COVID-19
BCG Perspectives

Facts, scenarios, and actions for leaders

Publication #5 with a focus on
Revamping Organizations for the New Reality

Version: 8 May 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 wellbeing 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.

Source: BCG

9 action areas for business leaders

	Flatten	Fight	Future
Establish crisis management	**1** Develop **Scenario-Based Planning Approach** to manage uncertainty		**2** Create a **Rapid Response and Transformation (RR&T)** team
Focus of this edition	**3** Revamp Organization **for the New Reality**		**6** Restructure **Cost,** manage **Cash, & Liquidity**
Navigate through Flatten, Fight, and Future	**4** Drive **Topline Security and Customer Trust**		**7** **Emerge Stronger**; drive advantage in adversity
	5 Stabilize and restart **Supply Chain, Manufacturing**		**8** **Accelerate Digital and Technology** transformation
	9 **Help Society** during COVID-19		

Note: RR&T = Rapid Response and Transformation Team
Source: BCG

Executive Summary | COVID-19 BCG Perspectives

With several countries in restart mode, a critical priority for businesses is to think through emerging PEOPLE implications

- Many countries are moving into restart mode with the easing of lockdown measures from early May
- Consumers are starting to have a more optimistic outlook than two weeks ago, and are spending more time on the move
- Clear people priorities are emerging – including 'smart' (more remote, lower cost) work and a more flexible workforce, but also leadership and purpose
- As companies begin bringing (some of) their people back to work safely to meet business demand, a more flexible workforce will be required
- Leaders must assess current capabilities and future strategic needs to define a people plan that caters to short-term crisis and long-term strategy

Across countries, efforts to flatten the curve and ramp-up testing continue; the impact on economy, sectors, and business persists

- Globally, about 33% of COVID-19 patients have recovered and the case doubling rate has improved to 28 days
- While many countries are planning to relax lockdown measures based on the flattening disease spread curve, they continue to step up testing
- The testing landscape is changing rapidly and molecular testing continues to be the "gold standard;" efforts focused on improving speed
- Economic and employment impact from lockdown of 'non-essential' activities during 'Flatten' phase becoming more evident for many countries
- Economic forecasts deteriorating globally for 2020 while remaining stable for 2021; global rebound to pre-COVID levels not expected before end of 2021
- Total Shareholder Return continues to rebound with only a few sectors above pre-crisis level; impact still varies widely within industries

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

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

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

1. Impact only for duration of specific phase (Flatten and Fight). Only accounting for first order effects of microeconomic data and subject to change, e.g. as governments act
Source: BCG

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

Flatten

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

Fight

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 sustainable level

Future

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

Source: BCG

COVID-19: Impact dashboard

As of 06 May 2020

Epidemic Progression

3.7M	1.2M	264K
# of cases	# of recoveries	# of fatalities

	22 Apr	29 Apr	6 May
# of days of case doubling[1]	19	25	28
# of reported recoveries as % of total cases	27%	30%	33%
# of countries with 1k+ cases	81	85	89
# of tests / case[2]	19	20	21
# of tests / million[2]	12k	15k	19K

	Vaccine	Treatment
Trials in pre-clinical stage and beyond[3]	88	115
Trials in Phase 1 and beyond[4]	7	57
Current est. timeline for approval & scale-up	12-36 months[5]	6-24 months[6]

Economic Impact

GDP forecasts *(Current outlook, likely to evolve further)*

IMF forecast	2020 As of Jan'20	2020 As of May'20	2021 As of Jan'20	2021 As of May'20
US	2.0%	-5.9%	1.7%	4.7%
China	6.0%	1.2%	5.8%	9.2%
Europe	1.3%	-7.5%	1.4%	4.7%
India	5.8%	1.9%	6.5%	7.4%
Japan	0.7%	-5.2%	0.5%	3.0%

Estimated current employment impact[7]

	Total employment 2019 (M)	Employees impacted[8] (M)	% of employees impacted
US	~159	~34	~21%
UK	~33	~5	~14%
Germany	~45	~10	~23%
France	~28	~10	~36%
Italy	~23	~6.5	~28%
Spain	~20	~4.3	~21%

Business Impact

Stock market performance[9]

	S&P500	FTSE100	DAX	CHN SSE
20 Mar vs 21 Feb	-31%	-30%	-34%	-10%
06 May vs 21 Feb	-15%	-20%	-21%	-6%

Total Shareholder Returns[9]

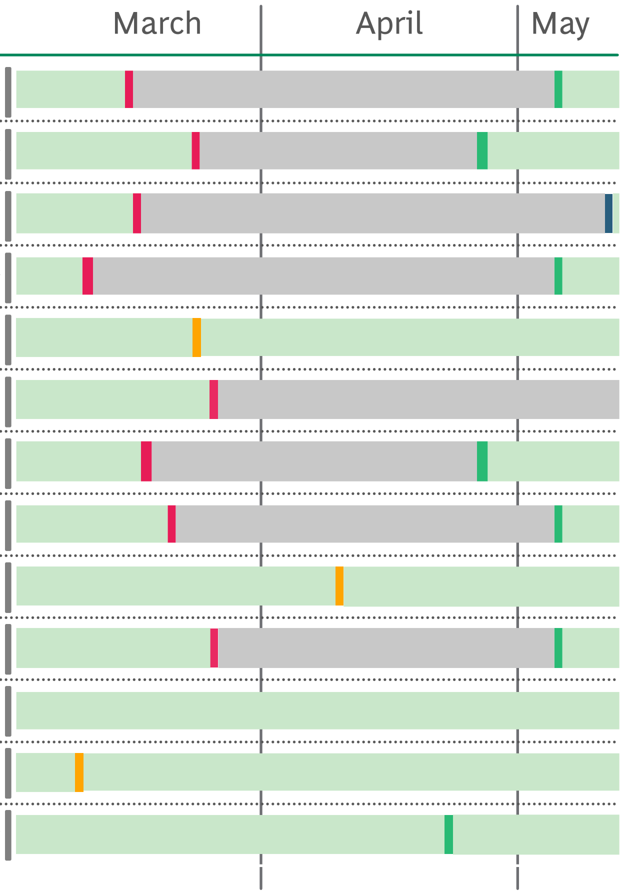
First column: 21 Feb to 20 Mar; Second column: 21 Feb to 6 May

	Americas		Europe		Asia	
Pharma	-19%	1%	-20%	-1%	-22%	-4%
Telecom	-17%	-11%	-20%	-21%	-14%	-8%
F&B[10]	-26%	-15%	-24%	-18%	-12%	-3%
Software	-30%	-9%	-32%	-21%	-28%	-16%
Retailing	-42%	-25%	-36%	-24%	-24%	-3%
Capital goods	-38%	-22%	-35%	-25%	-29%	-19%
Financials	-36%	-22%	-35%	-23%	-19%	-10%
Real Estate	-42%	-33%	-26%	-23%	-22%	-9%
Auto	-47%	-36%	-45%	-30%	-32%	-20%
Energy	-56%	-37%	-45%	-30%	-41%	-27%

1. No. of doubling days based on 7 day CAGR 2. Mean of values for top 15 countries by nominal GDP (except China) 3. On-going trials including pre-clinical, Phase 1 (first trial in humans), Phase 2, Phase 3, Phase 4 4. On-going trials including Phase 1(first trial in humans), Phase 2, Phase 3, Phase 4 5. 12 month development "best case", then likely to require time to scale across population 6. Remdesivir is approved now, could be more widely available by Jul '20. For the next wave, estimated timeline is Oct '20 – April '22 (6-24 months). If first round of drugs being tested succeeds – then 6-9 months; if not – substantially longer 7. Available data as of May 1; figures are changing rapidly and often being reported with a lag from the current date 8. Includes increase in unemployment and employees covered by government's wage support programs 9. 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 07 May 2020 10. Food & Beverage
Source: WHO, World Bank, JHU CSSE, Our World in Data, IMF, Bloomberg, BCG, Employment data - Eurostat, Trading Economics; Gov't Wage Support figures: The Guardian (UK), Reuters (Italy), News Break (Spain), RFI (France), Barrons (Germany)

Many countries in restart mode with easing of lockdown measures

As of 06 May 2020

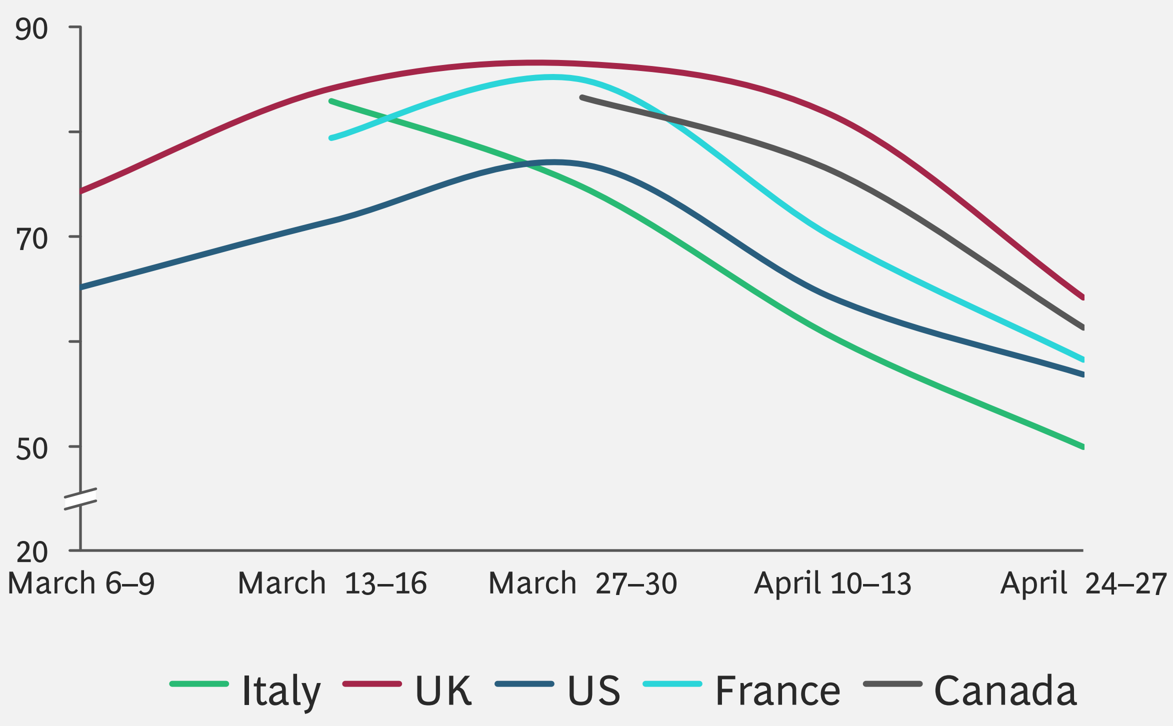


Region	Country	# of days for case doubling[1]	Current status of measures
Europe	Spain	164 ↑	Four phased de-escalation of restrictions planned with Phase 0 starting 04 May
Europe	Germany	108 ↑	Cautious exit in coordination with states with ongoing restrictions
Europe	France	103 ↑	Plan to ease restrictions from 11 May with shops and businesses to reopen
Europe	Italy	87 ↑	Factories, wholesale trade, parks opened. Restrictions on restaurants till 01 June
Europe	Sweden	29 ↑	“Low-scale lockdown” approach avoided total economic shutdown
Europe	UK	25 ↑	Gov’t to review lockdown by 07 May and announce plan for easing restrictions
North America	US	28 ↑	Federal gov’t proposed three-phase plan; implementation at governor's discretion
North America	Canada	23 ↑	Several provinces started to ease restrictions on allowing non-essential businesses
Asia	Japan	47 ↑	Declared emergency with suggested lockdown restrictions; extended till 31 May
Asia	India	11 ↔	Eased in low-risk areas with shops opening; extended in high-risk areas for 2 weeks
Asia	China	NA[2]	Staged reopening with mandatory monitoring, testing, and contact tracing
Asia	S Korea	NA[2]	Avoided lockdown with exception of schools (to reopen from 13 May)
Asia	Hong Kong	NA[2]	Avoided lockdown with exception of schools; now reopening gyms, cinemas, bars

