



COVID-19 BCG Perspectives

Facts, scenarios, and actions for leaders
Publication #7 with a focus on
Sensing consumer behavior and seizing demand shifts

Version: 26 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.

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

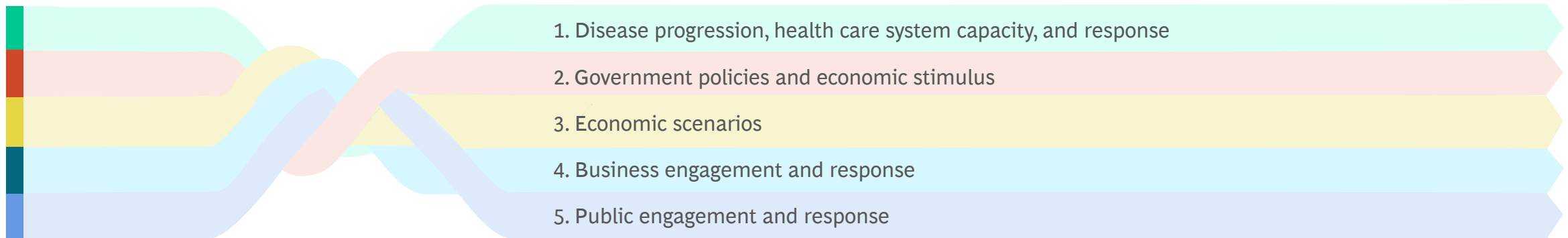
Social distancing (lockdown) and partial business closures lead to **economic recession** with large employment impact

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 sustainable level

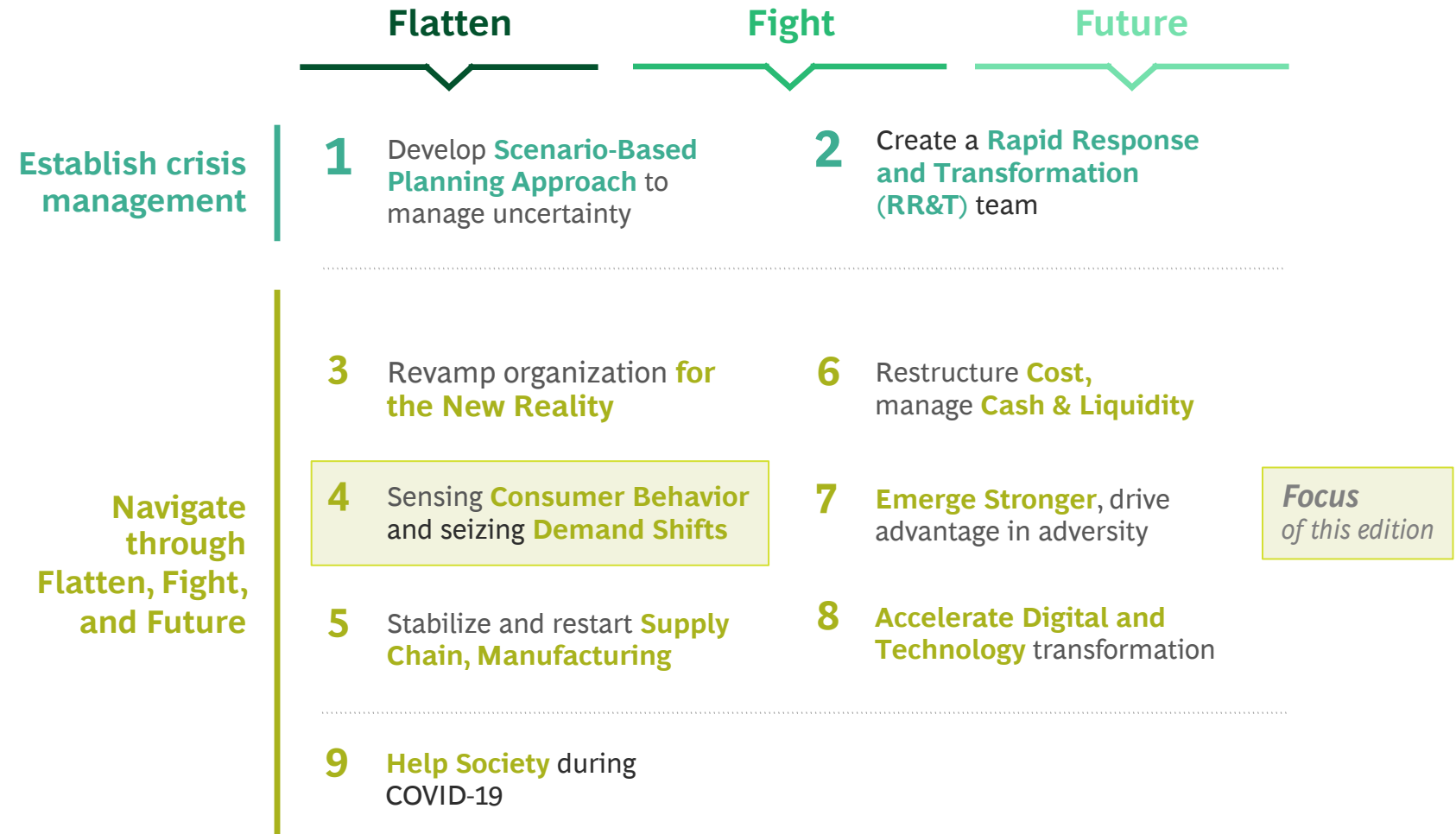
Disease controlled through vaccine/cure/ herd immunity, and treatment within sustainable medical capacities possible

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

9 action areas for business leaders



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

Executive Summary | COVID-19 BCG Perspectives

To protect and grow topline through the crisis, it is critical for companies to rapidly sense consumer behavior and seize resulting demand shifts

- COVID-19 drives changes in consumer behavior; leaders should understand de-averaged perspectives on geographies, sectors, channels, and target groups
- Two imperatives emerge for protecting and growing B2C and B2B top line: building deep sensing capabilities ("Lighthouse") and extending brand relevance and reach
- Build "Lighthouse" by leveraging high frequency data to sense short-term and structural demand shifts; key asset in a world that sees amplified speed of change
- Extend brand relevance and reach by purposefully aligning to new shape of demand; reinvent offering and channel mix, supercharge marketing, and personalize value
- Leaders augment organization capabilities in advanced analytics, scalable tech architecture, digital experiences, and innovation to win in the new reality

Across countries, efforts to flatten the curve and ramp-up testing continue; the impact on economy, businesses, and consumer sentiment persists

- Globally, 2.1 million patients have recovered from COVID-19 and the case-doubling rate has improved to 35 days
- As countries move into the 'Fight' phase, several have started to see a decline in daily cases; while some emerging economies continue to see an increase
- Testing landscape is changing rapidly, molecular testing continues as "gold standard;" continued efforts to improve test/case ratio
- Economic forecasts deteriorating for US and Europe; rebound of global GDP not expected before 2021
- Total Shareholder Return still not back to pre-crisis level for any sector across regions; 11 sectors have >10% of companies with high probability of default
- Consumers increasingly display less pessimistic outlook than four weeks ago; have started stepping out for work and essentials (with easing of lockdowns)

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

Guide for leaders

Sensing consumer behavior and seizing demand shifts
How companies can adapt and transform to win

2

Updated epidemic progression and impact

Epidemic progression and virus monitoring
Economic and business impact
Consumer sentiment snapshot

COVID-19: Impact dashboard

As of 22 May 2020

Epidemic Progression

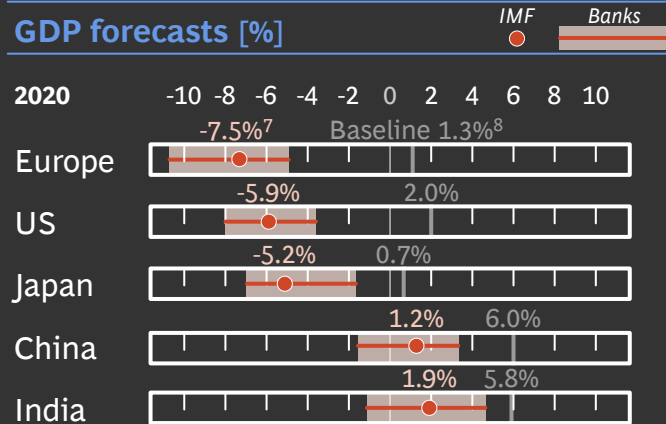
5.2M # of cases
2.1M # of recoveries
338K # of fatalities

