The background features a dark grey gradient with several abstract elements. On the left, there is a curved band of teal and green squares and rectangles of varying sizes. Below this, there are several teal circles of different diameters, some with white outlines, and thin white lines connecting them. In the center, a faint, dark silhouette of a hand holding a globe is visible. The text is overlaid on this background.

COVID-19 BCG Perspectives Series  
Facts, scenarios, and actions for leaders

# Ensuring an Inclusive Recovery

30 June 2020

# COVID-19 BCG Perspectives

Objectives of this document

## COVID-19 is a global societal crisis

We at BCG believe that the COVID-19 outbreak is first and foremost a societal crisis, threatening lives and the well-being of our global community. Society now, more than ever, needs to collaborate to protect people's lives and health, manage mid-term implications, and search for lasting solutions.

## Leaders need to drive an integrated response to navigate the crisis

It is the duty of health, political, societal, and business leaders to navigate through this crisis. A complex interplay of epidemic progression, medical response, government action, sector impact, and company action is playing out. This document intends to help leaders find answers and shape opinions to navigate the crisis in their own environments. It encourages thinking across the multiple time horizons over which we see the crisis manifesting itself.

# COVID-19 will be a journey with three distinct phases, requiring an integrated perspective



Typically the initial phase after a pandemic outbreak—goal is to urgently **limit number of new cases**, especially critical care

Social distancing (lockdown) and partial business closures lead to **economic recession** with large employment impact

Finding **paths to collectively fight the virus, restart the economy, and support society in balancing lives and livelihood**

Increasing economic activity with recovering GDP, some business reopenings, and social distancing on a sustainable level

**Disease controlled through vaccine/cure/ herd immunity** and treatment within sustainable medical capacities possible

**Reactivated economy** with strong business rebound and job growth, social restrictions limited or completely suspended



**All of the above five factors result in specific economic and social outcomes in each phase**

# Executive Summary | COVID-19 BCG Perspectives

## **COVID-19 is disproportionately affecting the disadvantaged; a successful recovery must be inclusive and can set up a better future for all**

- COVID-19 has created a humanitarian crisis and disproportionately affects the lives of the disadvantaged/vulnerable in our society
- The impact on health, education, food security, and livelihood outcomes is staggering; those that were struggling already are hit hardest
- Protecting the disadvantaged helps flatten the curve for all and is critical for maintaining social stability across the globe
- A successful and inclusive response now can set us up for a better future: (i) health care preparedness for future pandemics, (ii) new models of high-value and low-cost learning, (iii) a more resilient food system, and (iv) a reskilled and diverse workforce
- There is a clear imperative for private, public, and social sector leaders to take concrete action for an inclusive recovery

## **Several countries are witnessing a rapid increase in daily cases; a severe global economic downturn is expected for 2020**

- Globally, 50% of patients have recovered from COVID-19; the growth rate of daily new cases is about 2.0%<sup>1</sup>
- Daily new cases are increasing rapidly, with cases in June<sup>2</sup> being ~1.5x those in May and ~1.7x those in April
- Vaccine and therapeutics development continues to move at an unprecedented pace; 16 vaccine candidates are currently in phases I, II and III
- Latest economic forecasts from IMF point to a 4.9% decline in global GDP in 2020; it's expected to rebound to 5.4% growth in 2021
- Only the pharma sector is currently at pre-crisis TSR<sup>3</sup> levels; 8 (out of 24) sectors have a significant share<sup>4</sup> of companies with >15% default risk

**We believe during this crisis leaders need to think along two dimensions:**

Taking an integrated perspective on health/medical progression, governmental responses, societal reactions, and economic implications to understand business/sector impacts

Thinking multi-timescale in a Flatten-Fight-Future logic

1. Daily new case growth rate is calculated based on 7-day rolling average; 2. Calculated as monthly average of daily new cases; 3. Total Shareholder Return; compared with 21 Feb 2020; 4. Retailing, Materials, Transport, Auto, Real Estate, Energy, Hospitality with > 10% of companies with probability of default > 15% as of 18 June 2020; based on top S&P Global 1200 companies; sectors based on GICS definitions  
Source: BCG

A decorative graphic on the left side of the page features a curved, grid-like pattern of teal and green squares, transitioning into a series of overlapping circles and lines in the bottom left corner.

## Guide for leaders

Disproportionate impact of COVID-19 crisis on the disadvantaged  
Inclusive solutions for a reimagined future

## Updated analyses and impact

Epidemic progression and virus monitoring  
Economic, business, & societal impact

# COVID-19 impact dashboard

As of 26 June 2020

## Epidemic Progression

**9.8M** # of cases  
**4.9M** # of recoveries  
**494K** # of fatalities

### Recent developments

Daily new cases in June<sup>1</sup> are **~1.5x** May, **~1.7x** April

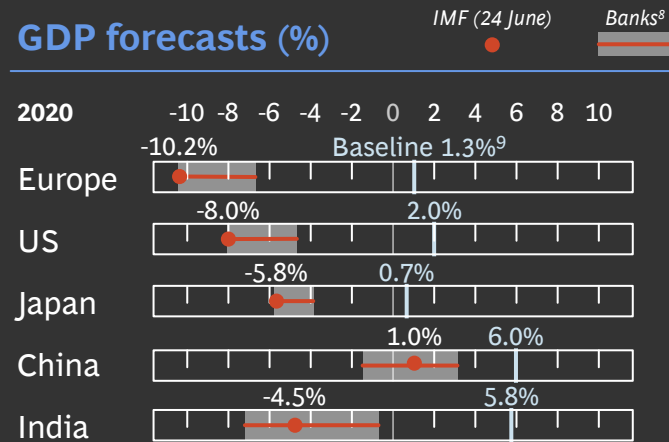
South America driving **~32%** of global daily new cases<sup>1</sup>

	12 June	26 June
# of daily new cases <sup>2</sup>	<b>125K</b>	<b>161K</b>
# of reported recoveries as % of total cases	<b>47%</b>	<b>50%</b>
# of tests / cases <sup>3</sup>	<b>19</b>	<b>19</b>

	Vaccine	Treatment
Trials in pre-clinical stage and beyond <sup>4</sup>	<b>172</b>	<b>139</b>
Trials in Phase 1 and beyond <sup>5</sup>	<b>16</b>	<b>58</b>
Current est. timeline for approval & scale-up	<b>9-33 months<sup>6</sup></b>	<b>6-21 months<sup>7</sup></b>

## Economic Impact

### GDP forecasts (%)



### Estimated employment impact

	Total employment 2019 (M)	Employees impacted <sup>10</sup> (M)	% of employees impacted
US	<b>159</b>	<b>47</b>	<b>30%</b>
UK	<b>33</b>	<b>11</b>	<b>32%</b>
Germany	<b>45</b>	<b>12</b>	<b>26%</b>
France	<b>28</b>	<b>14</b>	<b>49%</b>
Italy	<b>23</b>	<b>8</b>	<b>35%</b>
Spain	<b>20</b>	<b>4</b>	<b>22%</b>

## Business Impact

### Stock market performance<sup>11</sup>

	S&P500	NASDAQ	FTSE100	DAX	CHN SSE
20 Mar vs 21 Feb	<b>-31%</b>	<b>-28%</b>	<b>-30%</b>	<b>-34%</b>	<b>-10%</b>
26 June vs 21 Feb	<b>-10%</b>	<b>2%</b>	<b>-17%</b>	<b>-11%</b>	<b>-2%</b>

### Total Shareholder Returns (S&P1200)<sup>11</sup>

First column: 21 Feb to 20 Mar; Second column: 21 Feb to 26 June

	Americas		Europe		Asia	
Pharma	<b>-19%</b>	<b>1%</b>	<b>-20%</b>	<b>-3%</b>	<b>-22%</b>	<b>8%</b>
F&B <sup>12</sup>	<b>-26%</b>	<b>-13%</b>	<b>-24%</b>	<b>-12%</b>	<b>-12%</b>	<b>-4%</b>
Telecom	<b>-17%</b>	<b>-12%</b>	<b>-20%</b>	<b>-15%</b>	<b>-14%</b>	<b>-6%</b>
Software	<b>-30%</b>	<b>-4%</b>	<b>-32%</b>	<b>-8%</b>	<b>-28%</b>	<b>7%</b>
Retail	<b>-42%</b>	<b>-11%</b>	<b>-36%</b>	<b>-13%</b>	<b>-24%</b>	<b>15%</b>
Capital goods	<b>-38%</b>	<b>-16%</b>	<b>-35%</b>	<b>-17%</b>	<b>-29%</b>	<b>-8%</b>
Auto	<b>-47%</b>	<b>-25%</b>	<b>-45%</b>	<b>-19%</b>	<b>-32%</b>	<b>-12%</b>
Real Estate	<b>-42%</b>	<b>-31%</b>	<b>-26%</b>	<b>-31%</b>	<b>-22%</b>	<b>-18%</b>
Energy	<b>-56%</b>	<b>-33%</b>	<b>-45%</b>	<b>-31%</b>	<b>-41%</b>	<b>-24%</b>
Banks	<b>-41%</b>	<b>-31%</b>	<b>-44%</b>	<b>-38%</b>	<b>-26%</b>	<b>-15%</b>