1. No. of doubling days based on 7 day CAGR; 2. For China, S Korea, Hong Kong, number of average daily new cases is fewer than 10 resulting in ~0% growth rate; and very high doubling days;
Notes: ‘ (Began…) ’ refers to the start date of a country's lockdown, lockdown definition varies among countries but generally refers to date non-essential businesses were ordered to shut down. Easing of lockdown comes with certain restrictions in all the countries; Source: Oxford COVID-19 Government Response Tracker, World Economic Forum, Our World in Data, Press search, BCG Analysis

Consumers starting to display more optimistic outlook than two weeks ago

As of 27 April 2020



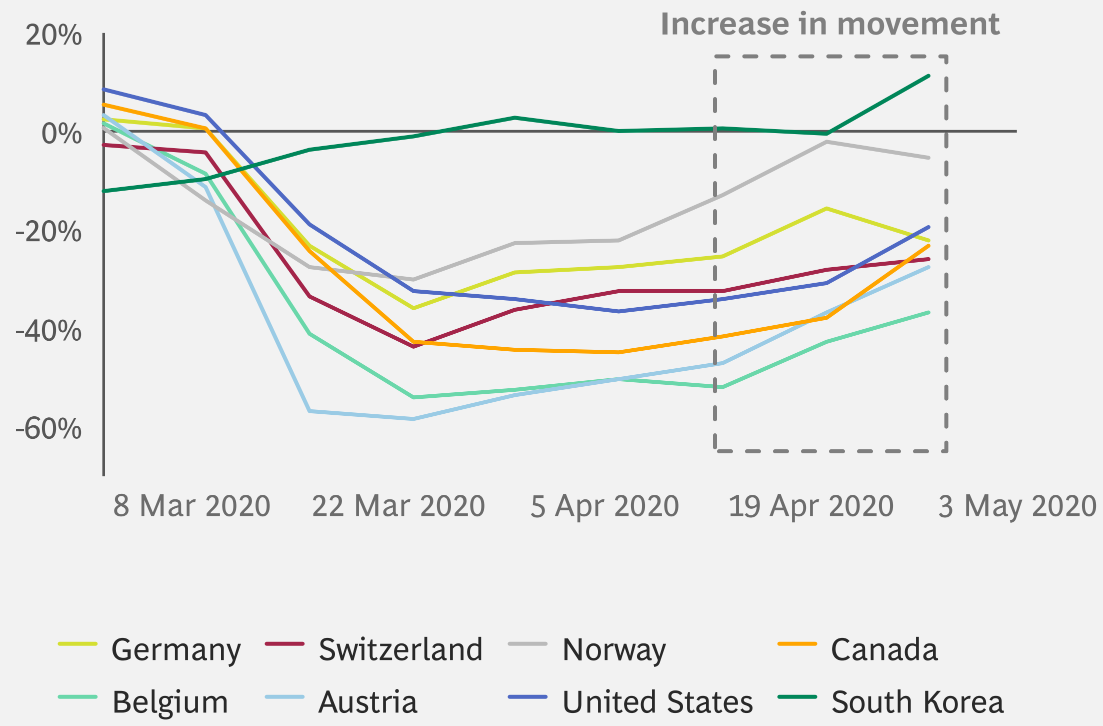
Source: BCG COVID-19 Consumer Sentiment Survey, March 6–9, 2020 (N = 3,454 UK; 3,465 US), March 13–16, 2020 (N = 2,521 France, 2,206 Italy, 2,797 UK, 2,417 US), March 27–30, 2020 (N = 2,928 Canada; 2,985 France; 2,150 Italy; 2,984 UK; 2,944 US), April 10–13, 2020 (N = 2,827 Canada; 3,156 France; 2,922 Italy; 3,112 UK; 2,960 US), and April 24–27, 2020 (N = 2,933 Canada; 2,954 France; 3,024 Italy; 3,126 UK; 2,783 US), unweighted, representative within ±3% of census demographics.
Note: Question text: "How much do you agree with each of the following statements about the coronavirus?"

People starting to spend more time on the move

As of 02 May 2020

Non-residential movement compared with usual

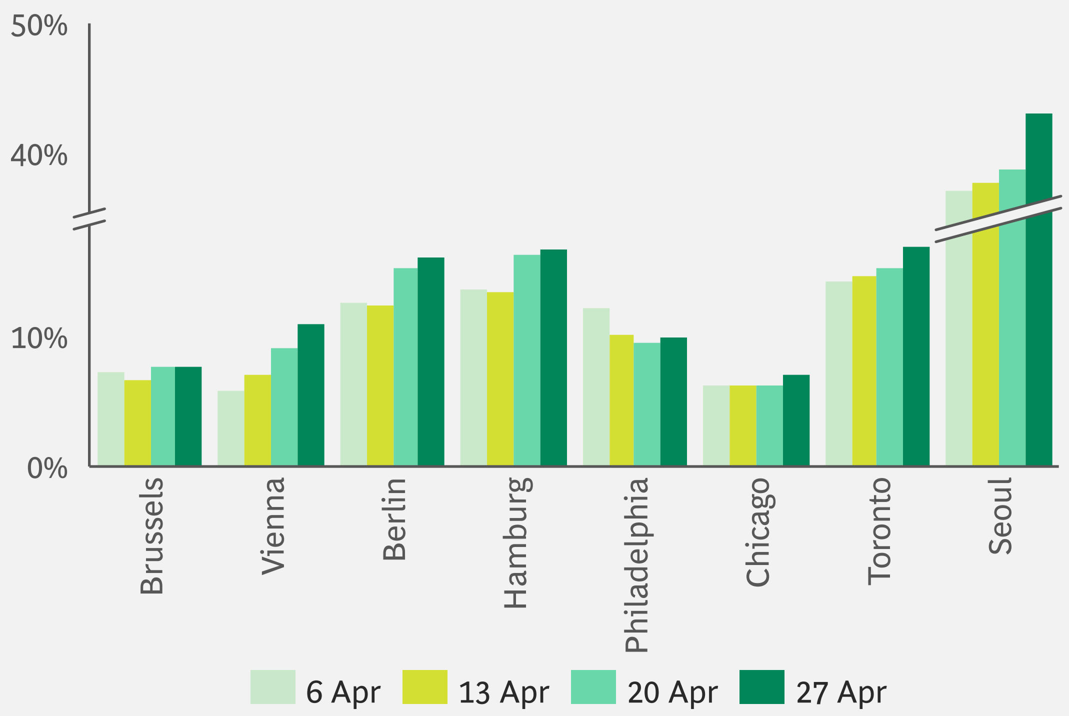
Tracked as changes[1] in visits to retail & recreation stores, grocery stores and pharmacies, parks, transit stations, and workplaces



Google mobility index

Weekly city movement compared with usual

Tracked as movement of people including walking, cycling, public transport usage, cabs, etc. by an app.; 100% implies usual level of movement



Citimapper mobility index

1. Taken as weekly average compared with decline from baseline (median value to corresponding day of the week during Jan3-Feb 6 2020); Represented only for selected countries.
Note: Dates mentioned are the week commencing. Source: Google mobility report; Citymapper mobility index

With Restart, businesses start to think about revamping organizations for the new reality

As of 06 May 2020

Mon 27 Apr 2020 21.54 BST

Ministers meet unions and business to plan getting UK back to work

Talks aimed at bringing in practices that reassure employees it is safe to leave lockdown

6 May 2020

Coronavirus: Firms ready to restart within three weeks, says business group

Apr 16, 2020, 11.09 AM IST

Coronavirus: IT sector looks at staggered opening

Prodded the lockdown, India's large IT firms have ensured as many as 85% of their employees are working from home, even while continuing to support global clients.

April 7, 2020

What Will Tomorrow's Workplace Bring? More Elbow Room, for Starters

Date 26.04.2020

German labor minister calls for right to work from home

Coronavirus has forced millions of Germans to work remotely. One minister wants this to continue, even after the threat from the virus has passed.

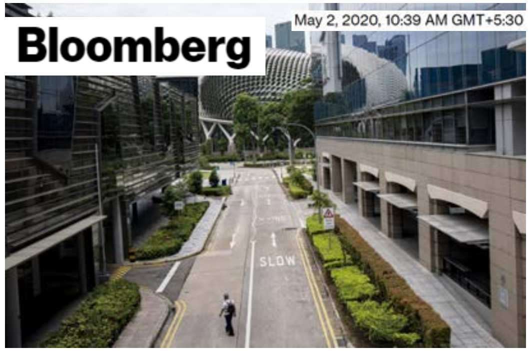
MARCH 30 2020

How Covid-19 is accelerating the shift from transport to teleport

We are fast moving to a world where more economic activity takes place in digital form

04 May 2020

COVID-19: How an office outbreak in South Korea shows that protecting workers is vital for relaxing lockdown



May 2, 2020, 10:39 AM GMT+5:30

Singapore Signals More Working From Home Even After June 1 Deadline Lifts

People priorities to be accelerated by the COVID-19 crisis

Flatten

Fight & Future

KEY PEOPLE RESPONSES

From COVID-19...

1 Accelerate smart work

2 Enhance corporate health and hygiene

3 Manage workforce flexibility

4 Mitigate people and skills risk

5 Communicate openly with empathy

6 Stand together

7 Speed up digital readiness

...to the New Reality

1 Smart work (more remote, lower cost)

2 Comprehensive health and wellbeing

3 Flexible workforce

4 New talent and skill paradigm

5 Leadership with head, heart, and hands

6 Purpose-driven organization and culture

7 Resilient and Bionic organization

THE NEW REALITY

Source: BCG analysis

7 people priorities for the new reality

THE NEW REALITY

1 **Smart work (more remote, lower cost)**

Accommodate virtual collaboration and remote work at scale
Try a new approach that balances remote and on-site work
Set up smart workspaces
Realize the cost upsides

2 **Physical and mental health**

Cultivate physical health capabilities
Make mental health and mindfulness matter
Promote wellbeing and resilience

3 **Flexible workforce**

Make your workforce, cost, and skill-planning dynamic
Tailor working models to employees
Institute new performance, rewards, and compensation systems

4 **New paradigm for skills and talent**

Create an adaptive learning ecosystem
Upskill and reskill by building digital capabilities at scale
Refocus and enable talent programs and platforms

5 **Leadership with head, heart, and hands**

Lead with empathy, and direction
Enable and empower frontline leaders
Develop a continuous, two-way communication platform

6 **Purpose-driven organization and culture**

Foster a culture of resilience
Align purpose, vision, and values
Commit to sustainability and social impact at a higher level

7 **Resilient and Bionic Organization**

Simplify your operating model
Harness data and digital platforms
Use AI and algorithms to complement humans
Adopt agile at scale

Source: BCG

1

Smart work (more remote, lower cost)

Which smart work practices will remain after the crisis? How can we optimize for safety, productivity, and effectiveness while realizing cost savings?

- Who should work remotely in my organization?
- What should the newly balanced model be?
- Which tools do we need for remote collaboration?
- How do we keep motivation and productivity high?
- Can we translate changes to OPEX savings?

Find the right balance between onsite and remote…

On-site work benefits

- Easier communication and social interaction
- Better group creativity and problem-solving
- More "chance" encounters yielding potential

Remote work benefits

- Easier social distancing
- Lower infrastructure costs
- Better environmental footprint
- Reduced commuting and travel time

… and pull the right levers to make it work …

Smart office spaces & usage	Right technology & infrastructure	New travel policy	Purpose-driven sustainable culture	New Leadership skills

Levers for successful smart work

…for safety, productivity, effectiveness, and cost savings

Example

Insurance company

~40% target for remote work

~20-40% reduction in desks[1]

~10%+ reduction in leasing expenses

~5-10% reduction in travel expenses

1. Based on 0.6 desks/employee
Source: BCG

2 Physical and mental health

How do we ensure employee safety? How can we manage increased stress and make working models sustainable?

- What physical health and safety measures should be maintained for rebound preparation?
- What mindfulness and mental health measures can help employees improve their wellbeing and performance?
- What innovative tools can we leverage to optimize for customization and access?