	24 Apr	08 May	22 May
# of days of case doubling ¹	21	29	35
# of reported recoveries as % of total cases	28%	34%	39%
# of countries with 1k+ cases	83	90	104
# of tests / case ²	10	12	15
# of tests / million ²	13k	22K	34K

	Vaccine	Treatment
Trials in pre-clinical stage and beyond ³	139	122
Trials in Phase 1 and beyond ⁴	7	50
Current est. timeline for approval & scale-up	12-36 months ⁵	6-24 months ⁶

Economic Impact

GDP forecasts [%]



Estimated current employment impact⁹

	Total employment 2019 (M)	Employees impacted ¹⁰ (M)	% of employees impacted
US	~159	~39	~24%
UK	~33	~8	~25%
Germany	~45	~10	~23%
France	~28	~13	~46%
Italy	~23	~7	~30%
Spain	~20	~4	~20%

Business Impact

Stock market performance¹¹

	S&P500	FTSE100	DAX	CHN SSE
20 Mar vs 21 Feb	-31%	-30%	-34%	-10%
22 May vs 21 Feb	-11%	-19%	-18%	-7%

Total Shareholder Returns¹¹

First column: 21 Feb to 20 Mar; Second column: 21 Feb to 15 May

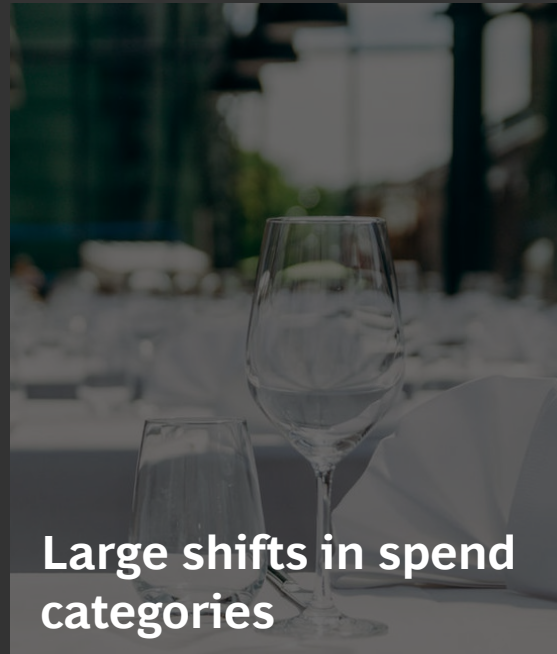
	Americas		Europe		Asia	
Pharma	-19%	-2%	-20%	-9%	-22%	-2%
F&B ¹²	-26%	-15%	-24%	-14%	-12%	-3%
Telecom	-17%	-14%	-20%	-19%	-14%	-12%
Software	-30%	-8%	-32%	-14%	-28%	-15%
Retailing	-42%	-15%	-36%	-23%	-24%	4%
Capital goods	-38%	-22%	-35%	-24%	-29%	-14%
Auto	-47%	-24%	-45%	-27%	-32%	-20%
Real Estate	-42%	-34%	-26%	-37%	-22%	-20%
Energy	-56%	-37%	-45%	-32%	-41%	-30%
Banks	-41%	-35%	-44%	-47%	-26%	-21%

1. No. of doubling days based on 7 day CAGR 2. Median of values for top 15 countries by nominal GDP (except China) 3. Ongoing trials including pre-clinical, Phase 1 (first trial in humans), Phase 2, Phase 3, Phase 4 4. Ongoing 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. IMF April 2020 forecast; YoY forecasts; Range from forecasts (where available) of International Monetary Fund, JP Morgan Chase; Morgan Stanley; Bank of America; Fitch Solutions; Credit Suisse; Danske Bank; ING Group; HSBC; As of reports dated 12 April 2020 to 12 May 2020 8. IMF January 2020 forecast 9. Available data as of May 15; figures are changing rapidly and often being reported with a lag from the current date 10. Includes increase in unemployment and employees covered by government's wage support programs 11. 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 22 May 2020 12. Food & Beverage. Source: WHO, World Bank, JHU CSSE, Our World in Data, IMF, Bloomberg, BCG, Eurostat (Europe), Trading Economics (US); Gov't Wage Support figures & comments: UK Government 5/12 & Trading Economics (UK), Reuters.com 4/30 & FitchRatings 5/18 (Italy), U.S. Department of Labor 5/21 (US), Ministerio de Trabajo 5/21 & Reuters 5/5 (Spain), Ministere du Travail 5/20 & Trading Economics (France), Arbeitsagentur 4/30 (Germany)

COVID-19 drives changes in consumer behavior; de-averaged perspective required, but four key trends observed

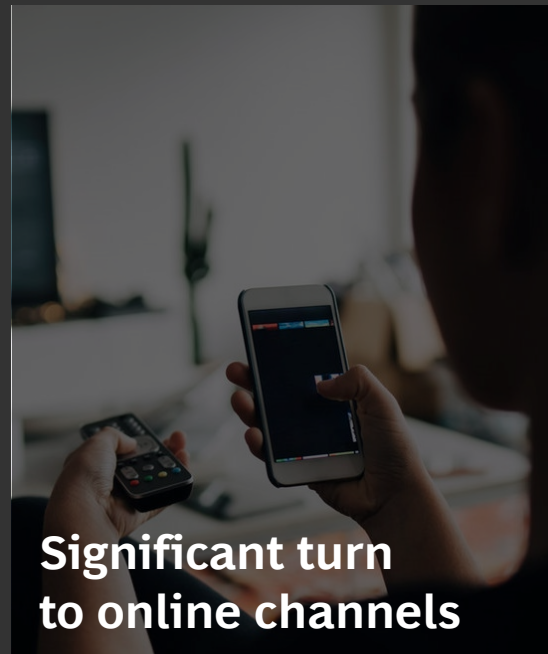
Change in consumer behavior is not uniform

De-averaged perspective required across geographies, sectors, sales channels, target groups, etc.



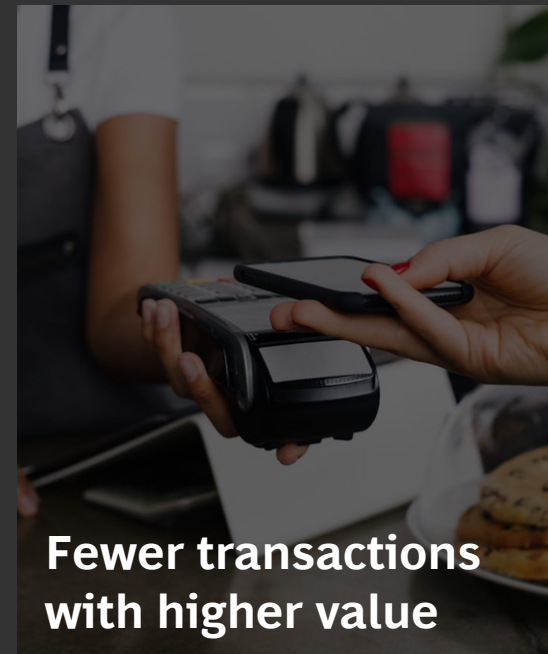
Large shifts in spend categories

36% consumers trading up/down on products¹, 60% of companies increase spend on IT/digital²



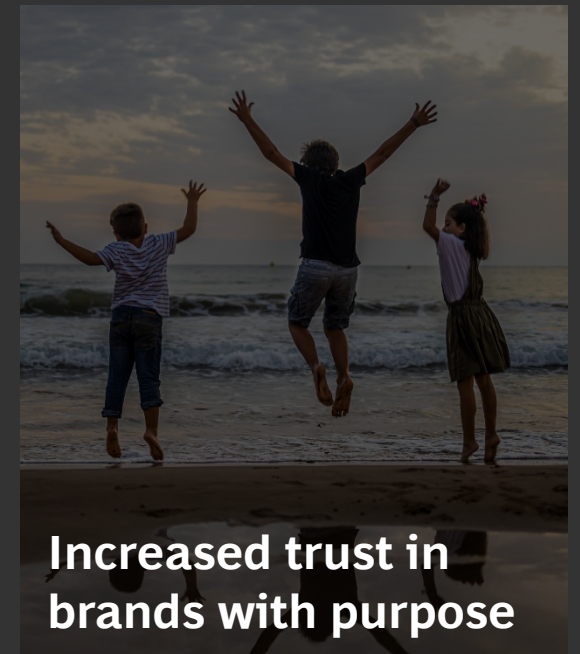
Significant turn to online channels

~20% web-traffic increase observed for retail categories vs. ~60% drop in footfalls³



Fewer transactions with higher value

Groceries have seen a 30%+ increase in transaction value for month of April vs. pre-crisis⁴



Increased trust in brands with purpose

35%+ net likelihood of buying from brands that have positively stood out during the crisis⁵