1. Calculated as monthly average of daily new cases; 2. Calculated as 7-day rolling average of daily cases; 3. Median of values for top 15 countries by nominal GDP (except China); 4. Ongoing trials including pre-clinical, Phase 1 (first trial in humans), Phase 2, Phase 3, Phase 4; 5. Ongoing trials including Phase 1 (first trial in humans), Phase 2, Phase 3, Phase 4; 6. 9-month development current "best case" for first supply (12 months since Apr 2020), then likely to require time for scale-up and continuing to prepare for populations; 7. Remdesivir is approved now, could be more widely available by Jul-Sep 2020. For the next wave, estimated timeline is Oct '20 - April '22 (3-21 months). If first round of drugs being tested succeeds - then 6-9 months; if not - substantially longer; 8. For India, forecast is for financial year; for others, it is for calendar year; YoY forecasts; range from forecasts (where available) of World Bank, International Monetary Fund, JP Morgan Chase; Goldman Sachs, Morgan Stanley; Bank of America; Fitch Solutions; Credit Suisse; Danske Bank; ING Group; HSBC; As of reports dated 12 April 2020 to 26 June 2020; 9. IMF June 2020 forecast; 10. Available cumulative data as of 26 June 2020 from mid-March 2020; includes increase in unemployment & employees covered by gov. wage support programs; US: unemployment insurance claims (data as of 25 June); UK no self-employment (data as of April) and Italy (data as of April) active & inactive unemployment; Germany: short-time work requests, may not actually utilized (data as of May); France: (data as of June); Spain: (data as of May); figures are changing rapidly and often being reported with a lag from the current date; 11. Sectors are based on Global Industry Classification Standard (GICS) definitions; Performance is tracked for two periods, first from 21 February 2020 (before international acceleration of outbreak) to 20 March 2020 (trough of the market) and from 21 February 2020 through 26 June 2020; 12. Food & Beverage. Source: WHO, World Bank, JHU CSSE, Our World in Data, IMF, Bloomberg, Reuters, Eurostat (Europe), Gov't Wage Support & Unemployment figures & comments: UK Gov't 5/12, Bloomberg 6/16 (UK), ISTAT 4/30 & Fitch Ratings 5/18 (Italy), U.S. Department of Labor 5/21 (US), Ministerio de Trabajo 6/2 (Spain), Ministère du Travail 6/5 (France), Arbeitsagentur 6/3 (Germany), BCG

# COVID-19 is creating an unprecedented humanitarian crisis; there is a moral imperative to act

As of 26 June 2020

## Health

**>494K**

reported deaths due to COVID-19 globally; with >9.8M confirmed cases

(JHU CSSE)<sup>1</sup>

## Education

**~50%**

of 1.6B+ students affected by school closures lack a computer at home to participate in digital learning

(UNESCO, ITU)<sup>2</sup>

## Food security

**~265M**

people could face acute food insecurity by end of 2020, up from 135M pre-crisis

(World Food Program)

## Livelihoods

**~650M**

workers from the informal sector estimated to be driven into relative poverty<sup>3</sup> due to the crisis

(International Labor Organization)<sup>4</sup>

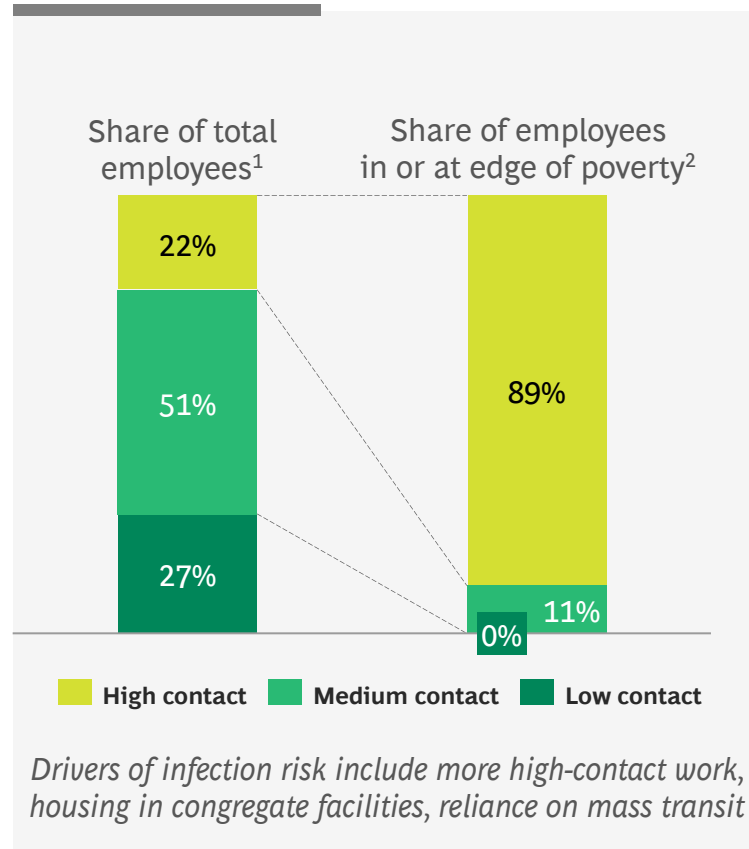
1. As of 21 June 2020; 2. As of 21 April 2020; 3. Relative poverty value is defined as income of <50% of country's median monthly earnings; 4. As of 29 April 2020  
Sources: JHU CSSE, UNESCO, International Telecommunication Union (ITU), WFP, ILO

# Health | COVID-19 disproportionately impacts the disadvantaged\* and creates cascading health outcomes beyond the direct effects of the virus

As of 10 June 2020

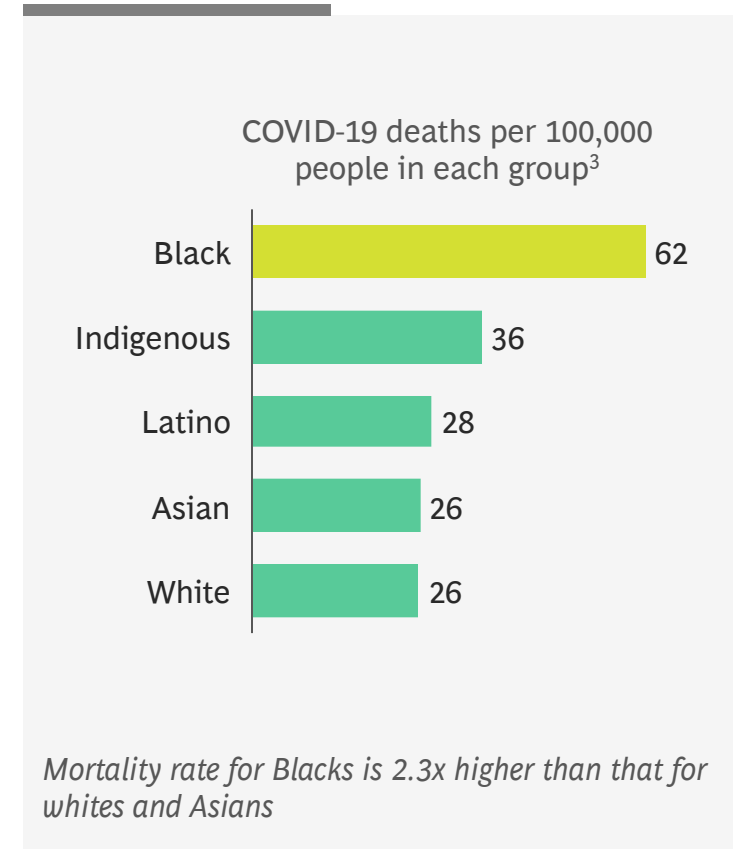
US example

**Those at higher risk of infection are disproportionately low income**



US example

**Higher COVID-19 mortality rate for racial minorities**



Global examples

**Cascading health outcomes**

**50%**

Decrease in heart attack patients visiting hospitals, likely increasing preventable deaths<sup>4</sup>