Ensure physical health—non-negotiable for operations

1 | Update emergency protocols
2 | Create transparency for workforce
3 | Increase hygiene standards
4 | Guarantee social distancing
5 | Track infection chains

Example | App manages operational safety

Safe@Work

- Targeted information
- Crowd density alerts
- Contingency staffing
- Workspace management
- Compliance monitoring
- Self-reporting
- Infection tracing

Foster mental health—more critical than ever

Example | Service provider offers employees mental health training

Mental health training			
	Stress management	Positive thinking	Collective intelligence
	Habit review	Asking for help	Mindfulness
	Psychological safety	Emotion regulation	...

+22% Employee focus[1]

-30% Stress level[2]

-50% Burnout rate[2]

1. Mayer (2018): Mastering Digital Transformation with Mindfulness; SAP Blog (n = 650) 2. Aikens (2014): Mindfulness Goes to Work Impact of an Online Workplace Intervention; Journal of Occupational and Environmental Medicine (n = 89)
Source: BCG

Flexible workforce

3

How do we translate the changing business demands to dynamic workforce adjustments?

- Which areas are most critically affected by smart work?
- Do we expect capacity gaps and surpluses in any of the areas?
- What measures can we take to manage the gaps?

Understand changing demand and the impact on staff functions…

Illustrative

Surpluses and shortfalls per function month by month via planning model

Demand versus supply (# FTE, color %)

Surplus ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ Shortfall

Function	FTE																					
Finance & Controlling	407	0	3	6	10	15	20	25	20	10	10	5	3	3	2	3	-1	2	-1	2	0	0
Engineering	799	0	3	56	78	120	110	115	100	78	56	35	25	15	5	3	-3	-5	-8	-10	-15	-15
General Management	587	0	2	10	15	20	15	15	20	15	10	10	10	8	7	7	8	10	13	7	8	3
…																						
		Q3			Q4			Q1			Q2			Q3			Q4			Q1		…
		2020						2021												2022		…

… then manage the surplus/gaps proactively

Reduce employee capacity

- Reduce overtime
- Extend vacations
- Furloughs, leaves
- Short-time work
- Terminate contractors
- Hiring/promotion stop
- …

Optimize personnel factor costs

- Leverage governmental support
- Delay/reduce voluntary payments
- Reduce other expenses (e.g. travel)
- (Re)negotiate tariffs
- …

Repurpose workers for other activities

- Insource: replace ext. with int. workers
- Second people to other organizations
- Pool talents across or within industry
- Support pro bono work
- …

Ramp up/ shift capacity

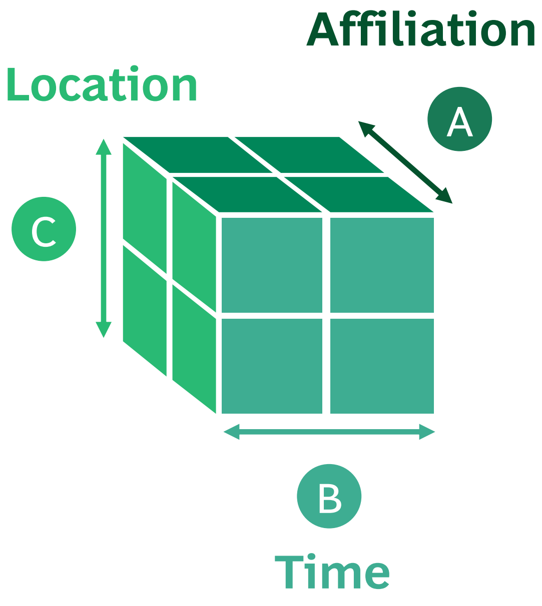
- Bring back alumni/ part-timers
- Offer inducements
- Leverage talent platforms
- Expand automation of work
- …

Source: BCG

Example | Companies leverage flexible work models in three dimensions

3 Flexible workforce

Dimensions of flex-work models



A Affiliation

Contracted ↔ Contingent

Leverage flex-talent options: use gig economy platforms, share workforce with partners in your ecosystem, etc.

Example

Pharmaceutical company

Uses on-demand talent

Rapid spin up/down of research teams in changing clinical trials results in much lower cost

B Time

Full-time ↔ Part time

Individualize flex-time options, such as part time work adapted to team specifics, life stages, and nature of work

Example

Facilities mgmt.[1] firm

Introduces flex-time

Initiative lets employees craft individual flex-time work options with their managers

C Location

Onsite ↔ Remote

Introduce flex-location options, such as offering remote work adapted to needs, possibilities, and nature of work

Example

Health care provider

Pilots remote working

Call center staff leveraging special at-home technology saves space and attract better global talent

1. Management
Source: BCG

4

New paradigm for skills and talent

How can we quickly up- and re-skill our talent in line with changing ways of working and business demand?

- Which skills are becoming more critical and should be development priorities?
- How do we assess employees' current skill level?
- What should an integrated learning journey look like?
- How do we source talent in the New Reality?

Determine who needs which skills in the future...

Illustrative

Capabilities: Digital

	Job function	Digital business: Digital business models & ecosystem	Digital business: …	Digital HR: Build employee journeys	Digital HR: …	Adv. Analytics: Robotic process automat.	Adv. Analytics: …	…
1	Lead/Global Business Partner	A	A	B	A	A	B	
2	Talent Attraction (incl. student)		A	B		B	B	
3	Learning Program Manager	A		E			B	
4	…							

Not directly relevant (blank) | A Awareness "I know" | B Basic "I can apply" | E Expert "I can teach"

… and source proactively

Bring back
Alumni talent pools

Borrow
Gig economy and contract labor

Buy
Tech-enabled recruiting

Ro(Bot)
Automation

Build
Training amd development

Example | Household products retailer builds offline workers' digital skills

Majority of salesforce skilled for sales in 150 **offline stores**

Offline sales limited due to **shutdown**

Digital skills lacking for acceleration of online sales

→

Virtual training to drive customer acquisition on third-party online tools

Conversion of offline staff to digital salesforce within one week

→

Acquisition of ~**20k** new customers

Source: BCG

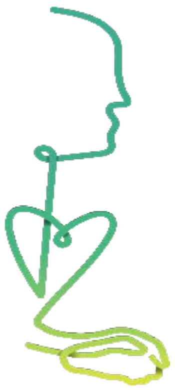
5

Leadership with head, heart, and hands

What have we learned about our firm's leadership capabilities in this crisis and how can we prepare it for the future?

- What do leaders need to do now?
- How can we build capabilities of frontline leaders?
- How can we drive behavior change?

Envision, inspire, and execute on three topics and timelines



Head
Envision the future and focus on the big rocks

Heart
Inspire and empower your people

Hands
Execute and enable with agility

	Flatten	Fight	Future
Team health & safety	Tackle immediate priorities	Prepare for the rebound	Pursue structural enhancements
Business strength			
Financial resilience			

Example | Mining company uses head, heart, hands to communicate to employees

Head

CEO announces plans for **business continuity**

Recruiting director **lowers** intake **targets** but **continues campaign**

Plant manager **limits production** but **pursues maintenance**

Heart

Coworker mobilizes sponsorship for **community support projects**

Board members communicate via **video messages from home**

Team lead checks-in with team members via **daily video chats**

Hands

COVID task force regularly **updates work guidelines**

Line managers **push changes** in work schedules **via employee app**

Directors host **townhall meetings** to directly **address concerns**

Source: BCG

6

Purpose-driven culture

What did the crisis teach us about our organization's purpose and culture and how should we shape it for the future?

- How should we lean into our purpose and vision?
- Do we need to adapt our culture?

Link purpose, strategy, and culture to succeed in the new reality

Purpose	Strategy	Culture
Why we exist guides what we should do	**What we do** guides how we act	**How we act** guides our success
2.5x	**3x**	**2x**
Increase in productivity when employees are inspired	More likely to succeed when strategy, purpose, and culture are linked	Higher TSR Performance when company culture is aligned

Example | Supermarket leans into purpose in reaction to COVID-19 crisis

Purpose	Updated strategy and culture		
"Feed the Nation"	launched **new ways to deliver groceries** to customers	created dedicated **call center for** customers who **cannot shop online**	implemented faster payments to **secure cashflow of smaller suppliers**

Source: BCG

7

Resilient and Bionic Organization

How can we rapidly simplify our operating model to prepare for the new reality?

- How can we increase productivity with a new operating model?
- How can we simplify the organization quickly and reduce costs?
- How do we enable more agile ways of working and increase resilience?

Pull key levers to accelerate org design for the new reality…

Structure & Roles	Work & Ways of Working	Leadership, Culture, & Capabilities

Near-term:

Prepare for strongest possible crisis impact

› Cost efficiency & productivity

Mid-/long-term:

Prepare for rebound and pursue structural enhancements

› Agility & resilience

… following five-step logic

1. Rapid assessment of current state and future needs to prioritize areas of focus
2. Finding the 'Big Rocks'—no-regrets moves for rapid cost take out
3. Defining meaningful changes to the operating model for the New Reality
4. Accelerated implementation across the full organization
5. Start of transition to Resilient and Bionic Organization with agile and digital structure, processes, and talent

Source: BCG

Leaders need to assess current capabilities and strategic importance as they chart their priorities

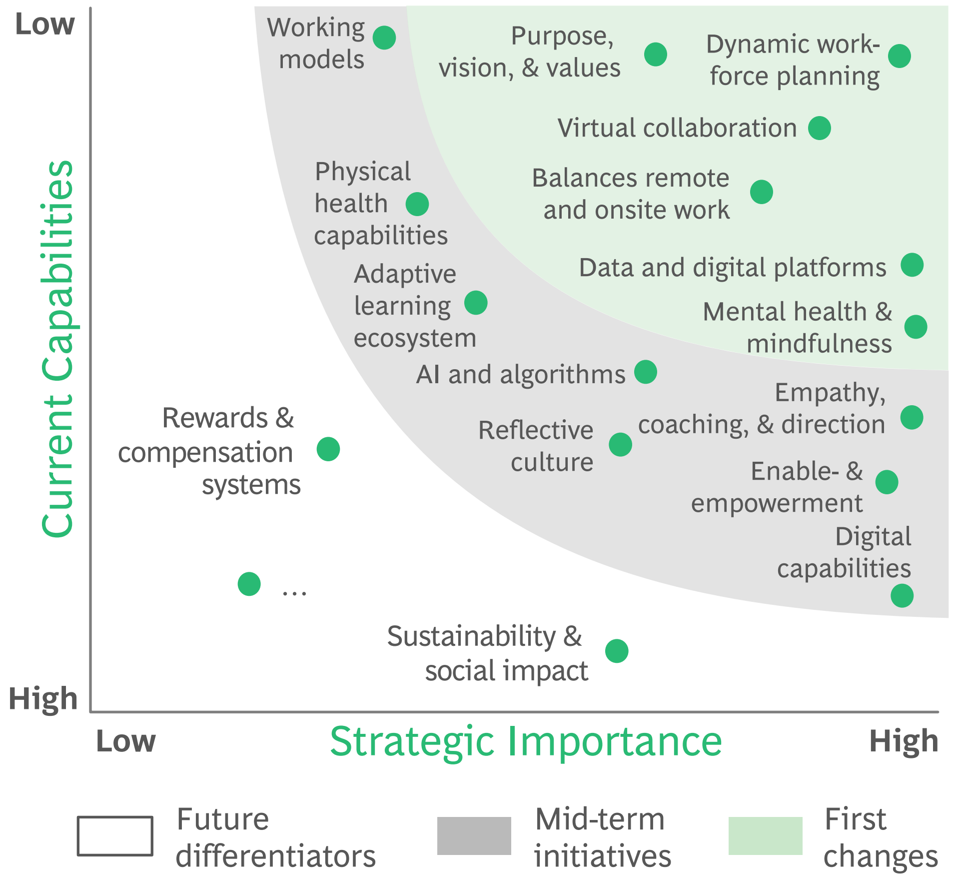
A | Quick assessment of current capabilities and strategic importance of New Reality topics