1. BCG-COVID-19 Consumer Sentiment Survey, April 24-27, 2020 (N = 2783 across US; unweighted) 2. DSR Digital Transformation Survey 2020 (n=217, as of April 30, 2020) 3. For Germany, Italy, US as of April 26, 2020; categories include consumer goods and retail, beauty and cosmetics, beverages, consumer electronics, fashion and apparel, jewelry and luxury products, furniture, restaurants and delivery, and home and garden 4. Spend data is based on consumer credit card/debit card/checking account activity from a panel of US consumers from Earnest Research (tracked responses exclude cash/other), May 6, 2020 5. BCG-COVID-19 Consumer Sentiment Survey, April 17-20, 2020 (N = 5728 across US, UK, Germany, Italy and China; unweighted) Source: BCG Marketing, Sales, and Pricing, BCG GAMMA, Earnest Research, Bloomberg, BCG

Embedding deep sensing capabilities, and extending brand relevance and reach are key priorities for leaders

Flatten

A

Develop rapid demand sensing capability ("Lighthouse")

In some cases, fully rebuilding demand models and forecasts may be essential

- 01** Leverage high-frequency data
- 02** De-average demand patterns

Fight

B

Extend brand relevance and reach

- 01** Clarify and amplify brand purpose
- 02** Align to new shape of demand
- 03** Reinvent your offering
- 04** Reimagine omni-channel
- 05** Supercharge precision advertising
- 06** Personalize and de-average value

Future

Pace and de-averaged nature of change make rapid sensing capabilities a key imperative

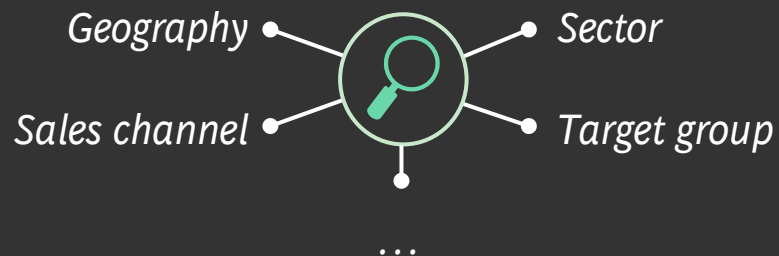
Change is coming at fast pace and in different shapes

The pace of change has increased by multiples

“ We have seen two years' worth of digital transformation in two months ”

– Satya Nadella, CEO of Microsoft

Change in consumer behavior is not uniform



Source: Microsoft; BCG

Imperative to build rapid demand-sensing capabilities

Short-term sensing

Sensing short-term trends in demand based on high-frequency data

Medium-term scenarios

Understanding scenarios for changing shape of demand and structural shifts



A.1

Leverage high-frequency data

How do we operate in a world where pace of change has increased by multiples?



A real time 'Lighthouse' to navigate uncertainty

Data

Internal

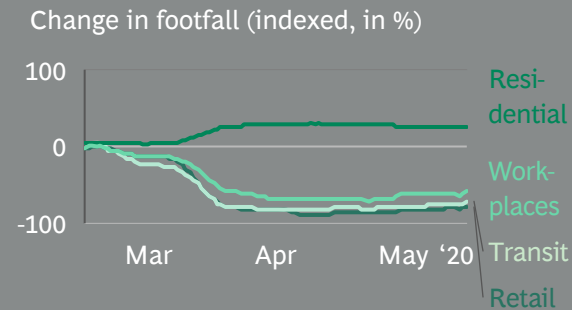
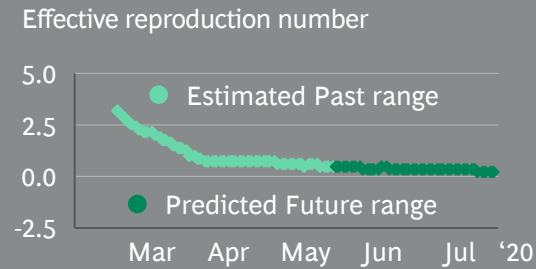
- Products and customers
- Order intake
- Sales
- Production
- Inventory
- Promotional activity

External

- Epidemiological models
- Macroeconomic and government
- Consumer Activity Index™
- Customer spend
- Consumer sentiment
- Footfall, search, social trends

Example

Real-time data cockpit
Current selection: **Italy**



Fully rebuilding past models and analyses

...customer spend analysis offers retrospective

Insight on current demand changes

...web traffic analysis predicts near-term actions

Outlook on future demand changes

..consumer sentiment analysis signals persistence

A.2

De-average demand patterns

How do we deal with wide range of change in consumer behavior?

To gain deep insight into consumer behavior, de-average across multiple factors

Geography

- Countries/states operate on different timelines
- Regional/local authorities decide reopening

Sector

- Not all industries are hit in the same way
- Dependency on global supply chain is critical

Sales channel

- E-commerce booming during “Flatten”
- Brick and mortar stores require reimagination

Target group

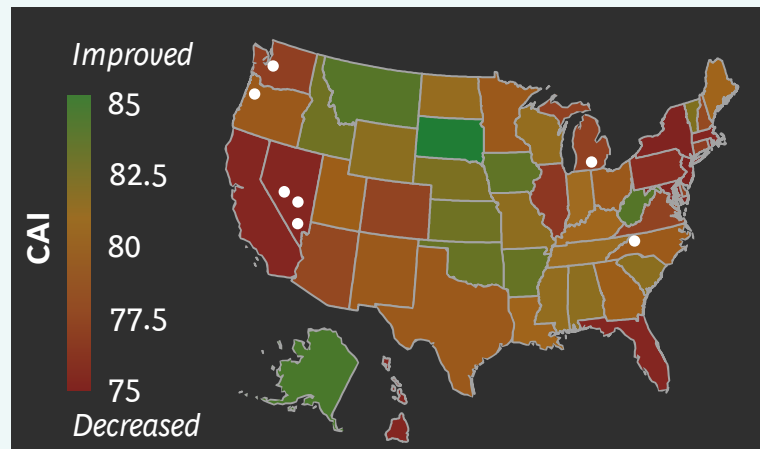
- Spend differs by customer generation
- Gen X more stable, millennials diverging

...

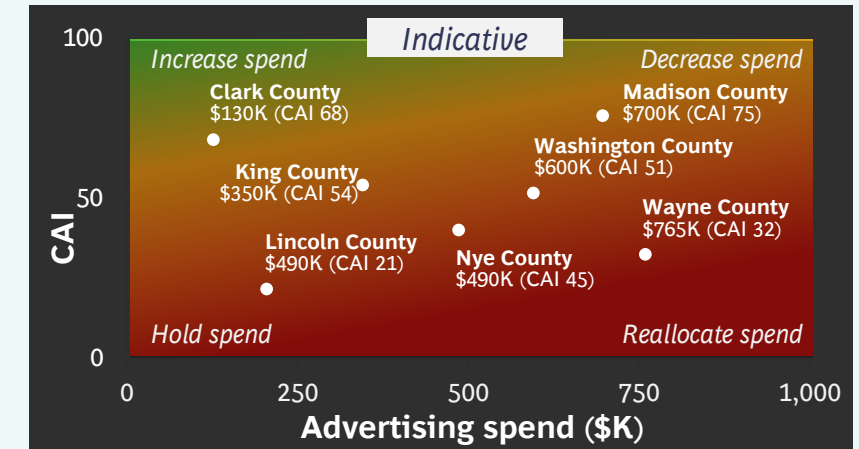
As of April 2020

Example | US Consumer Activity Index (CAI) can help prioritize business decisions

Single metric available by geography (down to the county or market level)