**80M**

Children at risk due to impact on routine vaccination programs in 68 countries<sup>5</sup>

\*Disadvantaged refers to low-income populations and populations facing discrimination

1. Federal Reserve Bank of St Louis, American Community Survey; 2. Income below 150% of the poverty level for individuals (WHO); 3. APM Research Labs; 4. Becker's Hospital Review; 5. Warning from WHO, UNICEF, & Gavi



# Education | COVID-19 is disrupting learning for an entire generation; school closures affect disadvantaged populations much more severely

As of 26 May 2020

## Digital divide exacerbating accessibility issues

~60%

without a household computer in developing countries

~50%

with limited access to internet in developing countries; lacking a prerequisite for remote learning

## Reduced participation by disadvantaged groups

23%

lower online class attendance in US schools with >75% low-income students vs. those with <25% low income students<sup>1</sup>

25%

of Italian households have internet that is too slow to stream educational content, limiting quality participation

## Cascading social consequences

310M

children dependent on school meals affected by global school closures

10M

additional estimated drop-outs for secondary school-aged girls in low- and lower-middle-income countries<sup>3</sup>

1. Attendance rate for virtual classes is 68% in schools with >75% low-income students vs 88% in schools with <25% low-income students; as of 10 April 2020; 2. 32% of largest non-CGCS (Council of the Great City Schools) districts vs 19% of largest CGCS districts have a distance learning plan; as of 26 May 2020; 3. Estimated by Malala Fund based on percentage of dropouts during Ebola; as of 2 Apr 2020  
Source: ITU, WFP, Bill & Melinda Gates Foundation, Education Week, Malala Fund, UNESCO

# Food security | Hunger is growing rapidly, driven by a declining ability to afford food and a disruption in the food supply chain

## COVID-19 is expanding global hunger

**135M**

people facing acute food insecurity<sup>1</sup>, pre-crisis

*>820M food insecure<sup>2</sup> globally;  
> 70% in sub-Saharan Africa or South Asia*

**Impact of COVID-19 on ability to afford food**

Loss of livelihoods expanded number of people who could not afford food

Scarcity of public transit makes it prohibitively expensive for people living in food deserts to access food

Increase in food prices driven by supply shocks

**Impact of macro-ecosystem shock on food accessibility**

Reduced food imports (e.g., rice) in sub-Saharan Africa

Increased food waste due to disruption in food transportation

Delay in channeling food to new demand (e.g., hospitality to grocers)

**265M**

people expected to face acute food insecurity<sup>1</sup> by end of 2020

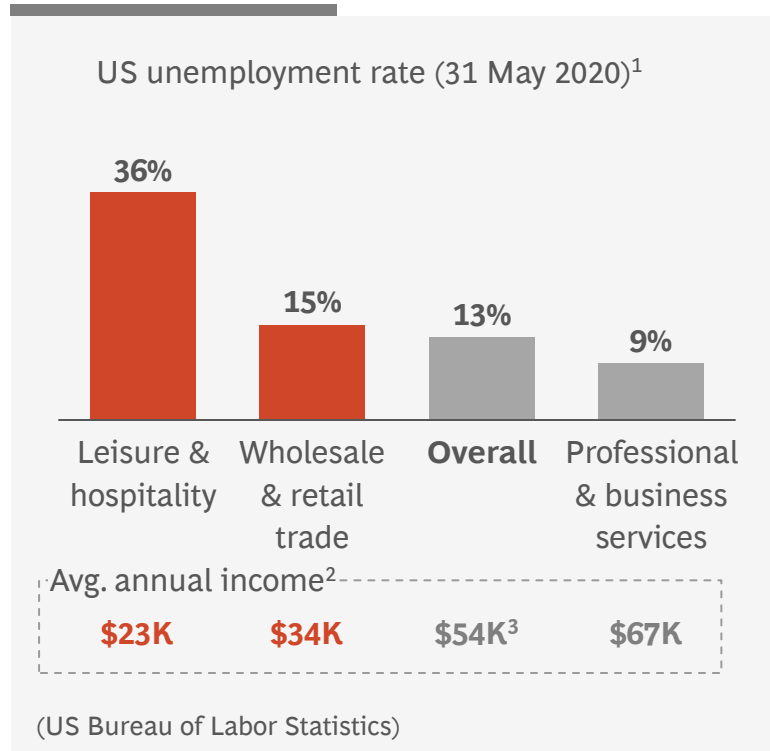
*Food insecurity expanding significantly globally*

1. Acute food insecurity is "any manifestation of food insecurity at a specific point in time of a severity that threatens lives, livelihoods or both, regardless of the causes, context or duration"; 2. Food insecurity is defined as a long-term or persistent inability to meet dietary energy requirements (lasting for a significant period of time during the year); Source: WFP, UN, Feeding America, BCG

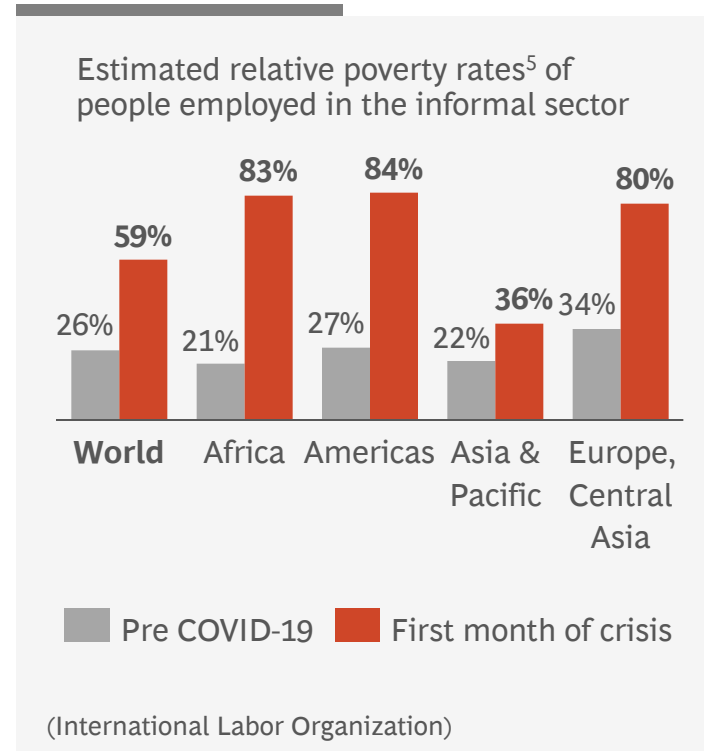
# Livelihoods | Job and income losses are concentrated in sectors where workers earn the least, and exacerbate challenges that low-skilled workers are facing

As of 09 June 2020

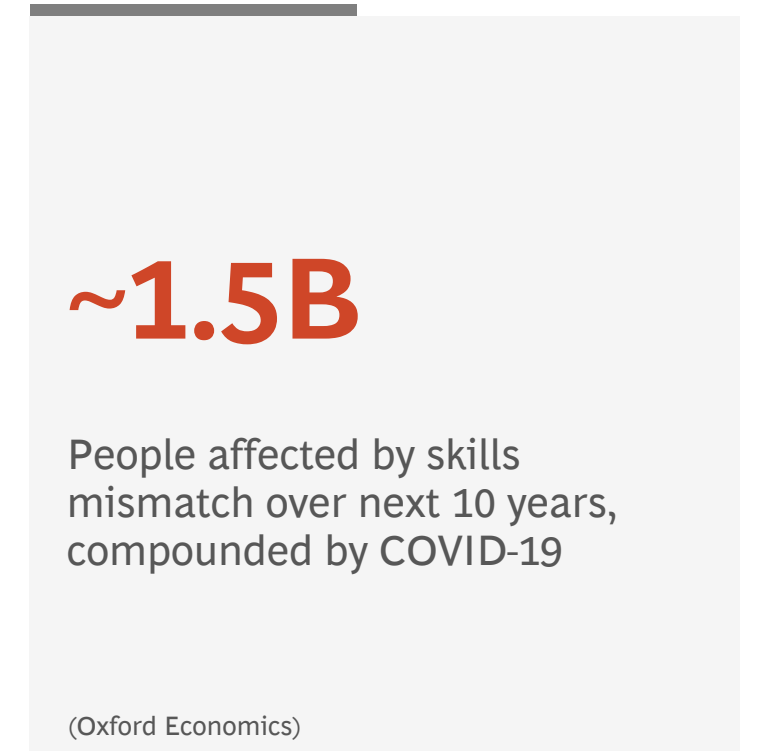
## Sectors hit hardest by COVID-19 have lower-income workers