#	Topic	Initiative	Current capabilities 1 (Low)	2	3	4 (High)	Strategic importance 1 (Low)	2	3	4 (High)
1	Smart work (more remote, lower cost)	Realize the cost upsides	□	□	■	□	□	□	■	□
		…	□	□	□	□	□	□	□	□
2	Physical and mental health	Promote wellbeing and resilience	□	□	■	□	□	□	■	□
		…	□	□	□	□	□	□	□	□
3	Flexible workforce	Make your planning dynamic	□	■	□	□	□	□	■	□
		…	□	□	□	□	□	□	□	□
4	New paradigm for skills and talent	Create an adaptive learning ecosystem	□	■	□	□	□	□	■	□
		…	□	□	□	□	□	□	□	□
5	Leadership with head, heart, hands	Lead with empathy and direction	□	□	■	□	□	□	□	■
		…	□	□	□	□	□	□	□	□
6	Purpose-driven culture	Align purpose, vision, and values	□	■	□	□	□	□	■	□
		…	□	□	□	□	□	□	□	□
7	Resilient and Bionic organization	Simplify your operating model	□	■	□	□	□	□	■	□
		…	□	□	□	□	□	□	□	□

Source: BCG

Illustrative

B | Identification and prioritization of key initiatives and next steps



1 Guide for leaders

Getting ready for Restart

How to revamp Organization for the New Reality

2 Updated epidemic, economic, and business scenarios and impact

Epidemic progression

Economic impact

Business scenarios and impact

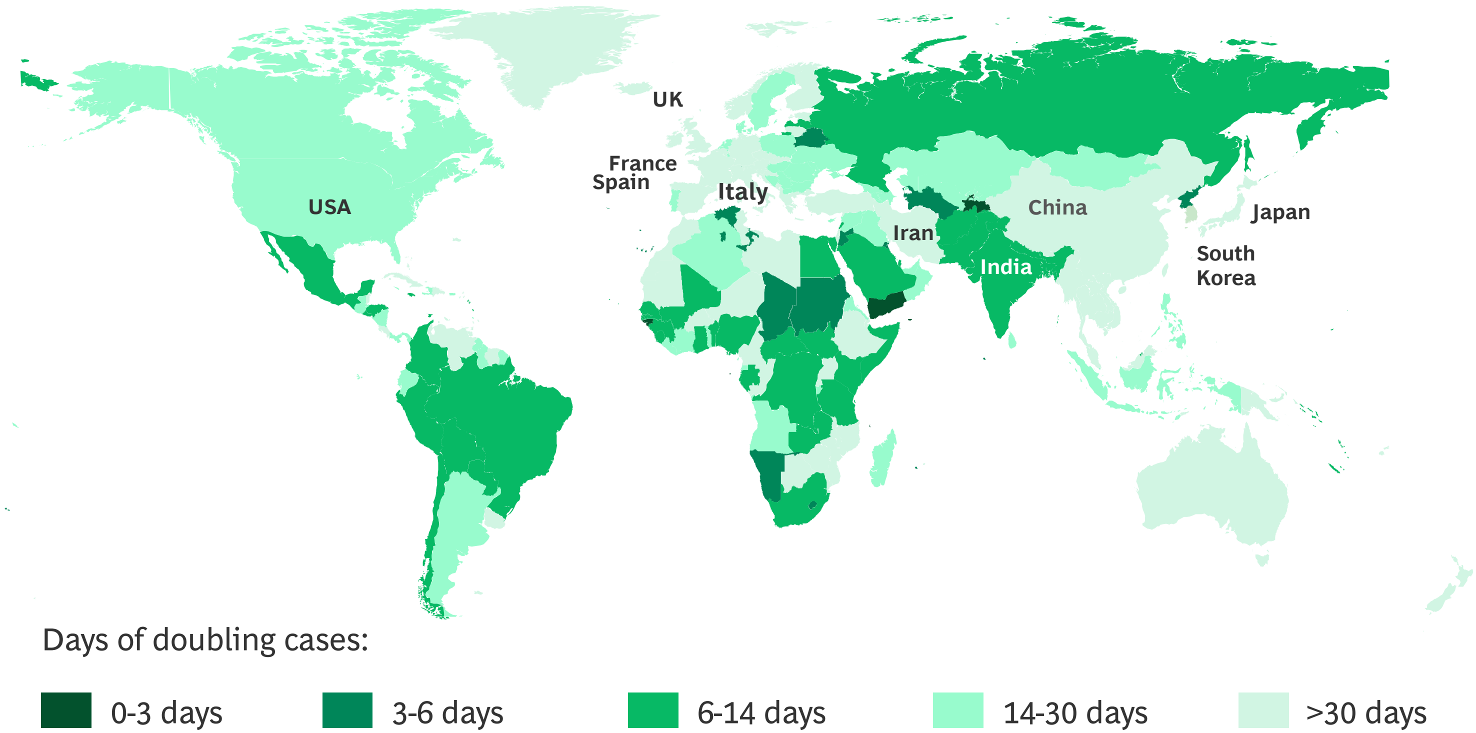
3 Appendix: Detailed action areas and further readings

Detailed action areas for business leaders

Further readings

~33% reported recoveries[1] globally so far; case doubling rate improves to 28 days

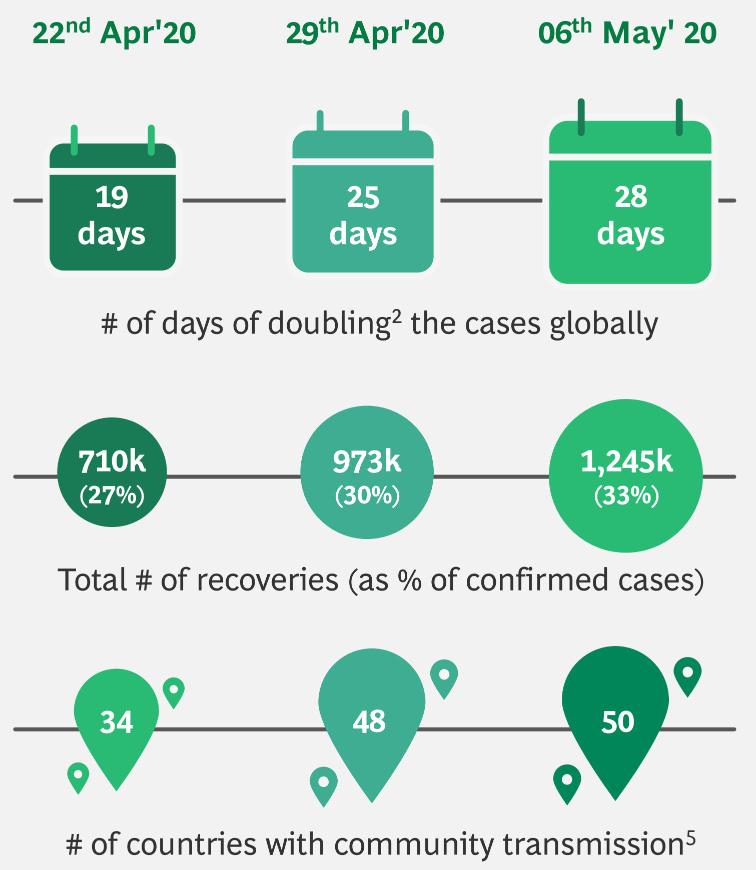
As of 06 May 2020



184 Countries with cases[3]

3.7M [Δ2%][4] Confirmed cases globally

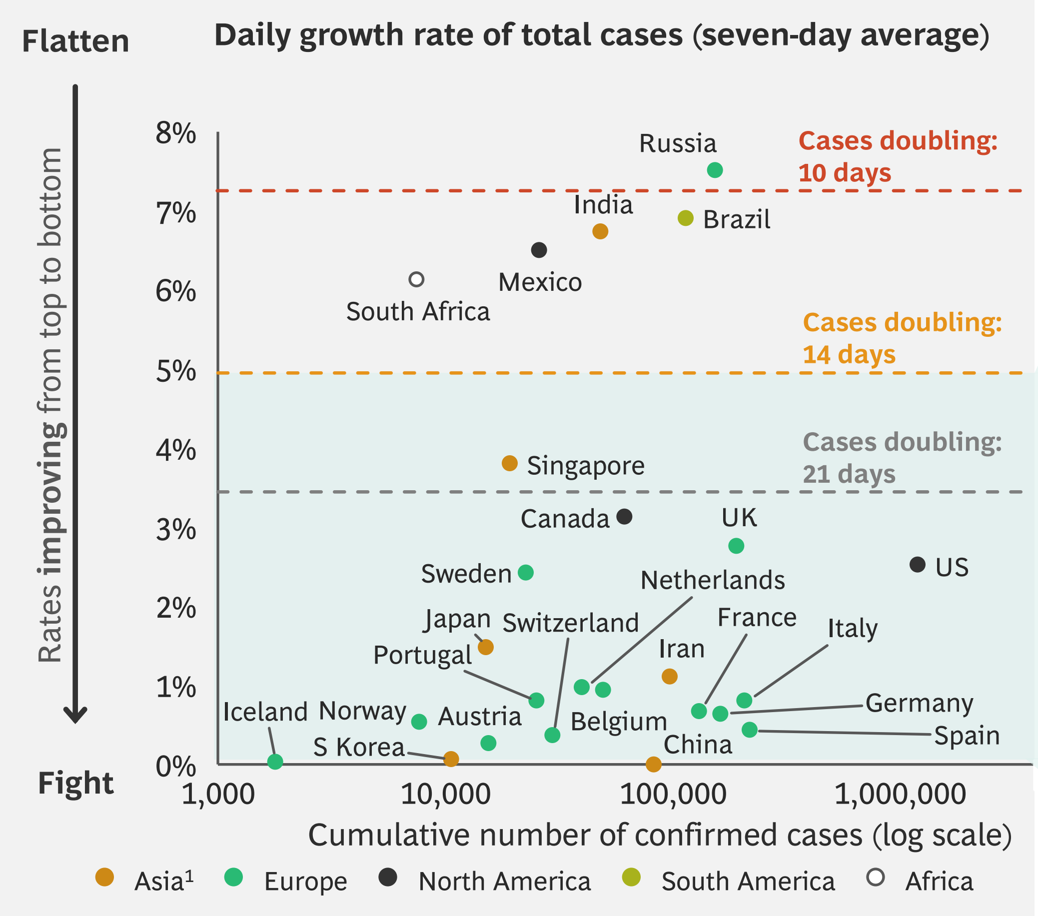
264k [Δ2%][4] Fatalities globally

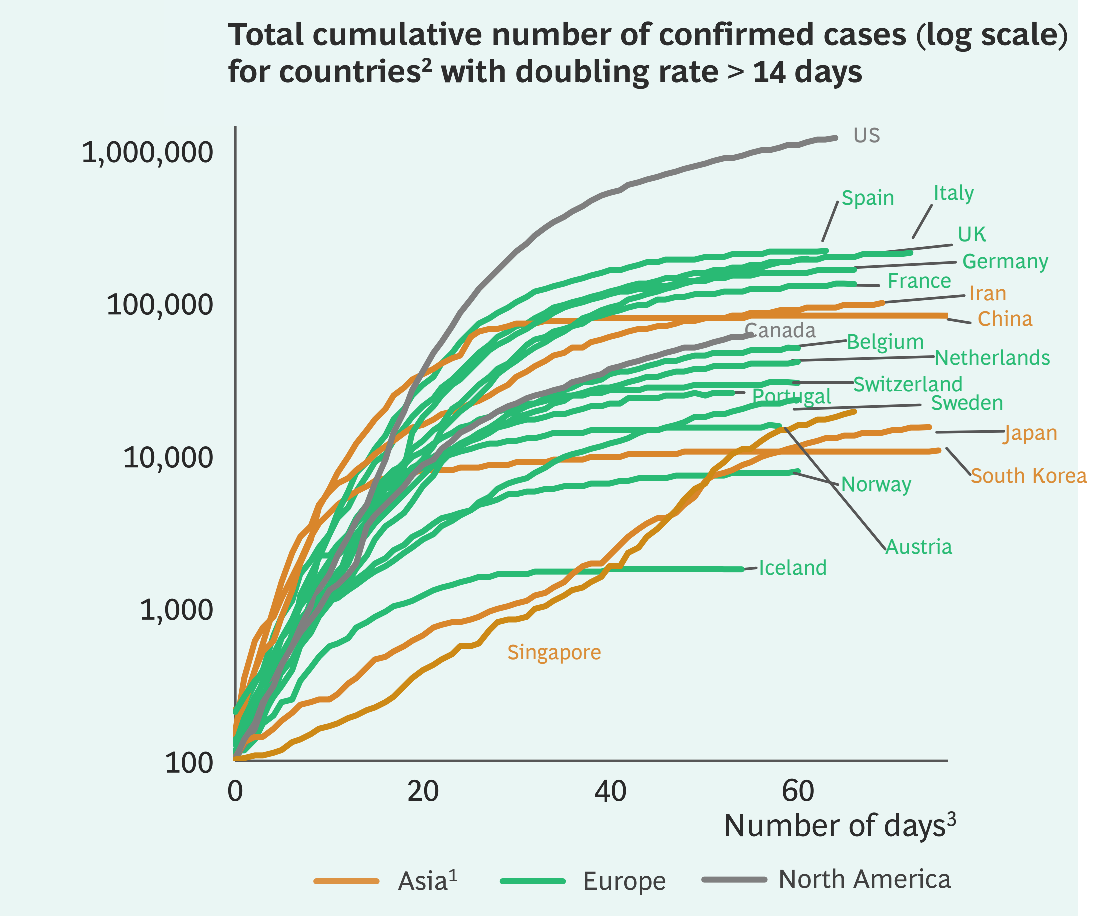


Note: Continued cases and fatalities are subject to different testing, propensity, reporting standards and hence imperfect measures
1. Refers to total reported recoveries as a percentage of total reported infections (cases), 2. No. of doubling days based on 7-day CAGR 3. Basis Johns Hopkins CSSE; 4. Daily growth rate basis 7-day CAGR; 5. Community transmission defined basis WHO - Countries experiencing larger outbreaks of local transmission on basis of decided factors
Sources: Johns Hopkins CSSE, Our world in data, WHO situation reports, BCG analysis