Decision basis for optimizing marketing/advertising spend by region



Extend brand relevance and reach

1

Clarify and amplify brand purpose

Clarify your reason for being and connect it to changing needs

Create sustained advantage by taking bold and tangible actions

2

Align to new shape of demand

Discern short- and long-term shifts in customer demand

Capitalize on opportunities by placing the right bets

3

Reinvent your offering

Redefine your offering to service the new reality

Pivot to new products, services to target changed customer demand

4

Reimagine omnichannel

Invest to be where your customers are

Provide a consistent, customer-centric approach across channels

5

Supercharge precision advertising

Pinpoint and capitalize on pockets of high ROI

Implement targeted advertising spend to gain share

6

Personalize and de-average value

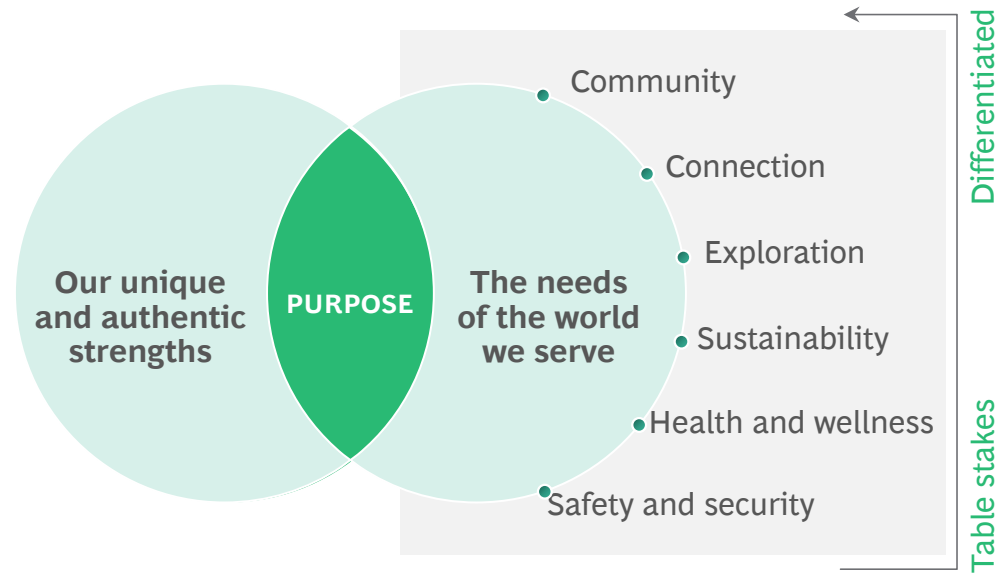
Reset price and promotion strategies to deliver value across segments

Create guardrails for short-term incentives that protect lifetime value

B.1 Clarify and amplify brand purpose

How can we authentically reinforce and live our brand purpose during this crisis?

Focus on how your brand can take a lead in evolving societal needs...



...and create sustained advantage

- 1 Lean into purpose and values internally and externally
- 2 Take tangible, bold, and relevant actions
- 3 Create emotional connection through authentic messages
- 4 Expand avenues for CEOs to speak directly to customers
- 5 Bolster 'social license to operate' on societal factors

Example | B2C airline leans into commitment to uplifting service

<p>Before COVID-19, purpose-driven business with mission to lift the world</p> <ul style="list-style-type: none"> • Empowered agents to give consumers flexibility • Established profit-sharing airline partnerships • Offered the same benefits to all employees 		<p>During the crisis, reinforces purpose by:</p> <ul style="list-style-type: none"> • Offering free flights for medical personnel • Extending statuses and benefits for a full year • Waiving fee changes and lengthening ticket expiration dates for passengers
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Source: BCG BrightHouse; BCG Case Experience

B.2

Align to new shape of demand

How can we capitalize on temporary changes in demand and plan for long-term structural shifts?

Identify evolving demand spaces and customer needs

Examples

Strengthened drivers of choice
Casualization of apparel

Increasing 'table stakes'
Sanitation and hygiene expectations

Pivots in lifestyles & habits
Cooking dinner at home

Major shifts in supply
Disruption in retail landscape

Capitalize on opportunities opened up by new shape of demand

Examples

Emergence of new sales opportunities
Auto purchases as concern about alternatives rises

Improved accessibility through leveraging digital
Virtual workout classes compared to gyms and fitness studios

Expanded ways of customer engagement
Live-streaming via social media with integrated commerce

New white space and innovation opportunities
Tech-enabled shopping leveraging AR/VR

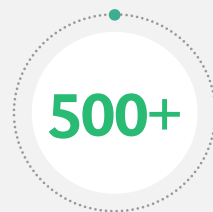
Example | B2C fitness platform pivots from physical studios to digital classes



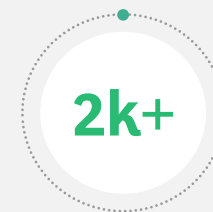
Partners across 30 countries



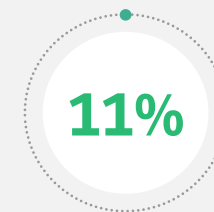
Partners closed indefinitely due to crisis



Studios that have added live classes



Pre-recorded audio and video workouts



Increase in monthly active users (vs. -1% last year)¹

1. 3-month CMGR January 2020 to March 2020 vs. 3-month CMGR January 2019 to March 2019
Source: CNN Business; App Annie; BCG Consumer Sentiment Research; BCG Case Experience

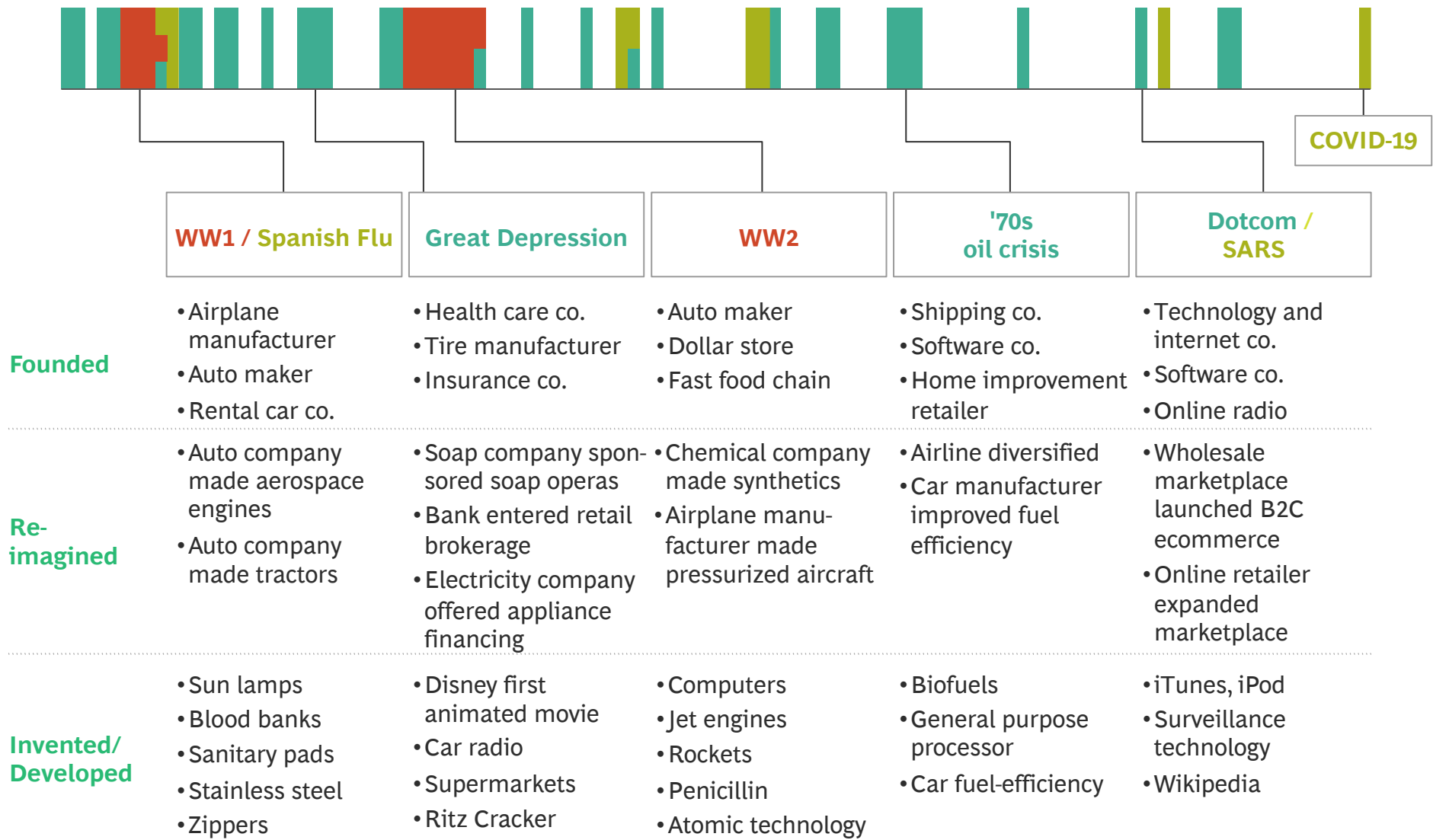
B.3

Reinvent your offering

How do crises create an opportunity for reimagining?

Crisis creates opportunity for innovation and imagination

Illustrative, Non-exhaustive



B.3

Reinvent your offering

How does this crisis create an opportunity for reimagining?