## Informal sector globally (~2B people) threatened by poverty<sup>4</sup>



## COVID-19 will increase the already widening skills mismatch<sup>6</sup>



1. Represented only for select sectors; 2. Average weekly earnings by sector \* 52, 31 May 2020; 3. Average private sector earnings; 4. As of 29 Apr 2020; 5. Relative poverty defined as income of <50% of country's median monthly earnings; 6. As of 27 Apr 2020; skills mismatch impact quantified using BCG's Future Skills Architect methodology, based on capabilities (relevance of skill inventory to current and future economic needs), motivation (an environment that attracts talent and encourages self-realization through work), and access (availability of efficient skill matching mechanisms in the labor market)  
Source: US Bureau of Labor Statistics, Oxford Economics, EIU, ILO, BCG

# Protecting the most disadvantaged helps flatten the curve for all and is also critical for social stability

As of 26 June 2020

## Prevent new waves of COVID-19



### German region in new lockdown after slaughterhouse outbreak

*Thousands of workers, many of them migrants from Eastern Europe, & family members have been put under quarantine*



### Leaving lockdowns in Latin America: Many informal workers—street vendors, cleaners, and the like—must work to eat



### Bangladesh's vulnerable garment workers protest for food and pending wages



### Nigerian doctors stage “indefinite” walk-out over lack of “hazard” pay, crippling coronavirus response



### They came to Canada as essential workers. Hundreds were infected with the coronavirus on the job



### Reverse migration of India's laborers provided a passage for the virus to spread to the poorest hinterlands



### Workers march after virus outbreak at Utah meatpacking plant



### Protesters demand Guatemala ease coronavirus lockdown rules

Our response can accelerate us toward a better, more inclusive future for all

## Health

**Better preparedness for future pandemics** and accelerated access to health care for the underserved

## Education

**High-value, low-cost learning models** that meaningfully advance learning and achievement for students who are traditionally underserved

## Food security

**More resilient food system**, with less food waste and more innovative “last mile” solutions for reaching the most disadvantaged

## Livelihoods

A massive investment in reskilling capacity coupled with a strong commitment to diversity and equity to build a **workforce of the future**

# Actions required now for a successful and inclusive recovery

	Health	Education	Food security	Livelihoods
<b>All</b>	Protect <b>health-vulnerable and disadvantaged</b> to improve overall societal outcomes & ensure open economies			
<b>Private sector</b>	Ensure <b>employees are safe at work</b> , with tailored solutions for the health-vulnerable			
	Leverage <b>digital capabilities</b> to close gaps in essential services, particularly health care and education			
	Strengthen <b>supply chain resilience</b> to the last mile for essential goods, particularly food and medicine			
	Invest in <b>reskilling &amp; redeployment</b> of workers, with a commitment to diversity & equity			
<b>Public sector</b>	Prioritize <b>protecting, testing, &amp; treating</b> the disadvantaged and health-vulnerable			
	<b>Reopen public services</b> such as education with prioritization for the disadvantaged			
	Ensure robust <b>social &amp; financial safety nets</b>			
<b>Social sector</b>	Shape <b>stimulus packages</b> to drive reskilling, job programs, small-enterprise support			
	Provide financing that <b>attracts and catalyzes private sector</b> investment			
	<b>Innovate &amp; demonstrate</b> models for reaching the most vulnerable in collaboration with private & public sectors			

# Health | Prioritize health-vulnerable and disadvantaged in response & recovery

Select examples

## Prioritize prevention & ensure access for the vulnerable

Beyond general guidelines, **make workplaces, schools, and transport safe**; expand medical coverage, shelter-in-place for high-contact workers

**Speed and scale testing**, tracking & quarantining solutions, especially for the health-vulnerable and high risk communities<sup>1</sup>

**Reduce risks in residential settings** particularly for high-risk exposure individuals; provide facilities for medical staff to isolate



April 2020

\$20M Hotels for Heroes program launched in Australia for **medical workers to help them isolate in hotels for free**

## Ensure rollout of therapeutics & vaccine

**Prioritize access for health-vulnerable and the disadvantaged**; accelerate country-readiness (specifically developing countries) for therapeutic & vaccine rollout



June 2020

Gavi launched \$2B COVID-19 vaccine initiative to **ensure affordable doses to developing countries**<sup>2</sup>

## Minimize indirect health effects

Prioritize support for **health systems that serve the disadvantaged & health-vulnerable**

**Innovate and scale digital models** and new sites of care that are designed for low-resource settings



May 2020

Médecins Sans Frontières<sup>3</sup> is increasing **access to telemedicine and health information on social media**

1. High-risk communities include people living in high density, with limited in-home water & sanitation; those exposed to higher risks at work or home; 2. Gavi is a global vaccine alliance catering to children and those living in world's poorest countries; 3. International humanitarian medical non-government organization; Source: Bloomberg, Henry Ford, Lancet, BCG

# Education | Focus on solutions for disadvantaged and health-vulnerable in order to ensure continuity of learning for all

Select examples

## Enable remote learning solutions for all

Partner to **bridge the digital divide**, e.g. provide internet access, devices, and tech support to underserved groups

Develop high-quality **innovative digital learning solutions** for students and educators in low-resource settings / without broadband connection

Develop **alternatives for essential school-based services**, e.g. partnerships to deliver meals to students, parent counseling



April 2020

Indian remote learning start-up **delivering content to students, parents, and teachers via WhatsApp**; targeting 10M students across 3 states

## Take an inclusive approach to reopening schools

Safely reopen schools<sup>1</sup>; create **teaching and learning alternatives** especially for the students and staff who are health-vulnerable

Prioritize the **needs of those who have fallen furthest behind** and offer remediation programs

Ensure all students, especially low-income students and girls, return to school by addressing **financial and gender-specific barriers**



June 2020

French schools remained partly open to **care for more than 28,000 children of frontline and other affected workers**, ensuring health protocols from local health department were followed

1. Modify schedules, offer screening and testing, PPE, etc.; 2. Centers for Disease Control and Prevention  
Source: UNESCO, country and state education board or equivalent websites, UNICEF, Center for Global Development, Press search, BCG



# Food security | Efforts to ensure food security for the disadvantaged could translate into a more resilient food system for all

Select examples

## Strengthen food supply chain resilience

- Strengthen<sup>1</sup> and adapt<sup>2</sup> to fill **gaps in supply chains**
- Support **last-mile delivery** to quarantined or disadvantaged groups
- Review **regulations and trade bans** to prevent unintended disruption
- Shift mix of goods to **priority SKUs** to ensure availability of staples



April 2020  
Asian food tech start-up **partnered with hospitals to deliver food to quarantine facilities**

## Ensure access to food for all

- Use **direct cash transfers** as simple and most impactful lever to support low-income households & workers
- Distribute food in-kind** to disadvantaged households; scale up platforms to connect excess commercial supply with donation centers
- Manage / differentiate **prices and discounts on staples** for increased accessibility to food



April 2020  
Global food-processing conglomerate partnered with social organizations to provide **food and medical nutrition products to the vulnerable**; deployed available logistics capacities to support relief operations

# Livelihoods | Address COVID-19's disproportionate impact on lower-paid workers through safety nets, reskilling, and public-works job creation efforts

Select examples

**Ensure reach of liquidity & safety nets to the most affected**

**Scale financial inclusion efforts** to increase reach & efficiency of social safety nets; target low-income families, informal sector, health-vulnerable

**Provide tailored support to small businesses** that lack formal banking relationships or resources to go digital



June 2020

CDFIs<sup>2</sup> in the US work to **ensure small/micro businesses were able to access federal aid**

**Invest in a massive, inclusive<sup>1</sup> reskilling effort**

**Launch large-scale reskilling efforts** like entrepreneurship programs & digital literacy; provide technical scholarships for displaced workers

**Rapidly redeploy labor force**, balancing supply and demand; launch PPP to retrain furloughed employees



April 2020

Scandinavian airline partnering with a foundation to **retrain its 10k furloughed employees to assist in hospitals**

**Focus on sustainable job creation measures**

Leverage stimulus packages to **drive job creation in areas that will strengthen inclusiveness and sustainability**, e.g., green recovery, infrastructure



May 2020

**130K+ jobs** expected to be created by 2022, as part of the **~\$10B green stimulus measures** by South Korean government

1. With a commitment to diversity and equity; 2. Community Development Financial Institutions; Source: Press search, BCG

# Agenda for CEOs | Building total societal impact into your COVID-19 response plan

## Support stakeholders and society

Actions will be remembered for decades

- 1 **Care for your employees** by ensuring workplace safety, restructuring for longevity as needed, and reskilling and accelerating hiring where feasible
- 2 **Support customer and supplier resilience and recovery**
- 3 **Be part of the COVID-19 solution** for immediate response and economic rebound