Many countries currently flattening the curve

As of 06 May 2020

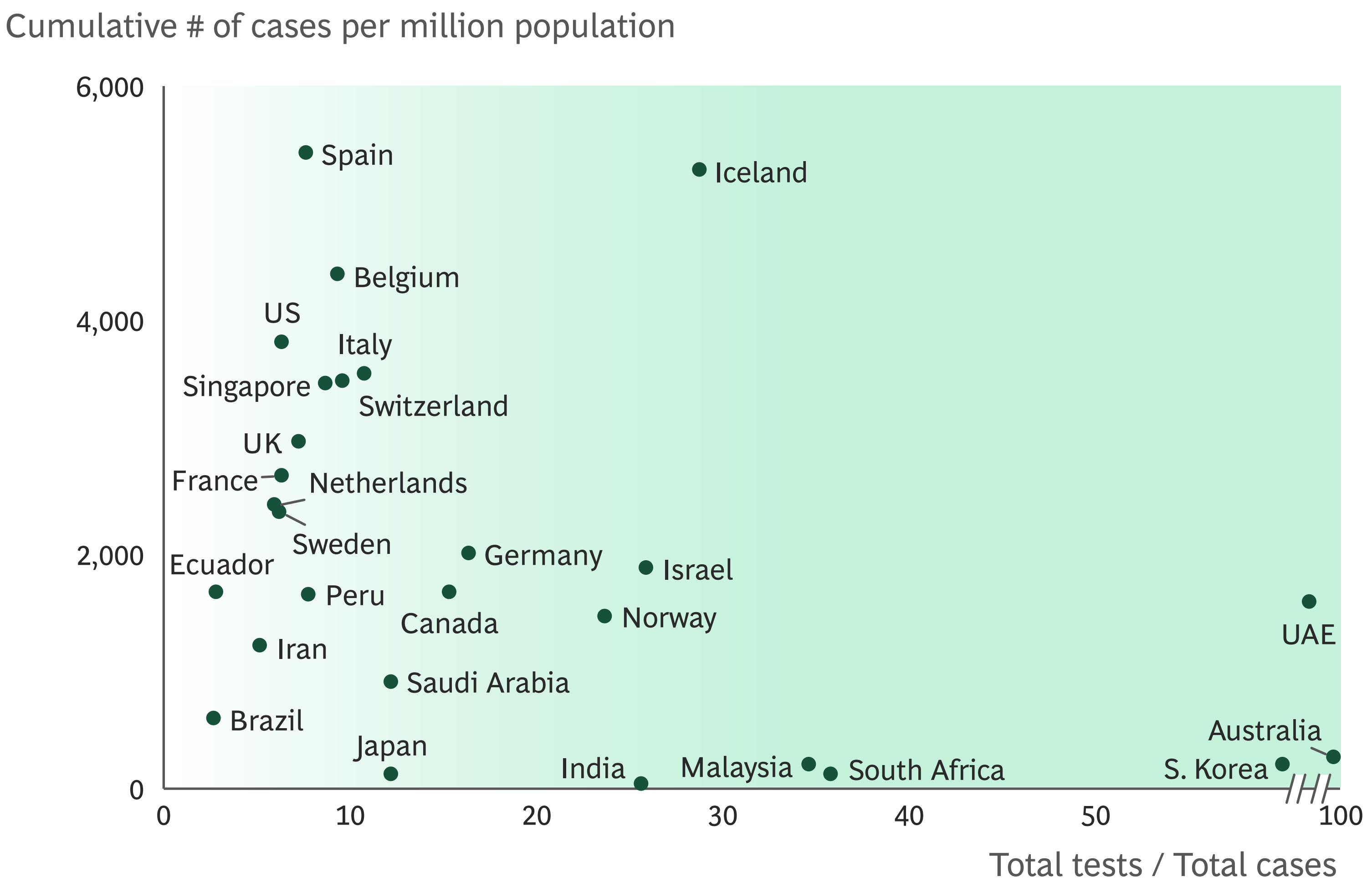




Includes Middle East 2. Countries selected from the chart on the left 3. # of days after exceeding 100 confirmed cases
Source: Johns Hopkins CSSE, Our World in data, WHO situation reports

Countries planning to relax lockdown measures and substantially ramp-up testing

As of 06 May 2020



- For countries with complete or partial lockdowns (Singapore, UK, France, etc.), **reopening is gated by lack of widespread testing**
- For countries with relaxed lockdowns (S. Korea, Australia, etc.), **continued higher testing critical**
- For countries to move to the right and reopen, they need **an integrated Virus Monitoring System** that includes testing, tracking, and tracing

Source: Worldometer, BCG Analysis

Testing landscape is changing: Tests to detect viral genome and patient immune response are now available

As of 04 May 2020

Not exhaustive; US example

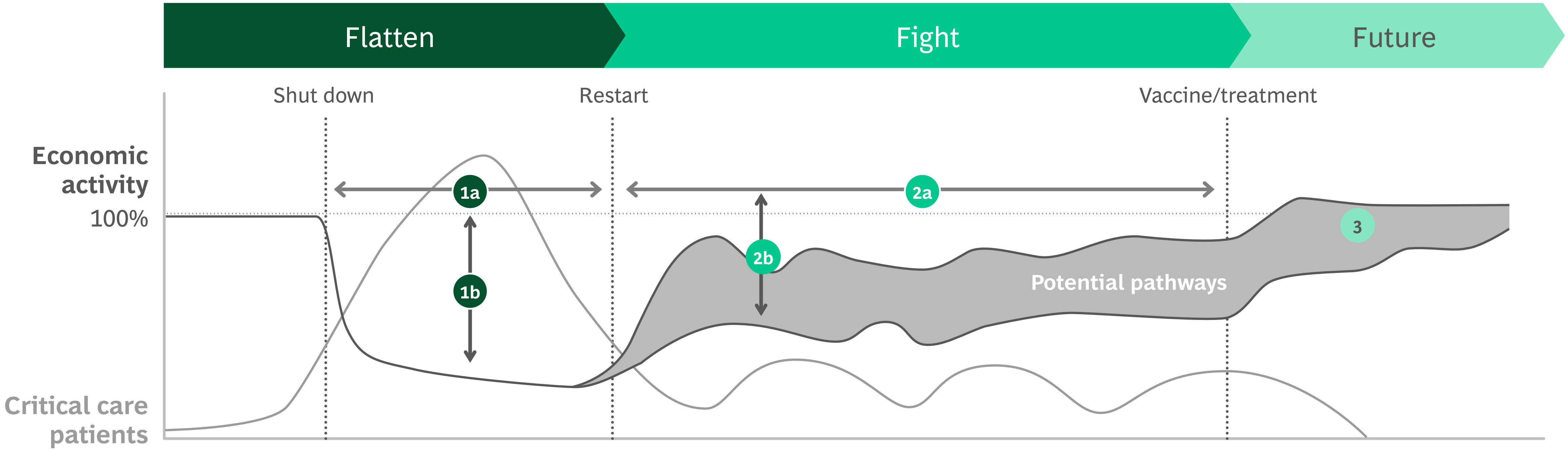
Test purpose		Available for last 3+ weeks	Becoming available now (over last 1-2 weeks)	In development
Presence of viral genome	Lab-based	Roche, bioMérieux, BD, Luminex, QIAGEN, Abbott, ThermoFisher Scientific, Hologic, NeuMoDx molecular	Biocartis, Siemens Healthineers, altona Diagnostics, bioMérieux, Bio-Rad	Fluidigm, bioMérieux, Caspr Biotech, LexaGene
	Near-patient /Point-of-Care	Cepheid, Abbott, mesabiotech	Bosch, Spartan, anitoa, *Rapid, on-site portable test*	Nuclein, Mobidiag, Biomeme, lumiraDx, *Handheld digital PCR*, 1Drop Diagnostics
Immune response to virus	Lab-based	Euroimmun, Diazyme, EDI Epitope Diagnostics, Inc., Ortho Clinical Diagnostics	Abbott, Roche, DiaSorin, Bio-Rad	Beckman Coulter, boditech, Siemens Healthineers
	Near-patient /Point-of-Care	Cellex, 丽珠医药 Livzon, BD, BioMedomics, Chembio Diagnostic Systems, Inc., Autobio		*Many players announced development plans*[1]
Antigen tests: Presence of viral particle				OraSure Technologies, Avacta, Pinpoint Science, SD Biosensor, Coris BioConcept, Luminostics
Viral load: Amount of virus		Currently none		

1. More that 120 serology test makers have notified FDA that they have serology tests available for use as of April 23, 2020
Source: CDC website, FDA website, company websites, BCG analysis

Scenarios and impact | Five key questions

As of 06 May 2020

Illustrative



Five questions will shape the economic impact

1a **What will the LENGTH of "Flatten" be?**
What are the preconditions to transition?
When will we achieve them?

1b **To what DEPTH does the economy drop in "Flatten"?**

2a **What will the LENGTH of "Fight" be?**
What are the preconditions to transition?
When will we achieve them?

2b **What will the DEPTH of "Fight" be?**
What level of recovery does the economy achieve in "Fight"?