Reimagine and redesign offerings to meet new customer needs during COVID-19 crisis

- 1** Redesign offerings to serve cost-conscious customers
Innovate into lower price points: Develop low-cost product lines to capture cost sensitive customers
- 2** Reimagine role of store and deploy new formats
Reconsider store formats: Rationalize number of stores and transform large unprofitable stores into smaller stores that function as hubs for pickup and drop-off
Create unique in-store experiences
- 3** Enter and grow adjacencies to meet new customer needs
Introduce new products: Design products that meet health and safety needs
Pivot current product offerings: Target areas of increased customer demand

Example | B2C rideshare company pivots to double-down on food and other delivery services

Major decline to its core rideshare business



Pre-crisis ~75% of revenue from core rideshare offering
Rideshare revenue declined ~80% as stay-at-home regulation started

Reallocated resources to new delivery business



Introduced new non-food delivery services
Transitioned 40% of drivers to delivery
Targeted cross-sell of users to delivery

+89%

April delivery bookings vs. last year

B.4

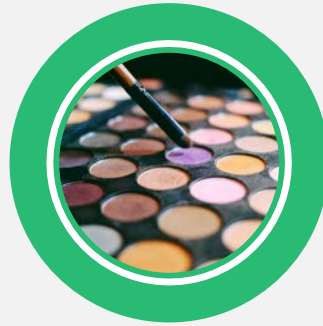
Reimagine omnichannel

How can we best serve our customers seamlessly across their purchase journeys?

Capture and serve millions of people engaging digitally, providing a consistent customer-centric experience across channels

B2C | Chinese cosmetic company

Leveraged a social media app to connect with consumers and sell online



- Designed **livestream shopping event**
- Leveraged **digital chat tools** for engagement
- Sent **direct 1-1 offers** to consumers

100+

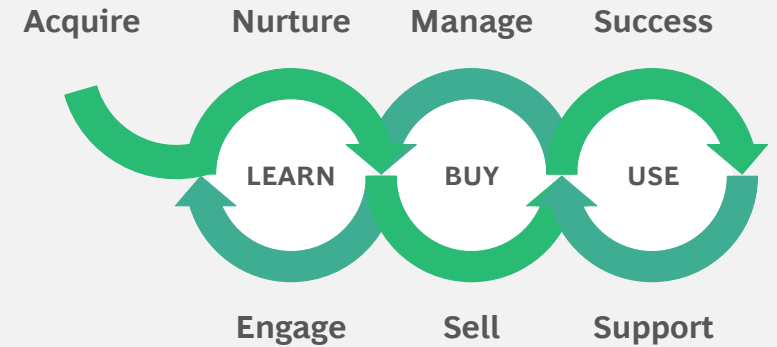
Featured beauty advisors

120+

February 2020 vs. February 2019 sales

B2B | Animal health manufacturer

Established NextGen sales engine to deliver a customer-centric personalized experience



- Prioritized based on **account potential**
- Leveraged **always-on digital selling**
- Alerted sales reps to **take action** in real time

4-7x

Sales productivity improvement

-30%

Decrease in cost of sales

B.5

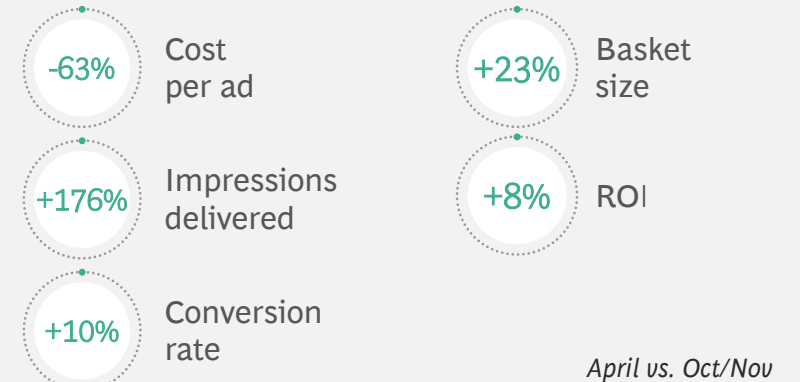
Supercharge precision advertising

How can we capture and retain the surge in digital trial and demand?

Treat COVID-19 as catalyst for influencing customers in online channels

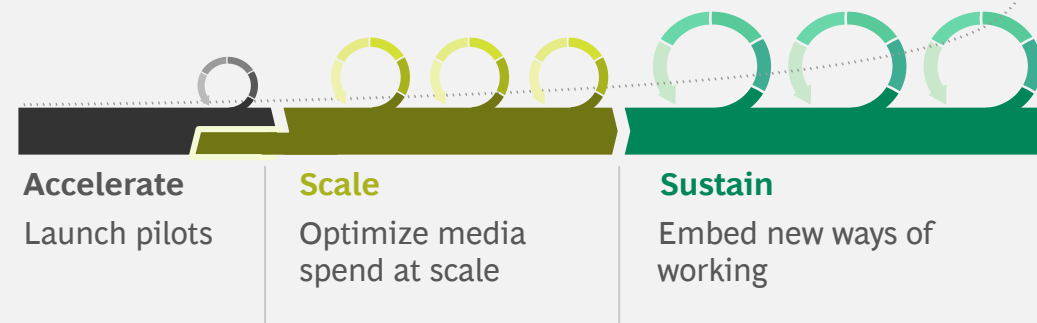
- 1 Reinvent your brand now**
Take advantage of unprecedented customer attention
- 2 Capitalize on increasing ROIs**
Be ready to lock in low rates as others cut spending
- 3 Optimize media mix**
Increase flexibility of budget and shift spend to TV and digital
- 4 Invest thoughtfully in demand generation**
Tap into latent demand as regions and categories rebound

Example | B2C health and wellness retailer with increasing ROI on digital media



Example | B2B ophthalmic lens manufacturer adopts test/learn/scale approach

Launch and measure rapid pilots then scale winners...



...to capture near-term value

Set-up cross-functional 'war room'

Run dozens of tests each week

Measure in real-time

Iterate weekly and adjust budget

2x return on marketing investment

B.6

Personalize and de-average value

How should we price and promote our products to serve unique needs and ensure customer trust?

Evolve pricing to deliver personalized value and serve unique customer segments

Understand and serve de-averaged customer needs

Illustrative personas



Unemployed person **stretching his dollar** by buying in bulk and seeking discounts and promos



Frontline health care worker looking for the **safety and convenience** of same-day home delivery



Millennial working from home who values the **ease** of subscription boxes and hassle-free returns



Retail shop owner looking for **flexibility** on inventory replenishment and lease payments