## Innovate and build back better

Businesses must adapt

- 4 As you transform your **strategy, portfolio, and business models**, add a societal impact lens
- 5 When adapting **supply chains** for resilience, improve climate, environmental, & social impact
- 6 When reimagining **customer journeys and offers**, build in societal benefits
- 7 Retain **new ways of working** to reduce climate impact and enhance employee well-being
- 8 Increase **public and social sector partnerships** to accomplish for society what you cant achieve alone

## Communicate to capture value

Investors' & other stakeholders' expectations are changing

- 9 **Communicate actions and live your purpose** to engage your people, strengthen your brand, and deepen relationships with customers
- 10 **Reorient your approach to investor engagement**, renew your understanding of material environmental, social, and governance (ESG) issues, and adopt integrated ESG reporting



*Companies with higher ESG performance continue to outperform market benchmarks during the crisis*

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## Guide for leaders

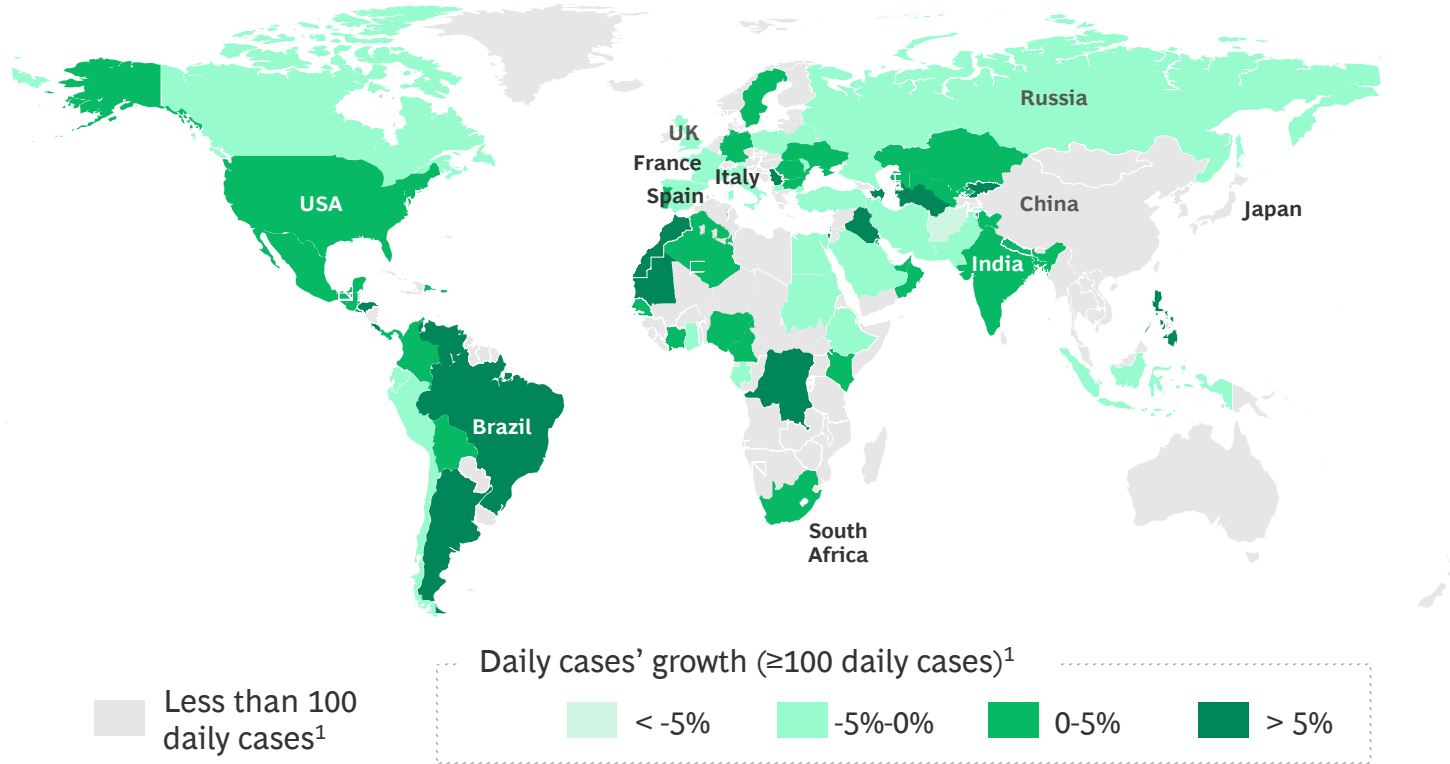
Disproportionate impact of COVID-19 crisis on the disadvantaged  
Inclusive solutions for a reimagined future

## Updated analyses and impact

Epidemic progression and virus monitoring  
Economic, business, & societal impact

~4.9M reported recoveries so far;  
growth rate of daily new cases at ~2%<sup>1</sup>