3 **Where does the economy return to, relative to the pre-COVID era in "Future"?**

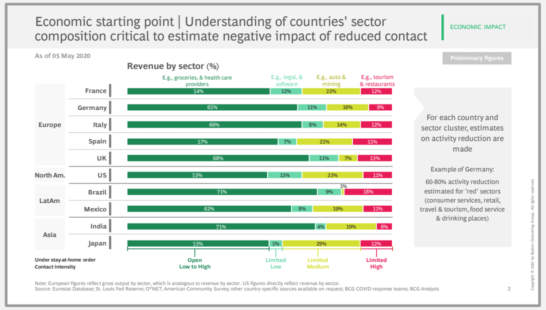
Source: BCG

Methodology | To determine economic impact, must derive depth (from economic starting point) and factor-in length of crisis

Shown for 'Flatten' as length of 'Fight' still unknown

Economic starting point:

Understanding a country's **sector composition**



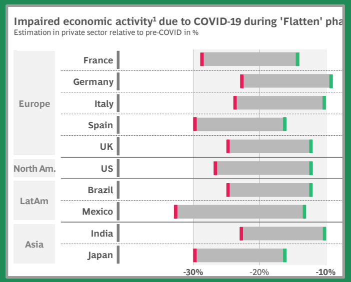
For each country and sector cluster, assumptions are made on activity-reduction based on reduced contact

›

Pre-crisis
Fight
Flatten

Depth:

Deriving the **impaired economic activity**



For each country, a range of microeconomic loss is derived

x

Pre-crisis
Fight
Flatten

Length:

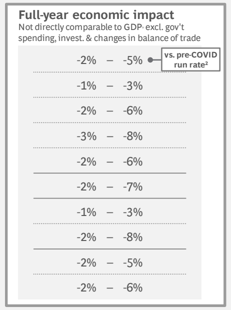
Factoring-in the **duration of crisis**

For each country, expected length of stay-at-home order is factored in

=

Projected economic impact:

Determining the result as **full-year economic impact** from direct impact of disease



Result is full-year economic impact (not comparable to GDP as excludes fiscal stimulus and other effects) – need to combine pre-crisis, Flatten, and Fight phase to conclude impact for 2020

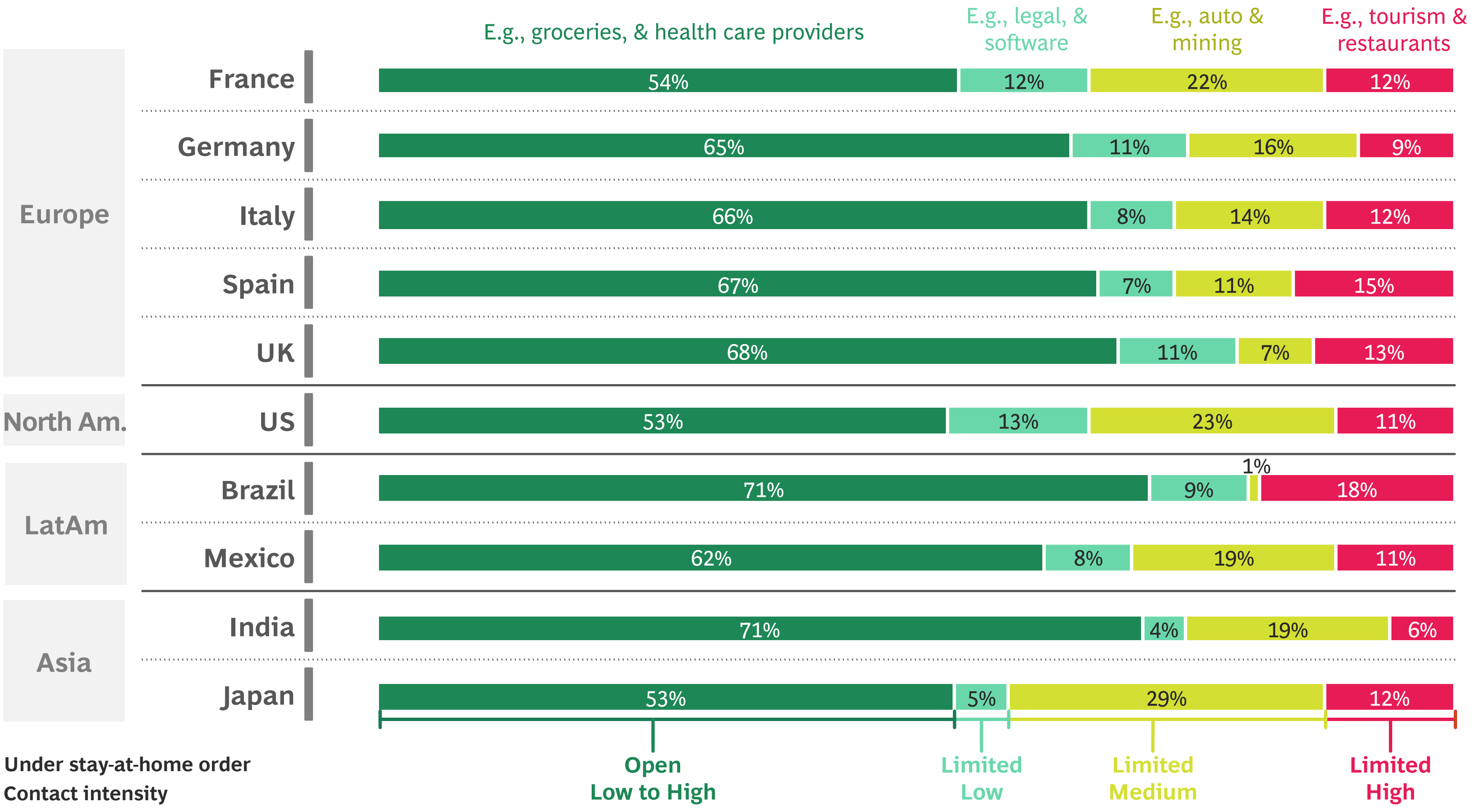
Source: BCG

Economic starting point | Understanding of countries' sector composition critical to estimate negative impact of reduced contact

As of 05 May 2020

Preliminary figures

Revenue by sector (%)



For each country and sector cluster, estimates on activity reduction are made

Example of Germany:

60-80% activity reduction estimated for 'red' sectors (consumer services, retail, travel and tourism, food service and bars)

Note: European figures reflect gross output by sector, which is analogous to revenue by sector. US figures directly reflect revenue by sector.
Source: Eurostat Database; St. Louis Fed Reserve; O*NET; American Community Survey; other country-specific sources available on request; BCG COVID response teams; BCG Analysis

'Flatten' | Impaired economic activity (depth) and lockdown duration (length) yield full-year economic impact for 'Flatten' phase

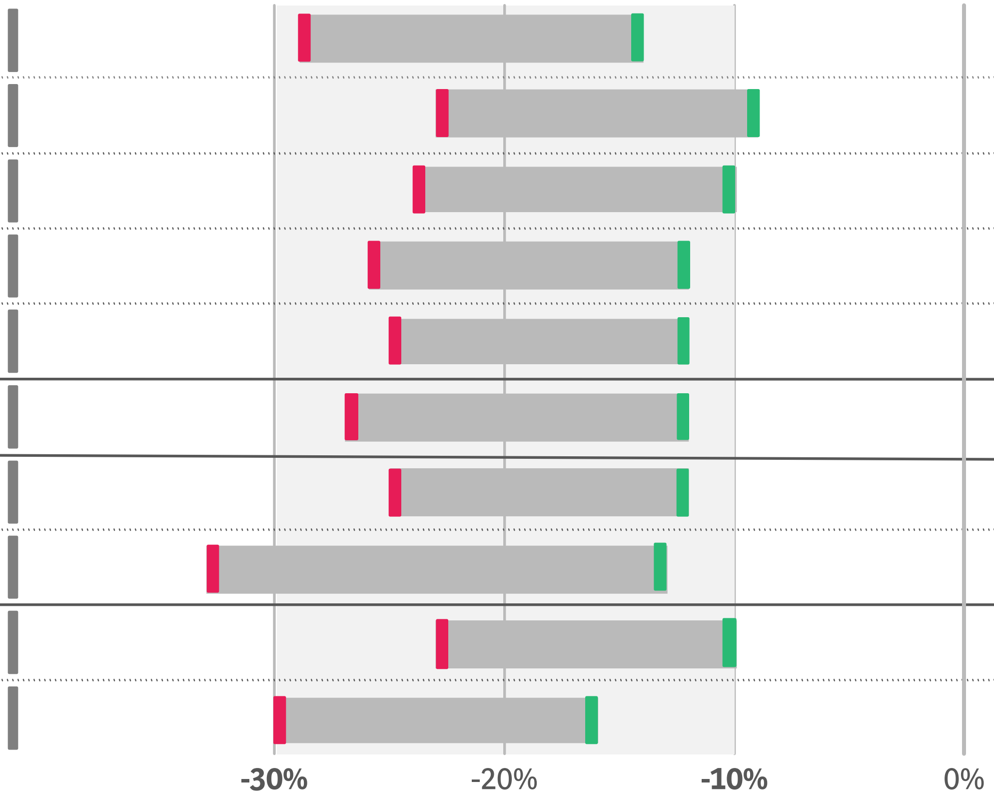
ECONOMIC IMPACT

As of 05 May 2020

Need to combine pre-crisis, 'Flatten' & 'Fight' phase to conclude **impact for 2020**

Impaired economic activity[1] due to COVID-19 during 'Flatten' phase
Estimation in private sector relative to pre-COVID in %

x **Lockdown duration** (in weeks) = **Full-year economic impact**
Not directly comparable to GDP, excludes gov't spending, investment, and changes in balance of trade



Region	Country	Lockdown duration (in weeks)	Full-year economic impact
Europe	France	8	-2% – -4% vs. pre-COVID run rate[2]
	Germany	4-6	-1% – -3%
	Italy	8-12	-2% – -6%
	Spain	8-12	-2% – -6%
	UK	7-12	-2% – -6%
North Am.	US	10-14	-2% – -7%
LatAm	Brazil	4-6	-1% – -3%
	Mexico	8-12	-2% – -8%
Asia	India	8	-2% – -4%
	Japan	6-10	-2% – -6%

Disclaimer: These analyses represent only potential scenarios based on discrete data from one point in time. They are **not intended as a prediction or forecast** and the **situation is changing daily**. Figures shown only reflect economic activity "directly displaced" by effect of virus. However, **multi-order impacts and the impact of government spending and stimulus not considered**

Max of estimated range (i.e. period hardest hit by the lockdown)

Min of estimated range

Note: Lockdown length capped at 6 weeks.; We expect a lot of variations across geographies, even within countries.
1. European figures reflect gross output by sector, which is analogous to revenue by sector. US figures directly reflect revenue by sector. 2. Only accounts for COVID-19 impact, does not factor in underlying growth.
Source: Eurostat Database; St. Louis Fed Reserve; O*NET; American Community Survey; other country-specific sources available on request; BCG COVID response teams; BCG Analysis

'Flatten' | ~15 to 35% of employees in Europe and the US impacted by COVID-19 crisis

ECONOMIC IMPACT

As of 06 May 2020
Numbers are approximate

Preliminary figures

		2019 total employment (M)	Increase in un-employment (M)	Employees covered by support programs (M)	Employees impacted by COVID-19 crisis: Absolute numbers (M)	Employees impacted by COVID-19 crisis: % of total employment	Comments
Europe	France	28	0.1	10.0	10	36%	Temporary unemployment scheme – 84% of net wages paid by government
Europe	Germany	45	0.1	10.1	10	23%	Assistance program launched to provide government funds to cover lost wages
Europe	Italy	23	—[1]	5.0 - 7.7[2]	5 - 8	22-33%	Expansion of salary support for employers and €300m fund for employees with reduced hours
Europe	Spain	20	3.5 - 5.0		3.5 - 5.0	18-25%	Firings banned but temporary layoffs allowed – 70% of salary paid by the state
Europe	UK	33	0.6	4.0	5	14%	Program to pay companies 80% of salaries for non-working staff to keep them employed
North America	US	159	33.5[3]		34	21%	Government wage support provided through unemployment insurance