Personalize value

De-average pricing in line with segments—premium to value

Shift from mass promos to personalized offers, including value-add services

Incentivize and reward desired customer behaviors

Introduce new pricing models aligned to changing behaviors

Create guardrails for short-term incentives that protect lifetime value

Example | B2C convenience retailer shifts from mass to personalized promotions

Prior to and also during crisis

Shifted budget from mass promos to vendor-funded 1-1 offers

Optimized offers to drive real-time conversion and engagement

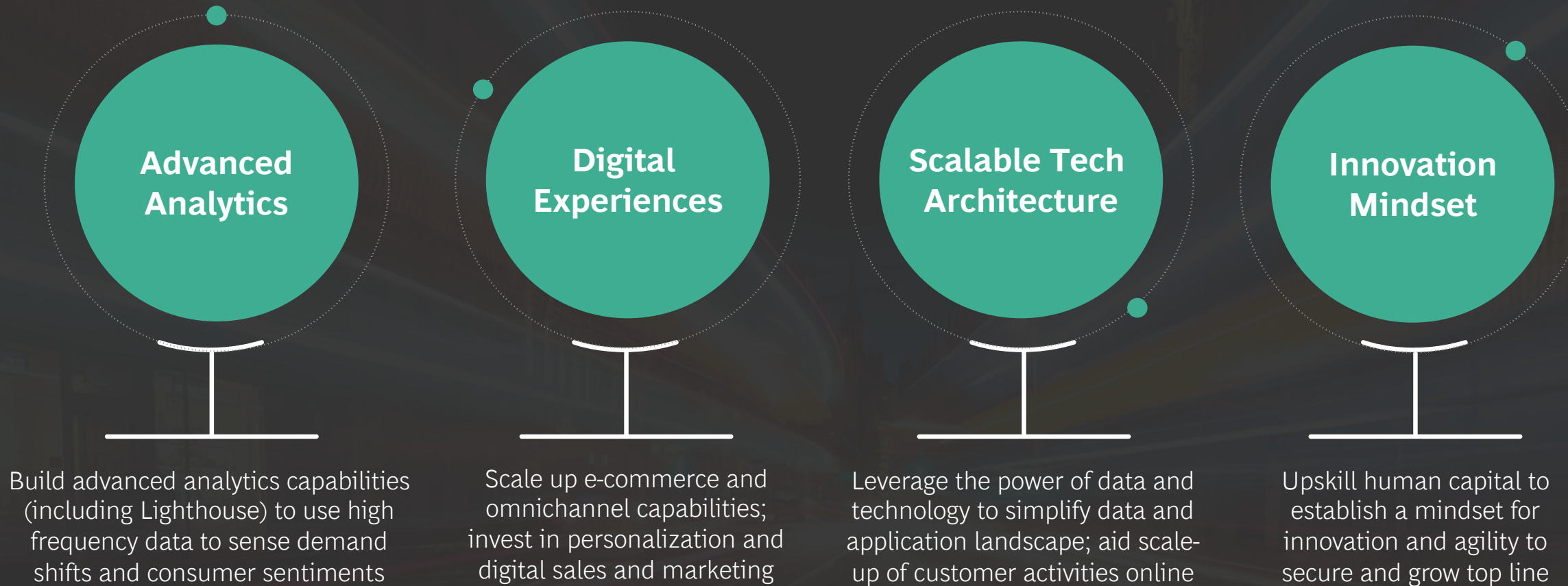
+90%

Offer redemption vs. last year

+\$100M

Incremental revenue

Companies will need to augment their capabilities to win in the new reality



Guide to building an innovation mindset for organizations

Carve out time for reflection

To see the big picture, stand back and reflect; create a rhythm of action and reflection in business

Ask active, open questions

Prompt questions that drive exploration of fresh ideas and approaches that can bring creativity

Allow yourself to be playful

Create an agile environment that allows for practice of imagining and improvising; loosen up from regular, goal-driven approach

Set up a system for sharing ideas

Facilitate collective imagination by creating forums for people to communicate without hierarchy

Seek out the anomalous and unexpected

Look externally to solve tough new problems; examine accidents, anomalies, and particulars

Encourage experimentation

Experiment and test ideas in the real world (often generates unexpected outcomes and stimulate further thinking)

Stay hopeful

Imagination feeds on aspirations and aggravations (give people grounds for hope, imagination, and innovation)

*For more detail,
refer to the article*

**We Need
Imagination Now
More Than Ever**



1

Guide for leaders

Sensing consumer behavior and seizing demand shifts
How companies can adapt and transform to win

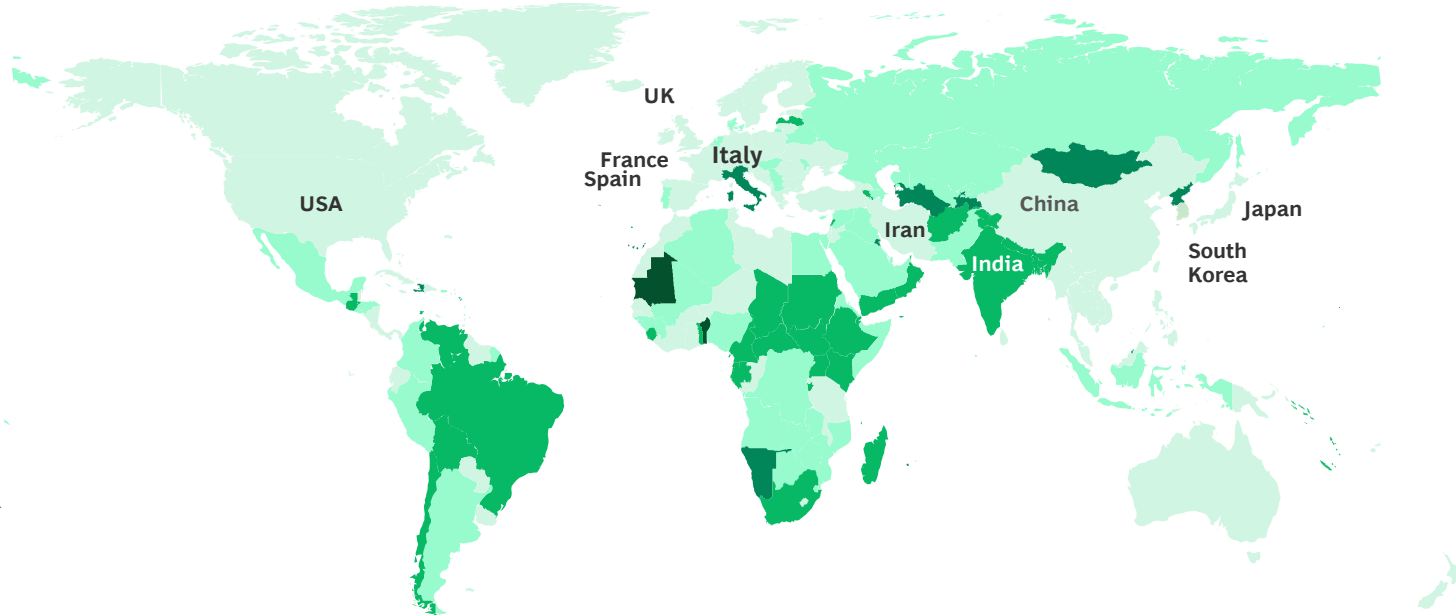
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Updated epidemic progression and impact

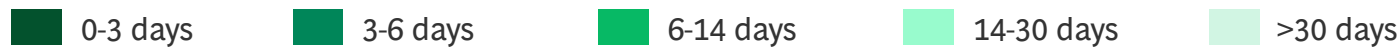
Epidemic progression and virus monitoring
Economic and business impact
Consumer sentiment snapshot

~2.1M reported recoveries¹ globally so far; case-doubling rate improves to 35 days

As of 22 May 2020



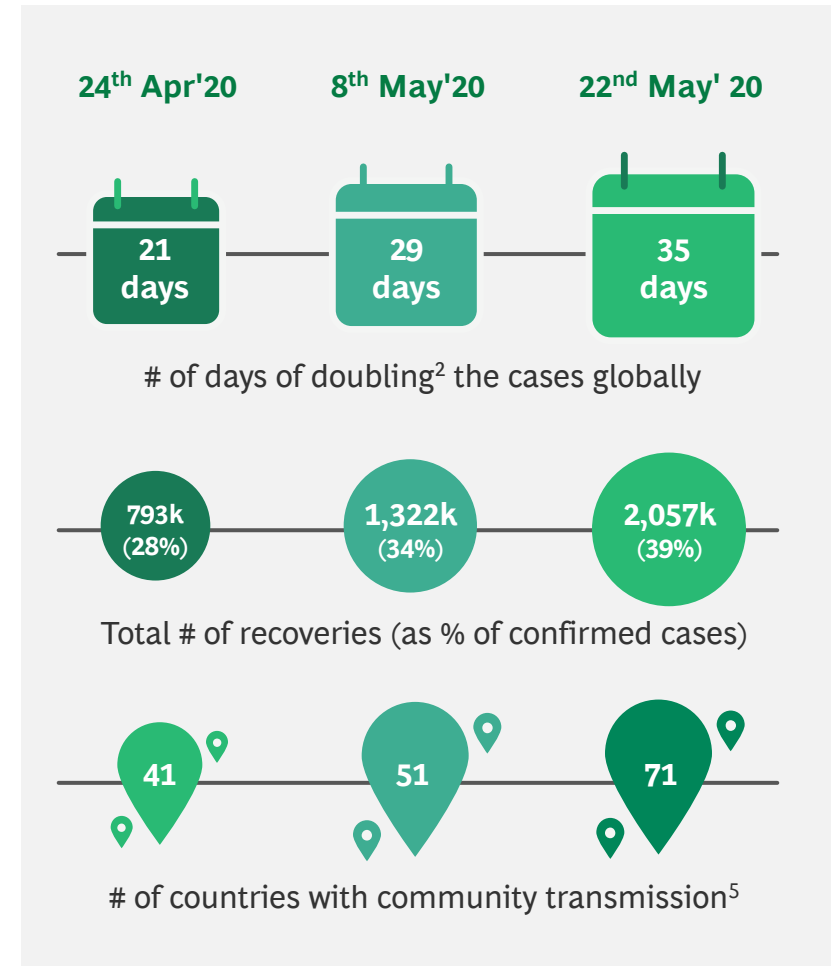
Days of doubling cases:



185
Countries with cases³

5.2M [$\Delta 2\%$]⁴
Confirmed cases globally

338k [$\Delta 1.4\%$]⁴
Fatalities globally



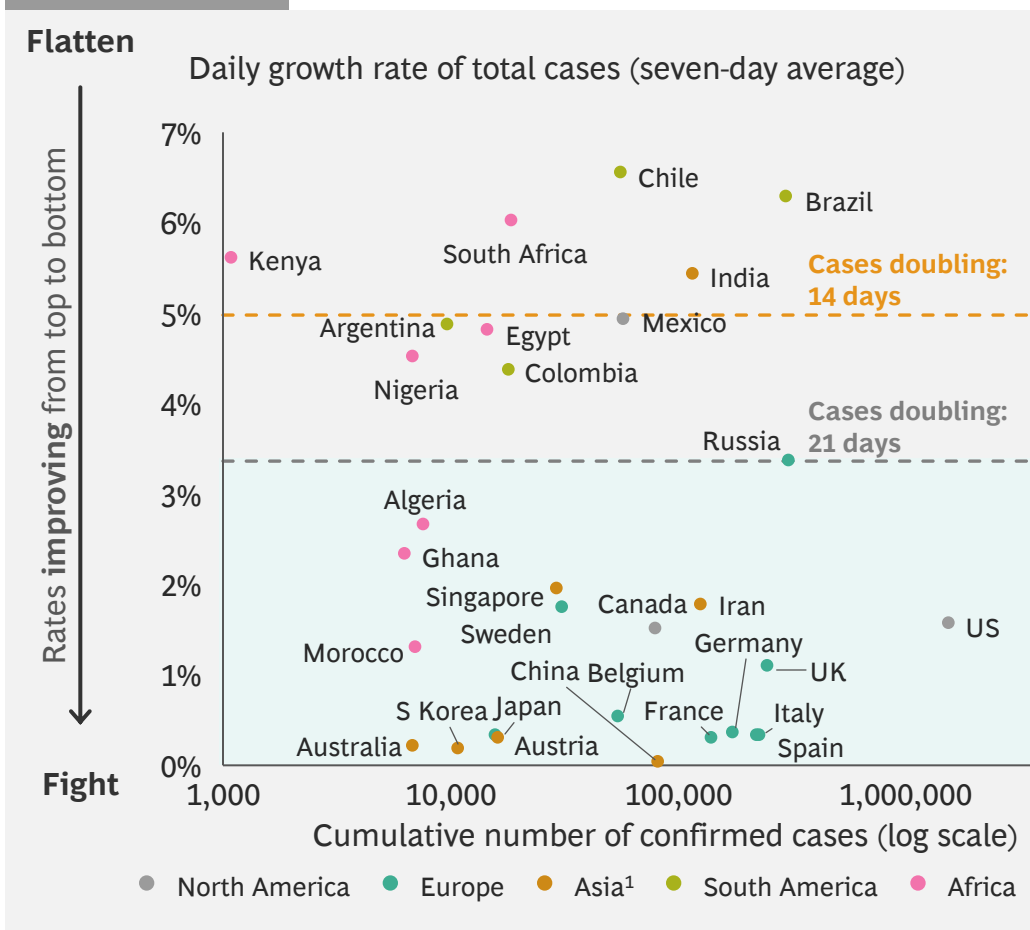
Note: Continued cases and fatalities are subject to different testing, propensity, reporting standards, and hence are imperfect measures
 1. Refers to total reported recoveries as a percentage of total reported infections (cases) 2. No. of doubling days based on 7-day CAGR 3. Basis Johns Hopkins CSSE 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

As countries move into Fight phase, several have started to see decline in number of daily cases

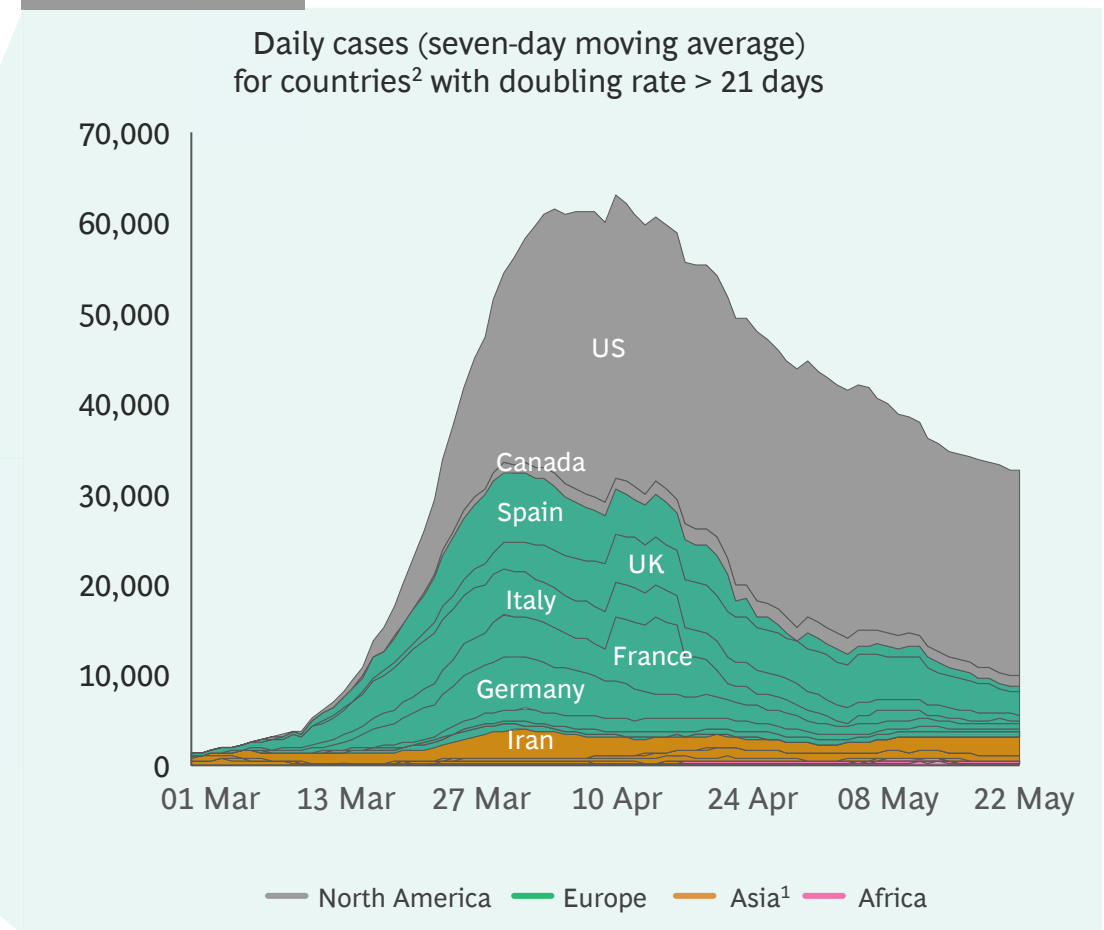
As of 22 May 2020

Non-exhaustive

Several countries increasing doubling rate...



...driven by decline in number of daily cases



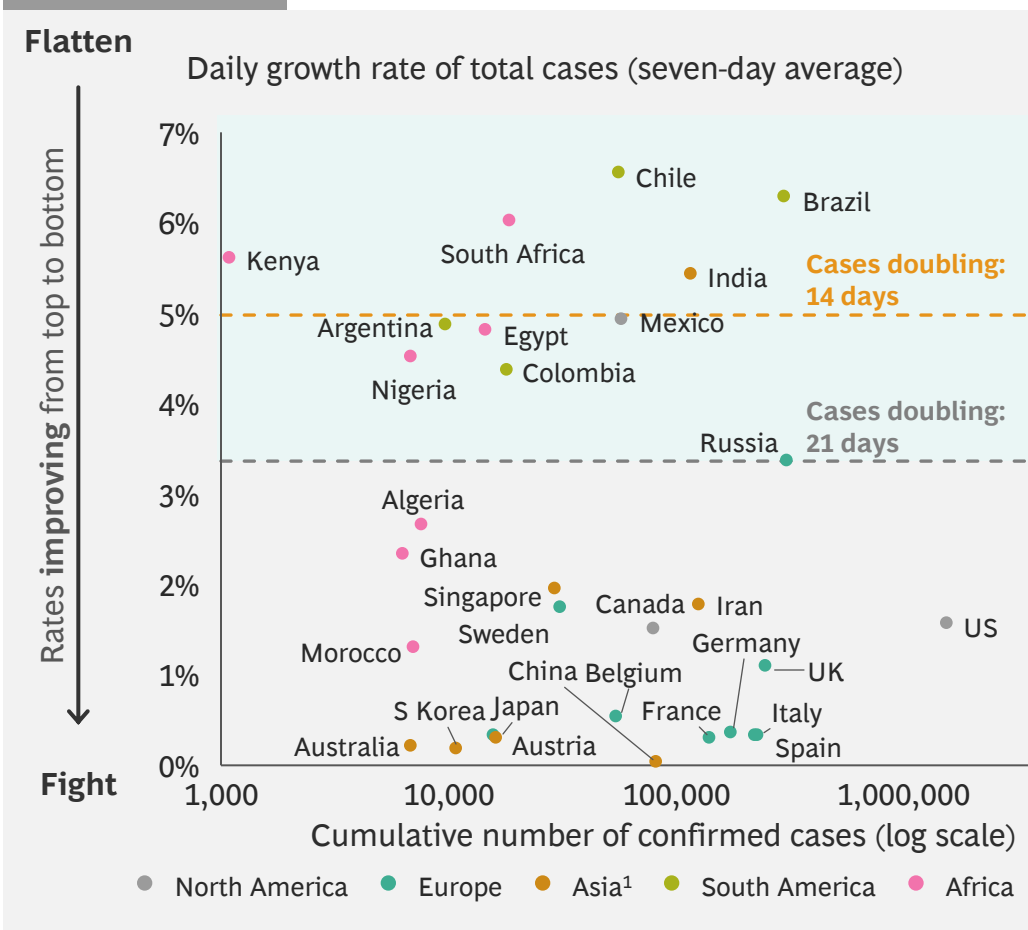
1. Includes Middle East & Australia 2. Countries selected from the chart on the left
Source: Johns Hopkins CSSE; Our World in data; BCG