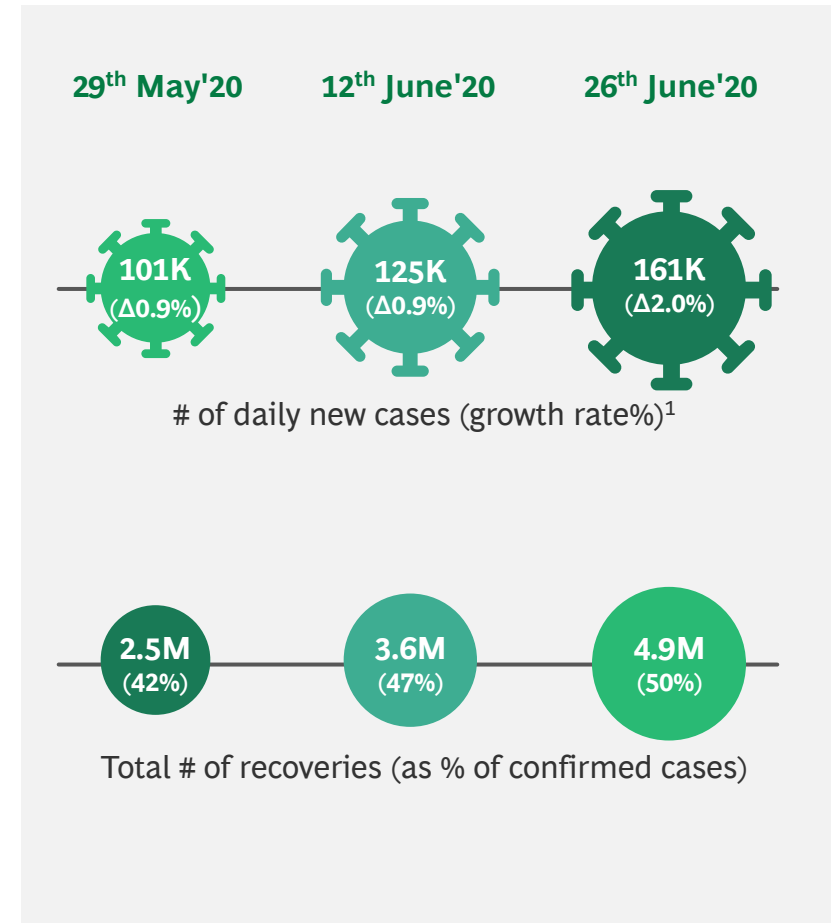
As of 26 June 2020



**185**  
Countries with cases<sup>2</sup>

**9.8M** [ $\Delta 1.8\%$ ]<sup>3</sup>  
Confirmed cases globally

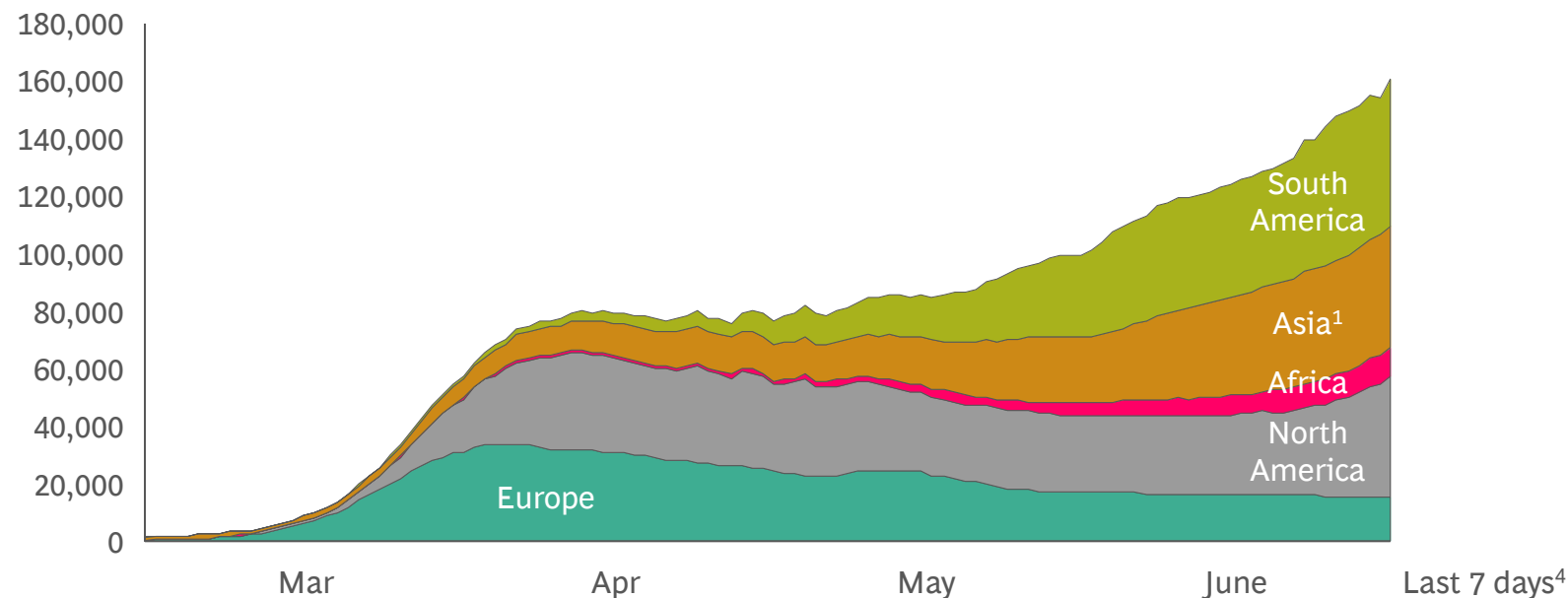
**494k** [ $\Delta 1.0\%$ ]<sup>3</sup>  
Fatalities globally



Note: Continued cases and fatalities are subject to different testing, propensity, reporting standards, and hence are imperfect measures  
1. # of daily new cases calculated as 7-day rolling average; growth rate calculated basis 7-day average; 2 Basis Johns Hopkins CSSE; 3. Daily growth rate basis 7-day average  
Source: Johns Hopkins CSSE; Our World in Data; BCG

As of 26 June 2020

Daily new cases (seven-day rolling average)



	Mar	Apr	May	June	Last 7 days <sup>4</sup>
Average daily cases in the month <sup>2</sup>	17k	76k	89k	131k	161k
Month on month growth rate of new cases <sup>3</sup>		343%	17%	47%	62%

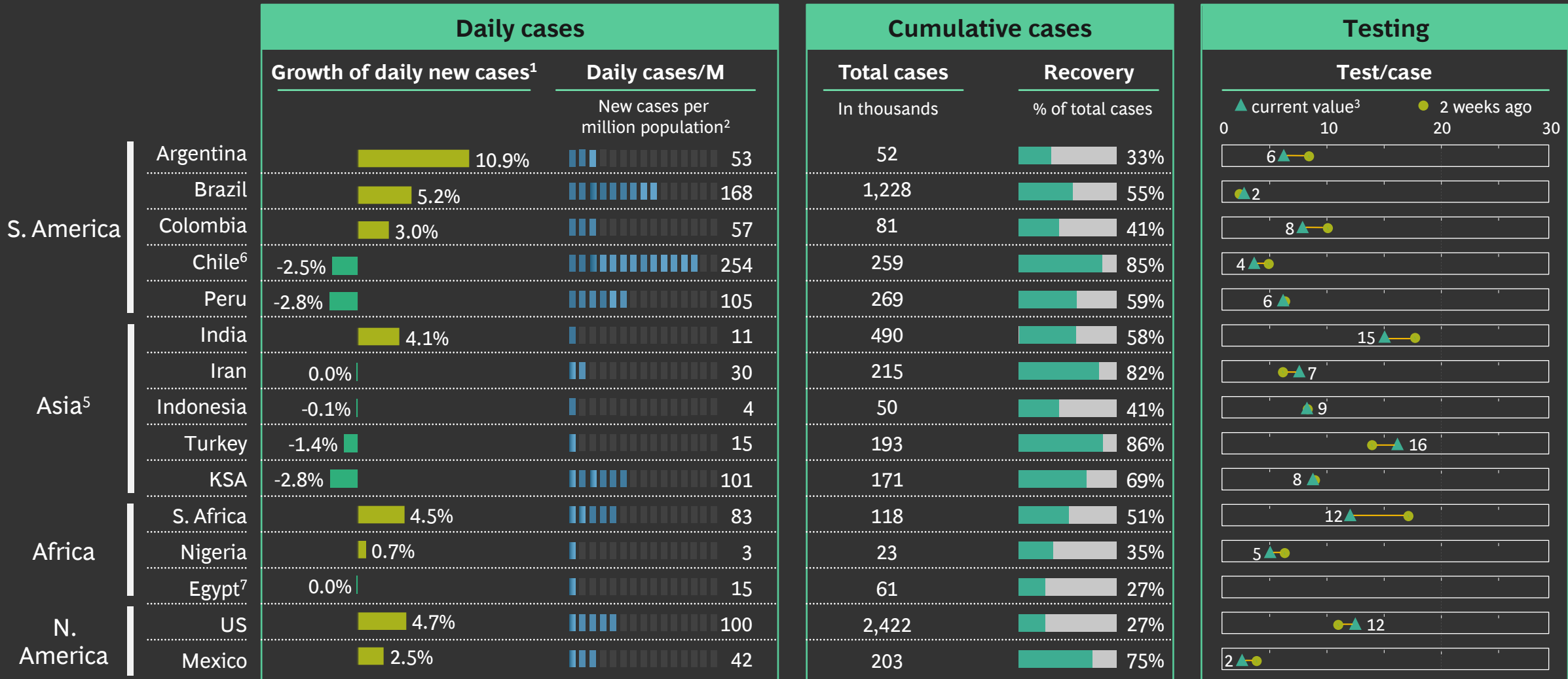
1. Includes Middle East & Oceania; 2. Calculated as monthly average of daily new cases except in for the last 7 days; 3. Calculated as growth in month's average as compared to previous month; 4. Average daily case is 7-day average and growth rate is calculated basis last 7-day average as compared to 7-day average of equivalent week in May; Source: Johns Hopkins CSSE; Our World in Data; BCG

Daily new cases increasing globally; new cases in June are already ~1.5X those in May<sup>3</sup>

# Epidemic progression snapshot

As of 26 June 2020

Data shown only for leading economies within each continent<sup>4</sup> with 100+ daily new cases



1. Growth rate calculated basis 7-day rolling average of new cases; 2. 7-day rolling average; represented scale rounds up daily case/m to next 20<sup>th</sup> place; 3. Test/case data is not updated daily for few countries, data represented is within last 1 week; 4 European countries data not shown as Europe is seeing decline in daily cases; 5. Includes Middle East & Oceania; 6. Data of 18<sup>th</sup> June excluded for Chile as ~36k cases were added on one day due to correction in reporting; 7. Recent test per case data not available for Egypt; Source: Our World in Data, John Hopkins, Worldometers, BCG

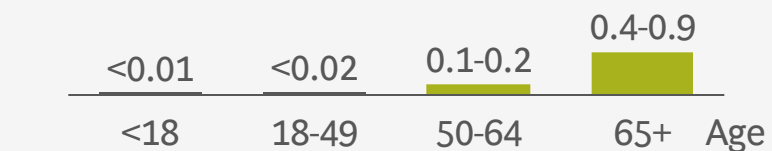
As of 04 June 2020

**5-10x higher  
COVID-19 fatality  
rate for those  
older than 50  
years and those  
with medical pre-  
conditions**

**1.6B people at relatively  
higher risk globally**

### Fatality rate w/o underlying conditions<sup>1</sup>

Estimated COVID-19 fatality rate<sup>2</sup> in the US without medical pre-conditions<sup>2</sup> (%)