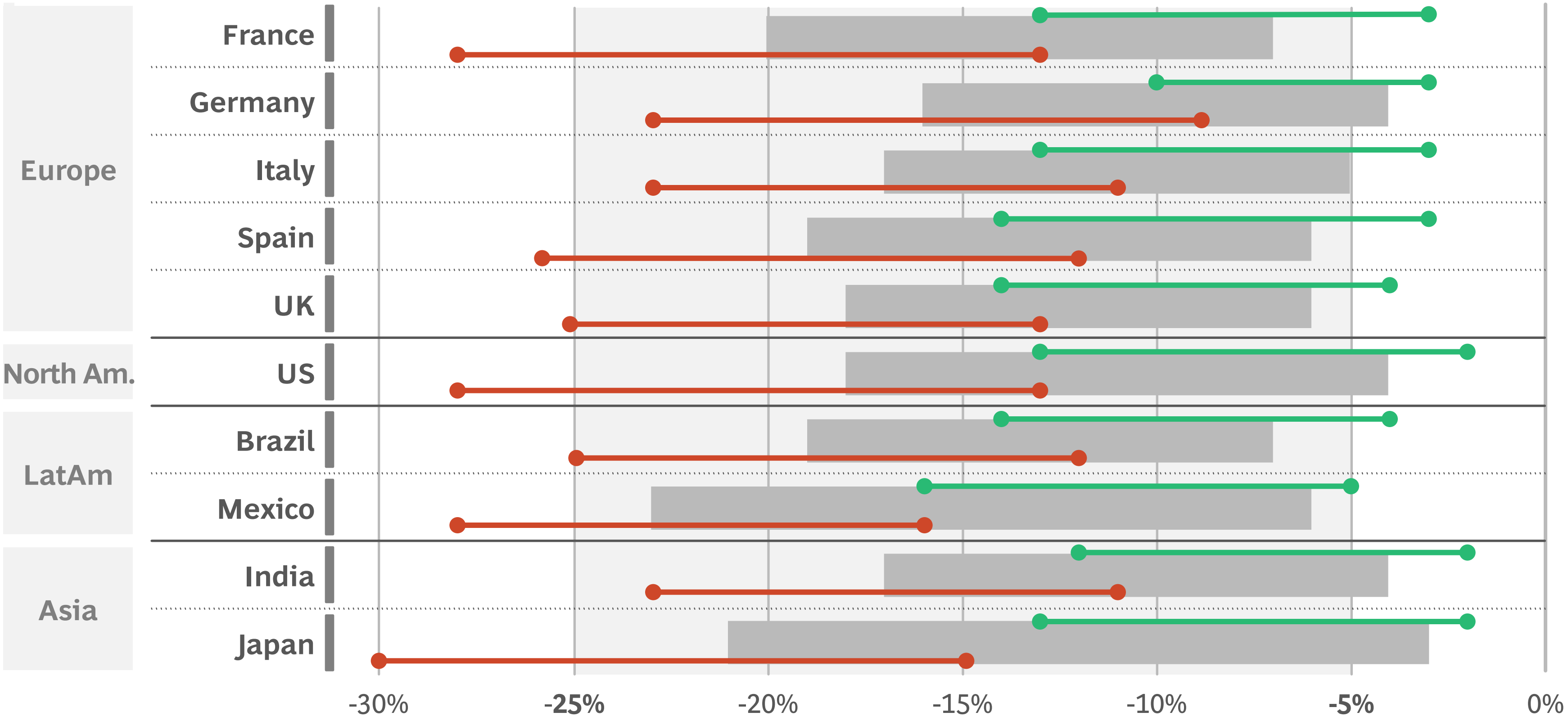
Note: These figures are changing rapidly and are often being reported with a lag from the current data.; Bolded figures are rounded to the nearest million;
1. Absolute unemployment went down driven by less people looking for work; 2. Only 5M have received funds.; 3. Government wage support provided through unemployment insurance; jobs protected by PPP not included.
Source: Employment figures: Eurostat (Europe), Trading Economics (US); Gov't Wage Support figures & comments: The Guardian 4/27 (UK), Reuters.com 4/29 (Italy), The Financial Times 5/7 (US), Reuters 5/5 (Spain), RFI 4/22 (France), Barrons 4/30 (Germany)

'Fight' | ~5 to 25% of economic activity can be temporarily at risk – implying protracted economic challenges

As of 05 May 2020

Impaired economic activity[1] during 'Fight' phase

Estimation in private sector relative to pre-COVID-19 in %



To determine full-year economic impact, need to factor in length of 'Fight' which is still unknown – see next page for estimated timeline

Disclaimer: These analyses represent only potential scenarios based on discrete data from one point in time. They are **not intended as a prediction or forecast** and the **situation is changing daily**. Figures shown only reflect economic activity "directly displaced" by effect of virus. However, **multi-order impacts and the impact of government spending and stimulus not considered**

Note: Gov't employment does not include health care in EU countries to maintain comparison with US.; We expect a lot of variations across geographies, even within countries, hence the wide ranges.
1. European figures reflect gross output by sector, which is analogous to revenue by sector. US figures directly reflect revenue by sector.
Source: Eurostat Database; St. Louis Fed Reserve; O*NET; American Community Survey; other country-specific sources available on request; BCG COVID response teams; BCG Analysis

'Fight' | Accelerated movement toward vaccine or treatment at scale could limit Fight phase to 12-24 months

As of 06 May 2020

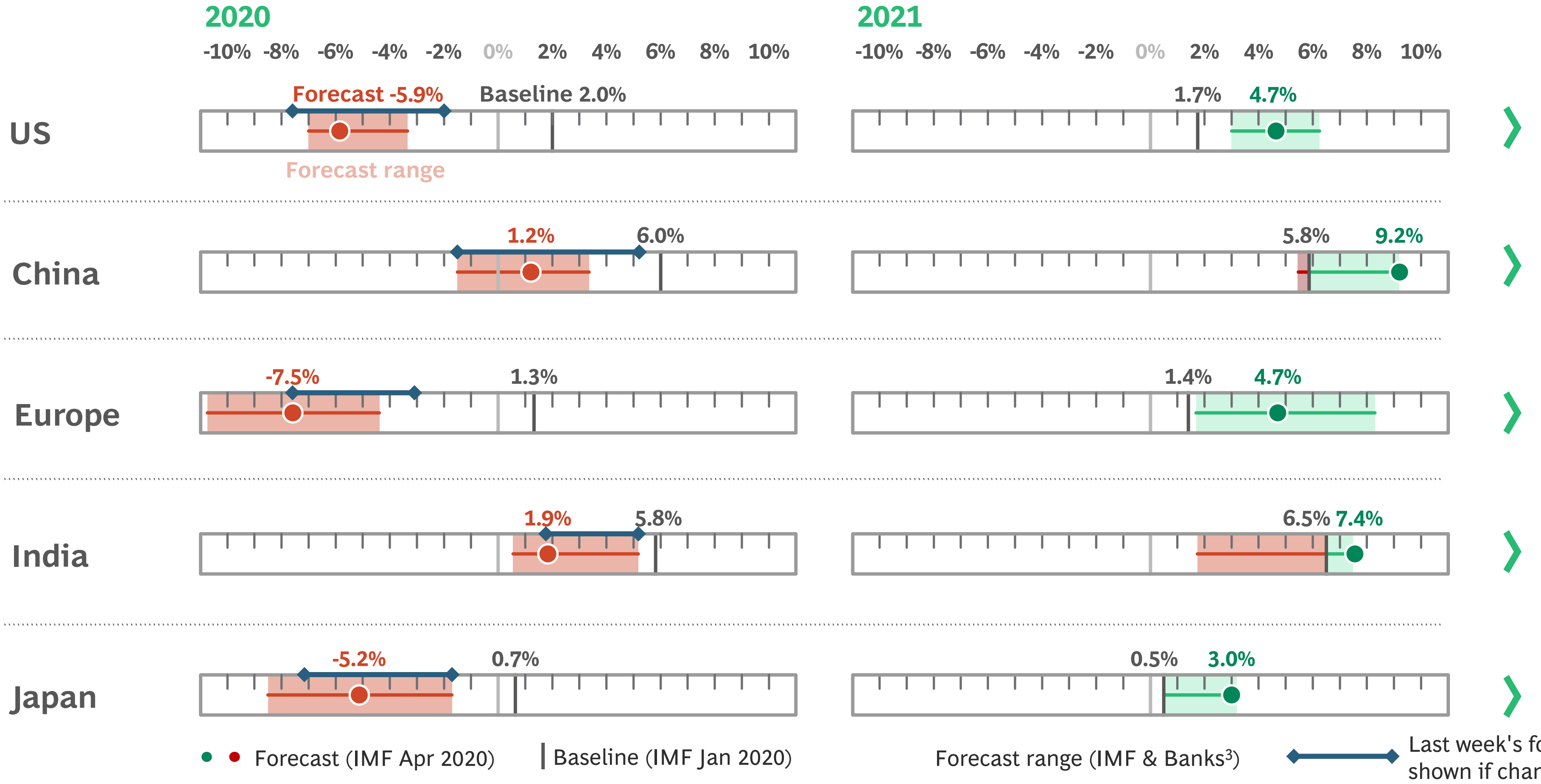
	Current status	Estimated timeline
Vaccine	• Multiple vaccines (e.g. Moderna, CanSino, AstraZeneca) in Phase 1 trials • Simultaneously, investments being made in manufacturing capacity • Likely about 12 months to earliest FDA-approval • Likely to take 4-6 months post-approval to full implementation	**April '21 – April '23** (12-36 months) 12-month development "best case," then likely to require time to scale across population
Treatment	• Anti-viral therapies potentially available at scale in Q4-2020—however, likely **only used for more advanced cases** • Antibodies from recovered patients currently being tested—use will be **limited to small scale/at-risk groups**	Remdesivir is approved now, could be more widely available by July '20 For the next wave, estimated timeline is **October '20 – April '22** (6-24 months[1])
Herd immunity	• Potentially could achieve herd immunity through exposure to disease and subsequent recovery • Estimates suggest greater than 60% population is required to acquire and recover to reach herd immunity[2] **Likely must be combined with vaccine**	**Substantial** Would likely involve "pulsing" economy on/off, but always maintaining caseloads below care capacity

1. If first round of drugs being tested succeeds – then 6-9 months; if not – substantially longer; 2. This would require mass exposure, high fatality rate, and an assumption that re-infection does not occur. Achieving herd immunity through disease exposure would likely take significant time; and it is currently unclear if exposure prevents reinfection
Source: BCG analysis; Morningstar

Economic forecasts deteriorating globally for 2020 while remaining stable for 2021

As of 05 May 2020

GDP growth forecast vs. baseline



GDP level forecast[2]

EOY 2021 vs. EOY 2019

US	97-100%
China	107-112%
Europe	95-101%
India	104-111%
Japan	96-100%

Note: As of reports dated 31 March 2020 to 05 May 2020, YoY forecasts 1. Announced by the German Federal Ministry for Economic Affairs and Energy on 29 Apr 2020 2. Range calculated with 25th & 75th percentile values of forecast range 3. Range from forecasts (where available) of International Monetary Fond, JP Morgan Chase; Morgan Stanley; Bank of America; Fitch Solutions; Credit Suisse; Danske Bank; ING Group; HSBC Source: German Federal Ministry for Economic Affairs and Energy; Bloomberg; IMF; BCG analysis

TSR has rebounded over last month, but impact visible across all sectors

Two time periods from 21 February 2020 to 6 May 2020

Decline reflects economic scenario and consumer sentiment

	TSR performance[1]	Americas 2/21-3/20	Americas 2/21-5/6	Europe 2/21-3/20	Europe 2/21-5/6	Asia 2/21-3/20	Asia 2/21-5/6
Healthier sectors	Food/staples Retail	-10%	-7%	-15%	-15%	-8%	-12%
	Pharma	-19%	1%	-20%	-1%	-22%	-4%
	Household Products	-19%	-10%	-16%	-10%	-5%	3%
	Semiconductors	-30%	-8%	-43%	-19%	-27%	-8%
	Software	-30%	-9%	-32%	-21%	-28%	-16%
Pressured sectors	Telecom	-17%	-11%	-20%	-21%	-14%	-8%
	Food & Beverage	-26%	-15%	-24%	-18%	-12%	-3%
	Health Equipment	-33%	-14%	-31%	-14%	-11%	-5%
	Tech Hardware	-29%	-11%	-25%	-11%	-23%	-16%
	Materials	-34%	-17%	-31%	-19%	-30%	-18%
	Prof. Services	-30%	-17%	-29%	-17%	-31%	-21%
	Retailing	-42%	-25%	-36%	-24%	-24%	-3%
	Transport	-37%	-26%	-38%	-35%	-13%	-18%
	Utilities	-33%	-22%	-30%	-25%	-6%	-1%
	Capital Goods	-38%	-22%	-35%	-25%	-29%	-19%
Vulnerable sectors	Financials	-36%	-22%	-35%	-23%	-19%	-10%
	Media	-36%	-24%	-47%	-40%	-14%	2%
	Hospitality	-49%	-36%	-47%	-37%	-23%	-16%
	Insurance	-42%	-35%	-40%	-28%	-27%	-18%
	Banks	-41%	-36%	-44%	-45%	-26%	-21%
	Real Estate	-42%	-33%	-26%	-23%	-22%	-9%
	Auto	-47%	-36%	-45%	-30%	-32%	-20%
	Durable Goods	-49%	-33%	-32%	-22%	-21%	-10%
	Energy	-56%	-37%	-45%	-30%	-41%	-27%

Observations

Non-discretionary/essential service less hit but still had recovery

Broad set of industries experiencing pressure, with some regions particularly affected for certain sectors (e.g. transport in Europe)

