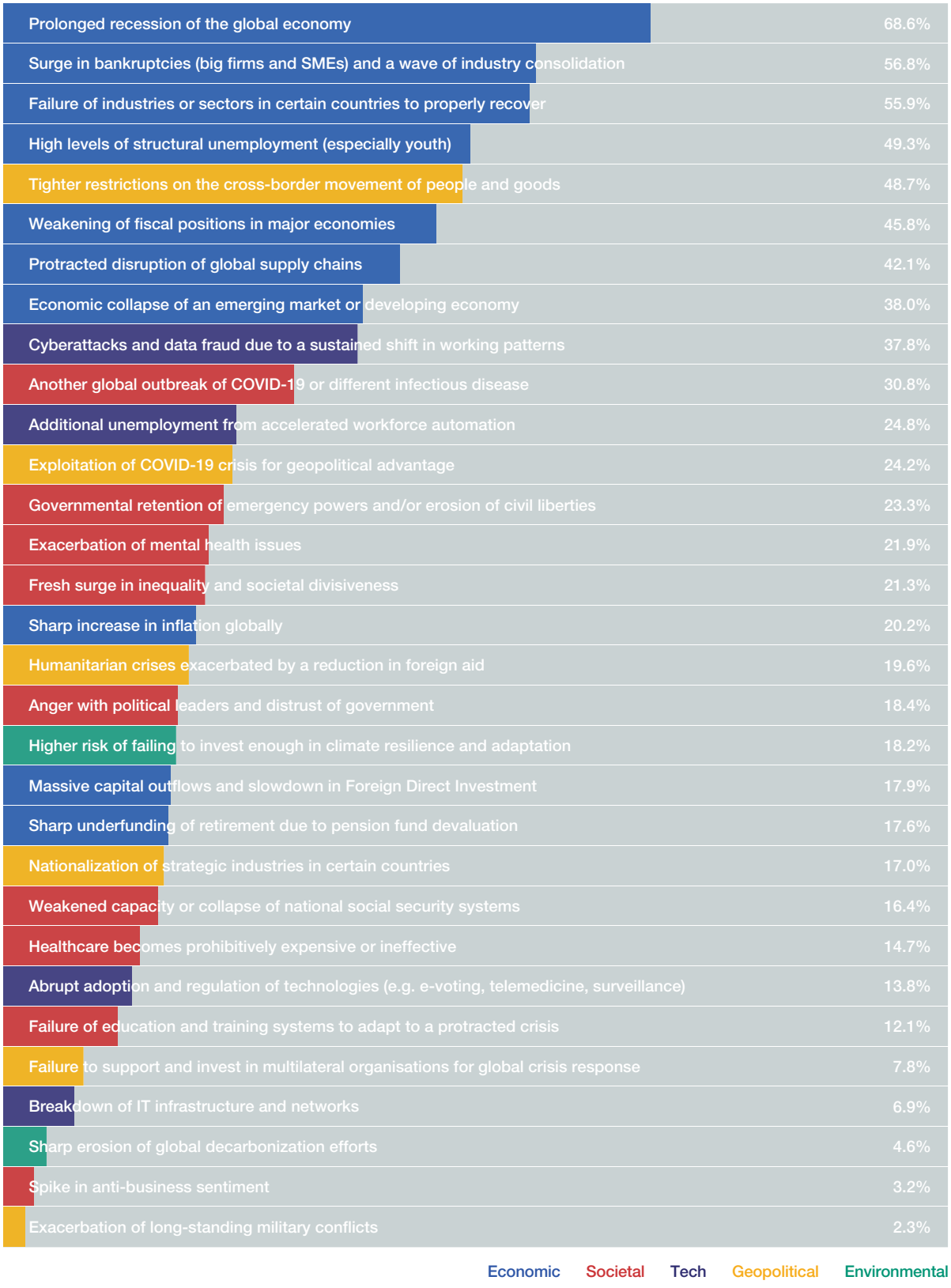


FIGURE B.2

Greatest concern for the world

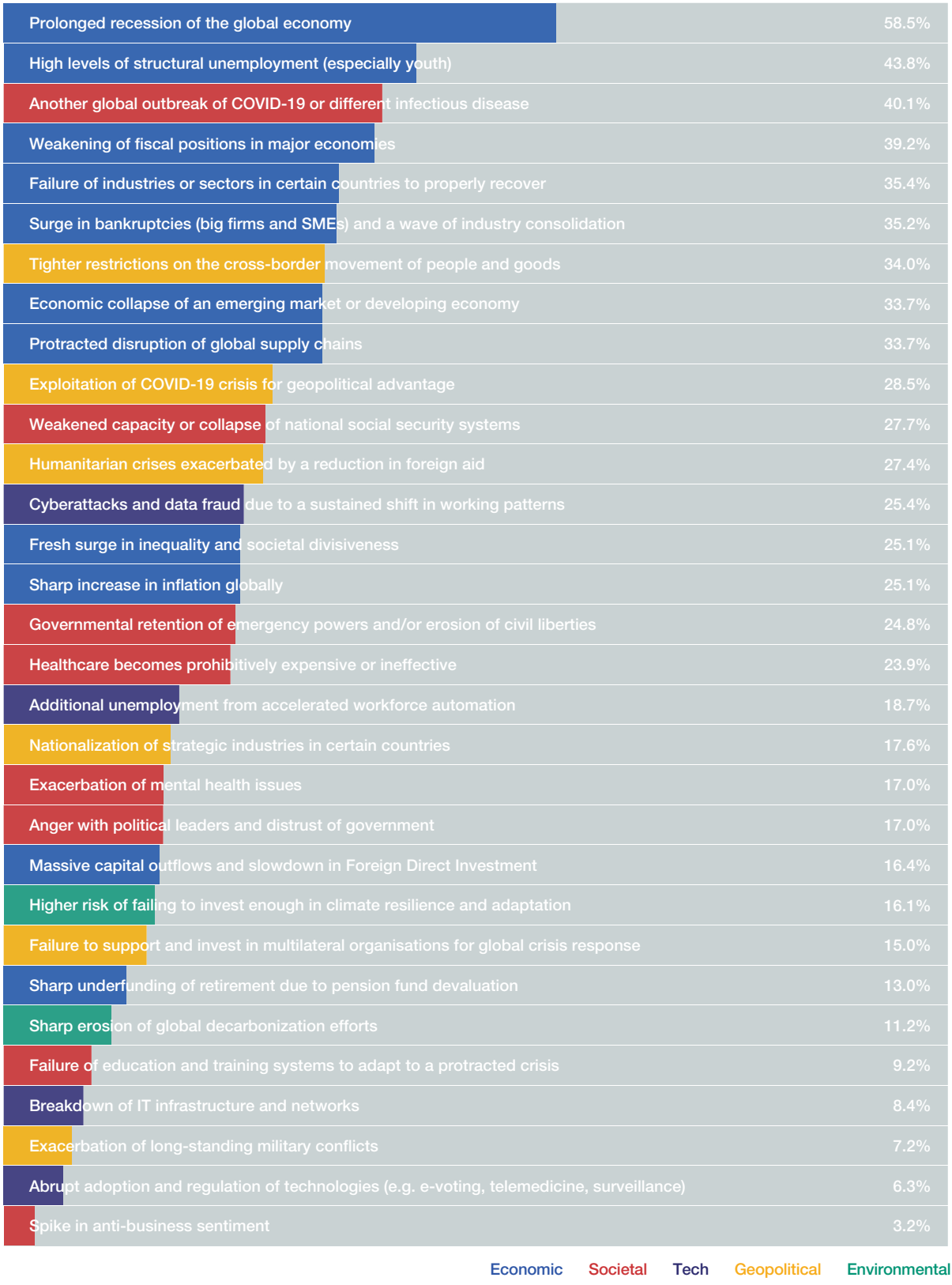