Corresponding global population

2.3B

2.9B

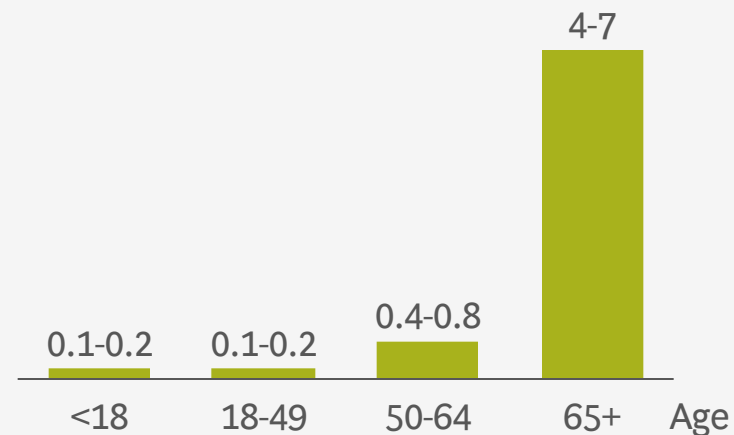
0.6B

0.2B

**xx** Low fatality rate <0.02 (baseline<sup>3</sup>)      **xx** Increased fatality rate compared to baseline<sup>3</sup>

### Fatality rate with underlying conditions<sup>1</sup>

Estimated COVID-19 fatality rate<sup>2</sup> in the US with medical pre-conditions<sup>2</sup> (%)



Corresponding global population

0.1B

0.7B

0.5B

0.5B

1. Underlying conditions are those identified by the CDC as making people more vulnerable to COVID-19, including severe obesity (Body Mass Index >40), diabetes, chronic heart disease, respiratory disease, kidney & liver disease; 2. US numbers estimate based on data from the New York City Department of Health and Mental Hygiene. Fatality rate is defined as ratio between number of deaths and number of infected; 3. Baseline defined as fatality rate of infected people <50 years old without pre-conditions; Source: Centers for Disease Control (CDC); Kaiser Family Foundation; PLOS One; The Lancet, Clark et al., Global, regional, and national estimates of the population at increased risk of severe COVID-19 due to underlying health conditions in 2020: a modelling study, June'20; BCG



# Vaccine fast movers | 16 vaccine candidates already in clinical trials

As of 26 June 2020

## 1 Phase III

### Oxford Univ. & AstraZeneca

Phase III recruitment underway; planned supply build-up of 400M+ doses by end of year (if approved)

## 2 Phase II

### CanSino Biologics

Phase II advancement since Apr 2020; follow-up expected by Oct 2020

### Moderna

FDA fast track designation in May 2020; Phase III on 30,000 patients planned for July 2020

## 5 Phase I/II

### BioNTech & Pfizer

Phase I/II data exp. by July 2020, with start of Phase III; distribution possible by Dec 2020 (if approved)

### Novavax

Phase I/II started in May 2020; data expected in July 2020 and final completion by Nov 2021

### WIPB<sup>2</sup> & Sinopharm

Phase I/II started in May 2020; Phase III trial approved (in June 2020) to start in UAE

### BIPB<sup>1</sup> & Sinopharm

Phase II trial in June 2020; expected completion of final trials by Nov 2021

### Sinovac

Phase II trial in June 2020; expected completion by Aug 2020

## 8 Phase I

### Anhui Zhifei<sup>3</sup>

### Chinese AMS<sup>4</sup>

### Clover, GSK, Dynavax<sup>5</sup>

### CureVac<sup>6</sup>

### Imperial College London<sup>7</sup>


### Inovio<sup>8</sup>

### Gamaleya Institute<sup>9</sup>

### Genexine<sup>10</sup>

**156** Pre-clinical

**172** Total

 Movement across phases, or update on on-going trial; in the last two weeks

1. Beijing Institute of Biological Products; 2. Wuhan Institute of Biological Products; 3. Anhui Zhifei Longcom Biopharmaceutical & Institute of Microbiology, Chinese Academy of Sciences; Phase I started in China in June 2020; 4. Institute of Medical Biology, Chinese Academy of Medical Sciences; Phase II recruitment in June 2020 with final completion expected by Apr 2021; 5. Phase I trial started June 2020, preliminary results expected Aug 2020; 6. Phase I starting in June 2020; 7. Phase I funded by UK government started in June 2020; 8. Phase I initial data expected in June 2020; Phase II/III trials to start July/August 2020; 9. Called Gamaleya Research Institute; trial started in June 2020 on 76 patients in Russia; 10. Trial started in June 2020 in South Korea; Source: WHO (June 24th), Citeline Pharma Project (June 26th), Milken Institute (June 23th), Bloomberg, BCG

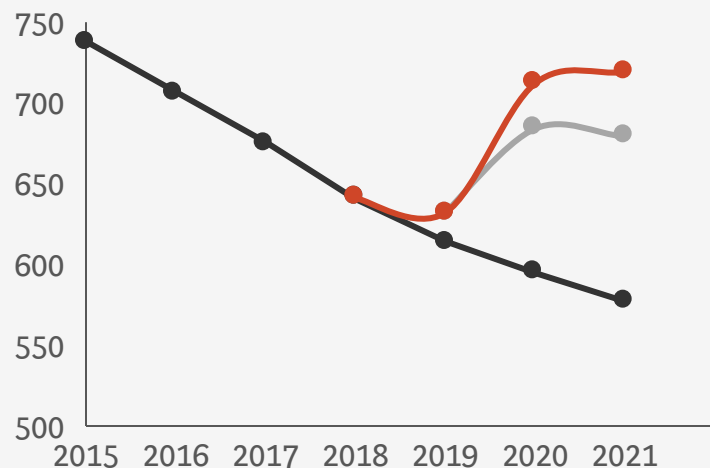
# COVID-19 is likely to push ~70-100M people into extreme poverty; South Asia and sub-Saharan Africa to be most impacted

As of 08 June 2020

COVID-19 crisis expected to increase<sup>1</sup> number of extreme poor<sup>2</sup> in 2020 by 70 to 100 million

Largest increase in number of extreme poor in South Asia and sub-Saharan Africa

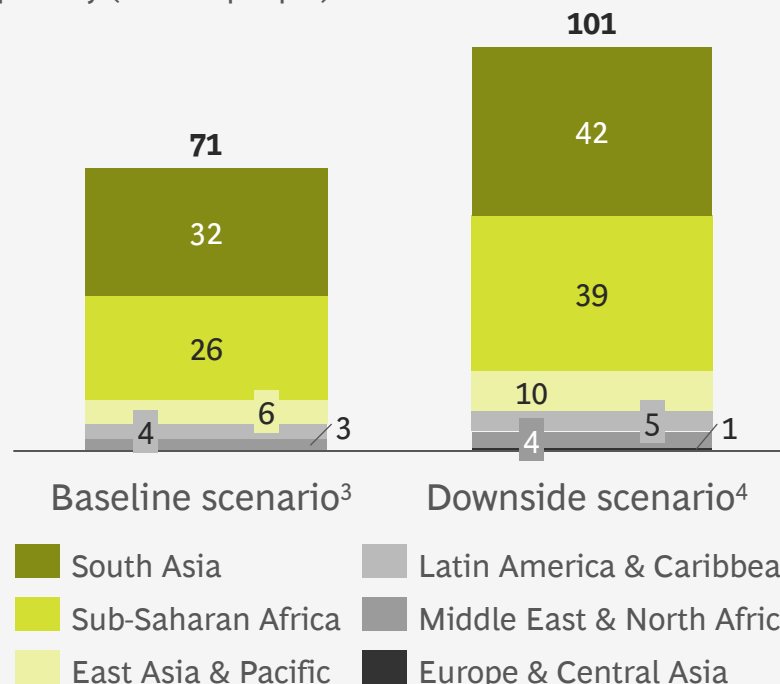
People in extreme poverty (millions)



● Pre-COVID-19 projection  
● Baseline scenario<sup>3</sup>  
● Downside scenario<sup>4</sup>

(World Bank)

Distribution of COVID-19-induced increase<sup>1</sup> of extreme poverty (million people)



(World Bank)

Increase of extreme poverty likely to persist beyond 2020 since the most impacted regions are also expected to have low per capita GDP growth rates<sup>5</sup>