Utilities, media, and health equipment generally better off in Asia

Hardest hit sectors had the strongest recoveries except banks

Note: As of 6 May 2020; Based on top S&P Global 1200 companies; Sectors are based on GICS definitions 1) 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 20 March 2020 through 6 May 2020
Source: S&P Capital IQ; BCG ValueScience® Center; BCG

Credit risk continues to be a concern for majority of sectors

As of 21 February 2020 to 6 May 2020

		Median 5-year CDS[1] implied probability of default[2]		Companies in distress (%)[3]	
		2/21/2020	5/6/2020	2/21/2020	5/6/2020
Healthier sectors	Food/staples Retail	4%	5%	0%	0%
	Pharma	3%	3%	0%	5%
	Household Products	4%	4%	0%	0%
	Semiconductors	5%	7%	0%	0%
	Software	4%	5%	0%	0%
Pressured sectors	Telecom	4%	7%	0%	15%
	Food & Beverage	3%	3%	0%	0%
	Health Equipment	4%	5%	0%	0%
	Tech Hardware	4%	4%	0%	0%
	Materials	4%	6%	4%	17%
	Prof. Services	5%	5%	0%	0%
	Retailing	5%	9%	0%	41%
	Transport	3%	3%	0%	36%
	Utilities	3%	4%	0%	0%
	Capital Goods	3%	5%	2%	11%
Vulnerable sectors	Financials	4%	6%	0%	5%
	Media	5%	8%	0%	14%
	Hospitality	5%	12%	7%	43%
	Insurance	4%	6%	0%	0%
	Banks	4%	7%	0%	4%
	Real Estate	5%	10%	0%	17%
	Auto	5%	12%	0%	33%
	Durable Goods	4%	6%	0%	0%
	Energy	5%	12%	0%	35%

Observations

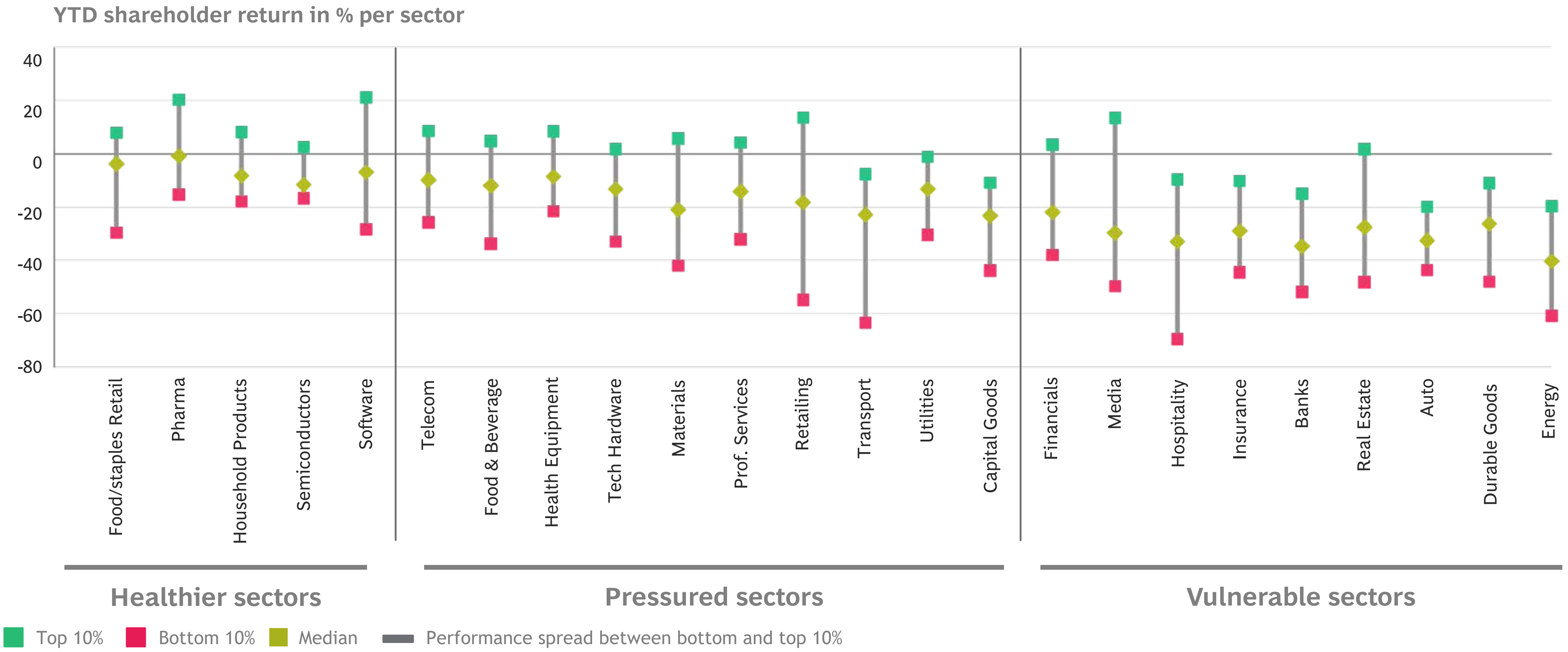
Less discretionary and cash-rich sectors are largely at lower risk of default in current climate

Retailing, hospitality, and energy industries facing greatest risk of default based on current credit profile

Note: As of 6 May 2020; Based on top S&P Global 1200 companies; Sectors are based on GICS definitions
[1] Credit Default Swap; [2] Performance is tracked on 21 February 2020 (before international acceleration of outbreak), and 6 May 2020
3. Distressed comprises over 15% implied probability of default Source: S&P Capital IQ; BCG ValueScience® Center; BCG

Majority of companies negatively affected—yet some companies in each sector manage to emerge much stronger

As of 6 May 2020



Note: Sectors are based on GICS definitions; data as of 6 May 2020; Companies sampled from S&P Global 1200
Source: S&P Capital IQ; BCG ValueScience® Center

1

Guide for leaders

Getting ready for Restart

How to revamp Organization for the New Reality

2

Updated epidemic, economic, and business scenarios and impact

Epidemic progression

Economic impact

Business scenarios and impact

3

Appendix: Detailed action areas and further readings

Detailed action areas for business leaders

Further readings

Detailed measures across priority action areas (1/3)

Establish crisis management

Navigate through Flatten, Fight, and Future

	Flatten	Fight	Future
1 Develop **Scenario-Based Planning Approach** to manage uncertainty	• Deep-dive into possible outcomes of disease spread, demand shifts, supply/operations issues, regulatory requirements, and potential operations restart; adjust for sector-specific issues • Perform scenario stress tests around cash-flow • Establish preconditions for what it will take to get workforce back to offices, factories, etc. • Set up teams to work on different time horizons (Flatten, Fight, Future) to avoid reverting to crisis management across all	• Frequently run scenarios and update plan; focus on understanding the de-averaged impact by geography and line of business, depth of demand drop, duration of Fight phase • Develop recommendations for daily planning, resources, supply chain, workforce, and other stakeholder management as per modeled scenarios	
2 **Create a Rapid Response and Transformation** (RR&T) team	• Establish nimble cross-functional Rapid Response & Transformation team (RR&T) • Refine processes to manage the crisis situation, remote working, disruption in supply • Ensure smooth transition of operations and workforce to the 'New Reality' • Shift to digital/remote customer interactions	• To manage the massive complexity of "restarting," enhance Rapid Response & Transformation team structures • Develop approach for how to bring people back to work, how/when to engage customers • Establish governance and standardization to effectively coordinate other areas from the RR&T	
3 **Revamp Organization** for the New Reality	• Define policies to keep employees safe with high morale • Engage across levels to retain talent • Move to online/remote working; redefine rosters, and train for efficiency/effectiveness • Establish preconditions for coming back to the working environment; clearly communicate them • Build SWAT teams to address critical business areas, such as product launch, digital channel redesign, retail delivery models	• Get ahead of the curve to manage policies to get teams back to work safely • Take a clear view of forward demand and the new normal: manage/restructure organization to fit capacity needs • Create dedicated focus to accelerate digital, process automation, new ways of working	

Source: BCG

Detailed measures across priority action areas (2/3)

Navigate through Flatten, Fight, and Future

	Flatten	Fight	Future
4 Drive **Topline Security and Customer Trust**	• Reach out to customers for their situation and needs • Drive actions to inspire confidence and ensure ability to deliver (multichannel, people-light approaches) • Manage volatility in demand and refine sales motions (to virtual, etc.) and objectives	• Assess changes in customers' behaviors • Adapt and transform channels (e-commerce), sales, marketing spend, pricing, and support • Ramp up commercial efforts significantly to seize market shifts; leverage learnings to accelerate digital capabilities	
5 Stabilize and restart **Supply Chain, Manufacturing**	• Take measures to ensure operations continuity: workforce safety and management, stop-gap measures for supply chain, site readiness (access, maintenance, services, suppliers) • Ensure open and direct communication with employees • Explore solutions to retain key talent	• Ensure quick and safe restart of facilities; push centrally driven efficiency measures • Set up capabilities (org, control tower) to manage unstable supply chain; explore alternate networks, dual/multiple suppliers for critical goods and services, delivery methods, etc. • Accelerate production as demand rebounds; account for product shifts	
6 Restructure **Cost,** manage **Cash and Liquidity**	• Build forecasts for COVID-19 impact on P&L, balance sheet, investor base • Review capital sufficiency scenarios and possible effects on credit risk • Manage credit and debt commitment for short term • Create agile FY20-21 business plans and budgets to deal with uncertainty	• Build central team to simulate financials as per evolving scenarios; drive agile ways of working • Decisively take structural actions: TURN PMO, zero-based budgets, delayering/restructuring, re-base tech portfolio, etc.; deploy rapidly as speed is predictive of success in downturns	

Source: BCG

Detailed measures across priority action areas (3/3)

Navigate through Flatten, Fight, and Future

	Flatten	Fight	Future
7 **Emerge stronger**; drive advantage in adversity	• Stress-test current value proposition and business offerings, and scan crisis impact on key customer/market trends	• Plan for new projects to shift the portfolio and leverage the 'new normal'; plug capability gaps • Identify white spaces in own industry and ecosystem • Selectively invest in areas where opportunistic M&A can be conducted • Develop and implement strategy to exploit greater talent availability	
8 **Accelerate Digital and Technology** transformation	• Address and serve immediate workforce needs for remote working • Leverage tools for conducting key processes online • Adapt traditional processes to become digitally viable	• Identify and implement key digital use cases and adapt to agile way of working • Accelerate use cases to meet demand shifts • Redesign key customer journeys with emphasis on digital interventions	
9 **Help Society** during COVID-19	• Ensure immediate support to employees, suppliers, communities, etc. • Team with government/local communities/across industries to address crisis • Leverage assets, supplier relationships, logistics networks, and employees to help adjacent communities • Work across industry boundaries to identify cross-sectoral synergies to deploy solutions	• Determine how to contribute in the crisis to employees, customers, through medical response, supply of essential items for society, or by playing a positive economic/employment role • Allocate innovation resources where possible to focus on solutions to COVID-19 crisis • Leverage expertise developed to support government policies and responses, rebuild business for local customers, suppliers, etc.	

Source: BCG

Additional perspectives on COVID-19

Selected overarching and functional publications

Business & Society

How to Restart in the Wake of COVID-19

People & Organizations

People Priorities for the New Now

Leadership

Leadership in the New Now

People & Organizations

COVID-19 and Our New Bionic Society

Corporate Strategy

How Scenarios Can Help Companies Win the COVID-19 Battle

Business & Society

The Role of Trust in the COVID-19 Economic Recovery

Crisis Response Checklist

Checklist

Cash & Liquidity

A Cash Management Survival Guide

Finance

The COVID-19 CFO Pulse Check

Selected sector publications

Technology

How Tech Companies Can Shape Their Demand Recovery Post-Coronavirus

Consumer

COVID-19 Consumer Sentiment Snapshot #8

Public Sector

How Governments Can Galvanize Their Nations for the Rebound

Health Care

Rescuing Hospitals by Resuming Care for All Patients

Engineering

Stimulus Offers a Rare Chance for Defense Agencies to Buy Better

Power & Utilities

B2B Energy Retailers Can Weather the COVID-19 Storm

Source: BCG

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