FIGURE B.3

Most worrisome for your company

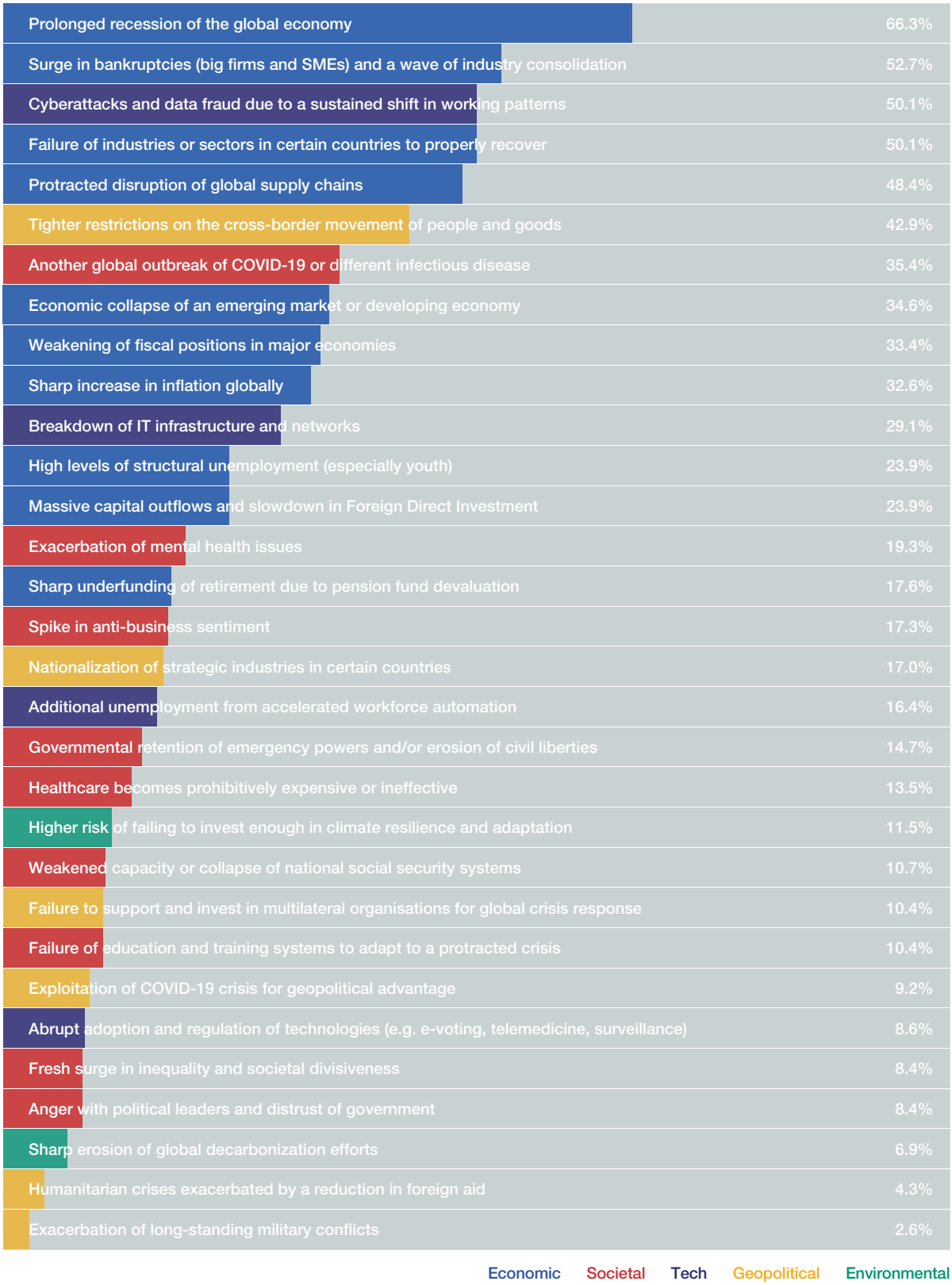
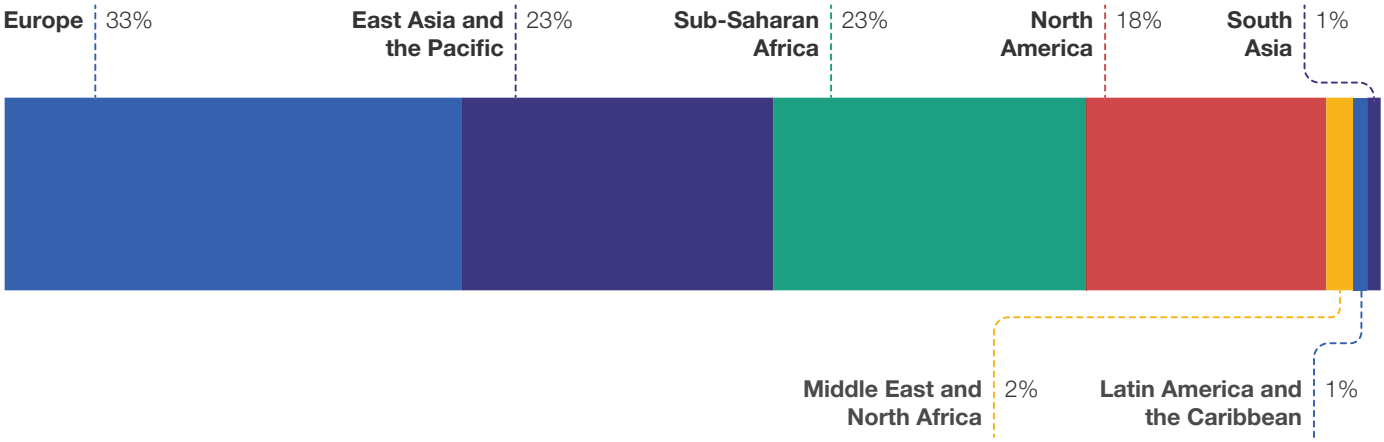


FIGURE B.4

Industry distribution

FIGURE B.5

Region distribution



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