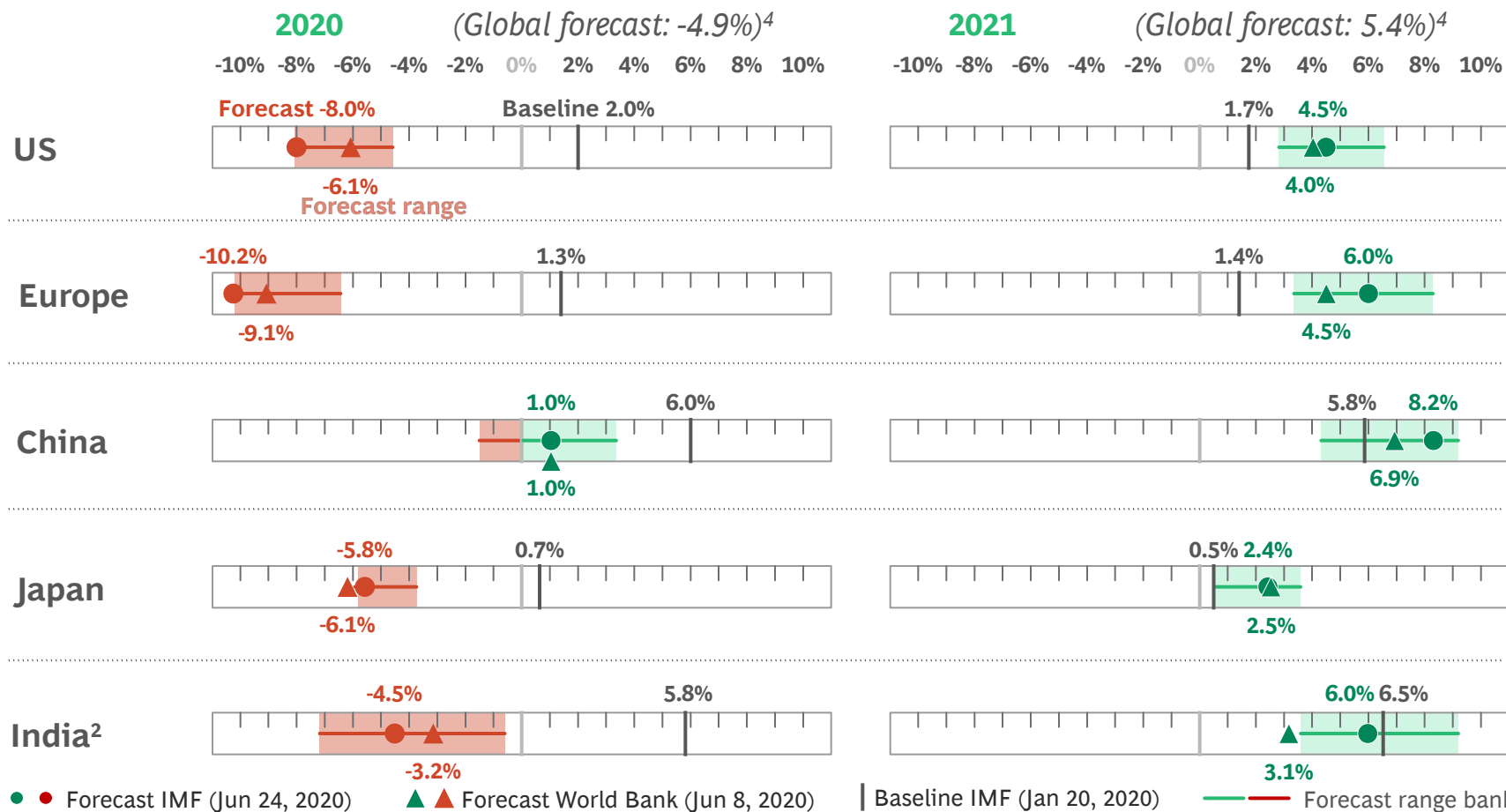
1. COVID-19 induced increase defined as 2020 difference between scenarios and pre-COVID-19 projection minus 2019 difference between scenarios and pre-COVID-19 projection (as 2019 GDP estimates changed for non-COVID-19 reasons for some countries); 2. Extreme poverty is measured as the number of people living on less than \$1.90 per day; 3. Baseline scenario assumes the outbreak remains at levels currently expected and activity recovers later; 4. Downside scenario assumes outbreak to persist longer than expected, forcing lockdown measures to be maintained or reintroduced; 5. Nigeria, India, and the Democratic Republic of Congo, home to >1/3 of the world's poor, are predicted to have per capita growth rates in real GDP of -0.8%, 2.1%, and 0.3%, respectively

Source: Lakner et al (2020), PovcalNet, Global Economic Prospects, World Bank, BCG

# Economic forecasts point toward severe downturn in 2020; rebound of global GDP not expected before 2021

As of 26 June 2020

## GDP growth forecast vs. baseline



## GDP level forecast<sup>1</sup>

EOY 2021 vs. EOY 2019

97-100%

96-99%

107-112%

96-99%

101-108%

Note: As of reports dated 31 March 2020 to 24 June 2020, YoY forecasts; 1. Range calculated with 25th & 75th percentile values of forecast range; 2. For India, forecast is for financial year; for other countries, the forecast is for calendar year; 3. Range from forecasts (where available) of Goldman Sachs, JP Morgan Chase; Morgan Stanley; Bank of America; Fitch Solutions; Credit Suisse; Danske Bank; ING Group; HSBC; 4. Based on IMF forecast 24 June 2020; Source: Bloomberg; World Bank; IMF; BCG

# Only pharma is currently at pre-crisis TSR level; 8 sectors have a significant share<sup>1</sup> of companies with >15% default risk

As of 26 June 2020

Based on top S&P  
Global 1200 companies

## Categories based on TSR & net debt/enterprise value<sup>2</sup>

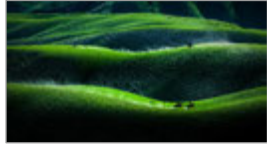
		TSR performance <sup>3</sup>			Companies with probability of default >15% <sup>4</sup>		
		21 Feb 2020 - 20 Mar 2020	21 Feb 2020 - 26 June 2020	12 June 2020 - 26 June 2020	21 Feb 2020	26 June 2020	12 June 2020 - 26 June 2020
<b>Healthier sectors</b>	Pharma	-20%	0%	↗	0%	11%	→
	Semiconductors	-30%	-2%	↗	0%	0%	→
	Household Products	-16%	-3%	↗	0%	0%	→
	Retailing	-40%	-4%	→	0%	41%	→
	Software	-30%	-5%	↗	9%	8%	→
<b>Pressured sectors</b>	Food/staples Retail	-10%	-6%	→	0%	0%	→
	Tech Hardware	-26%	-7%	→	0%	0%	→
	Materials	-32%	-10%	→	4%	13%	↘
	Health Equipment	-31%	-10%	→	0%	0%	→
	Food & Beverage	-23%	-11%	→	0%	0%	→
	Telecom	-17%	-12%	→	0%	8%	→
	Prof. Services	-30%	-13%	→	0%	0%	→
	Financials	-35%	-15%	→	0%	0%	→
	Capital Goods	-35%	-16%	→	2%	7%	→
Transport	-34%	-16%	↘	0%	36%	→	
<b>Vulnerable sectors</b>	Utilities	-30%	-17%	↘	0%	3%	↘
	Auto	-41%	-17%	↘	0%	29%	→
	Media	-36%	-19%	↘	0%	8%	→
	Durable Goods	-39%	-20%	↘	0%	0%	→
	Insurance	-39%	-23%	→	0%	0%	→
	Real Estate	-39%	-29%	↘	0%	17%	→
	Banks	-39%	-31%	↘	0%	4%	→
	Energy	-52%	-32%	↘	0%	21%	→
	Hospitality	-44%	-35%	↘	7%	36%	→

Note: Based on top S&P Global 1200 companies; Sectors are based on GICS definitions; 1. Retailing, Materials, Transport, Auto, Real Estate, Energy, Hospitality with > 10% of companies with probability of default > 15%; 2. Net debt & enterprise value from latest available balance sheet; Categories defined based on comparison with S&P Global 1200 median: healthy = TSR & debt/EV > median, pressured = TSR or debt/EV < median, vulnerable = TSR & debt/EV < median; 3. Performance is tracked for two periods, first from 21 February 2020 (before international acceleration of outbreak) to 20 March 2020 (trough of the market) and from 21 February 2020 through 26 June 2020 based on median; 4. Implied by 5-year Credit Default Swap based on median  
Source: S&P Capital IQ; BCG ValueScience Center; BCG

↗ Pos. trend ≥ 2%  
→ No sig. change  
↘ Neg. trend ≥ 2%

# Additional perspectives on COVID-19

## COVID-19 BCG Perspectives



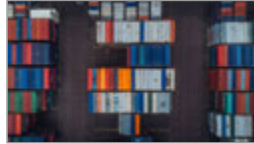
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**Contact**

[BCGRapidResponseNetwork@bcg.com](mailto:BCGRapidResponseNetwork@bcg.com)