Some countries currently have cases doubling under 21 days; strong monitoring essential in the next few weeks

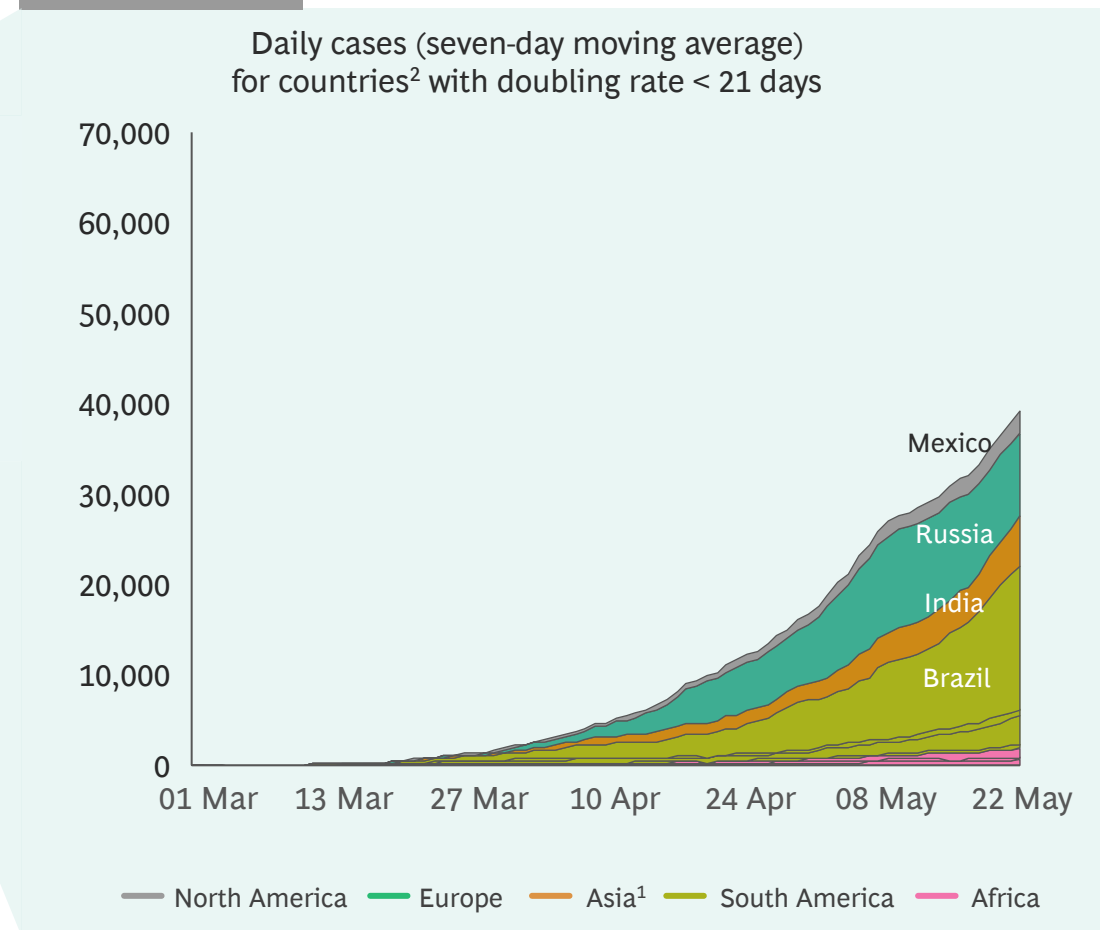
As of 22 May 2020

Non-exhaustive

Some countries currently have high case growth rate...



...driven by increase in number of daily cases

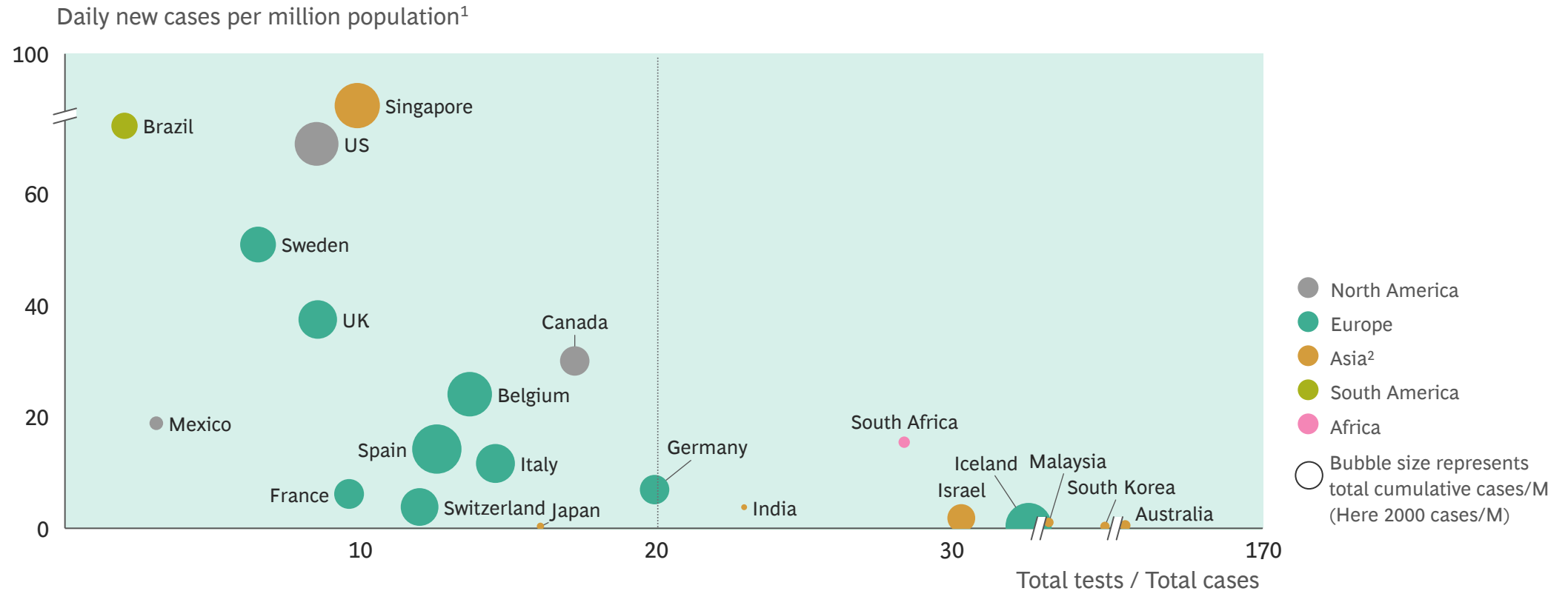


1. Includes Middle East & Australia 2. Countries selected from the chart on the left
Source: Johns Hopkins CSSE, Our World in data; BCG

While countries further relax lockdown measures, continued testing capacity ramp-up is critical

As of 22 May 2020

Non-exhaustive



For countries to move to the right, they need an **Integrated Virus Monitoring System** that includes testing, tracking, and tracing

1. Taken as 7-day moving average; 2. Includes Middle East & Australia
Source: Our World in Data, Worldometer, BCG Analysis

Accuracy has critical implications for effective medical response; Molecular tests continue to be the "gold standard"

As of 18 May 2020

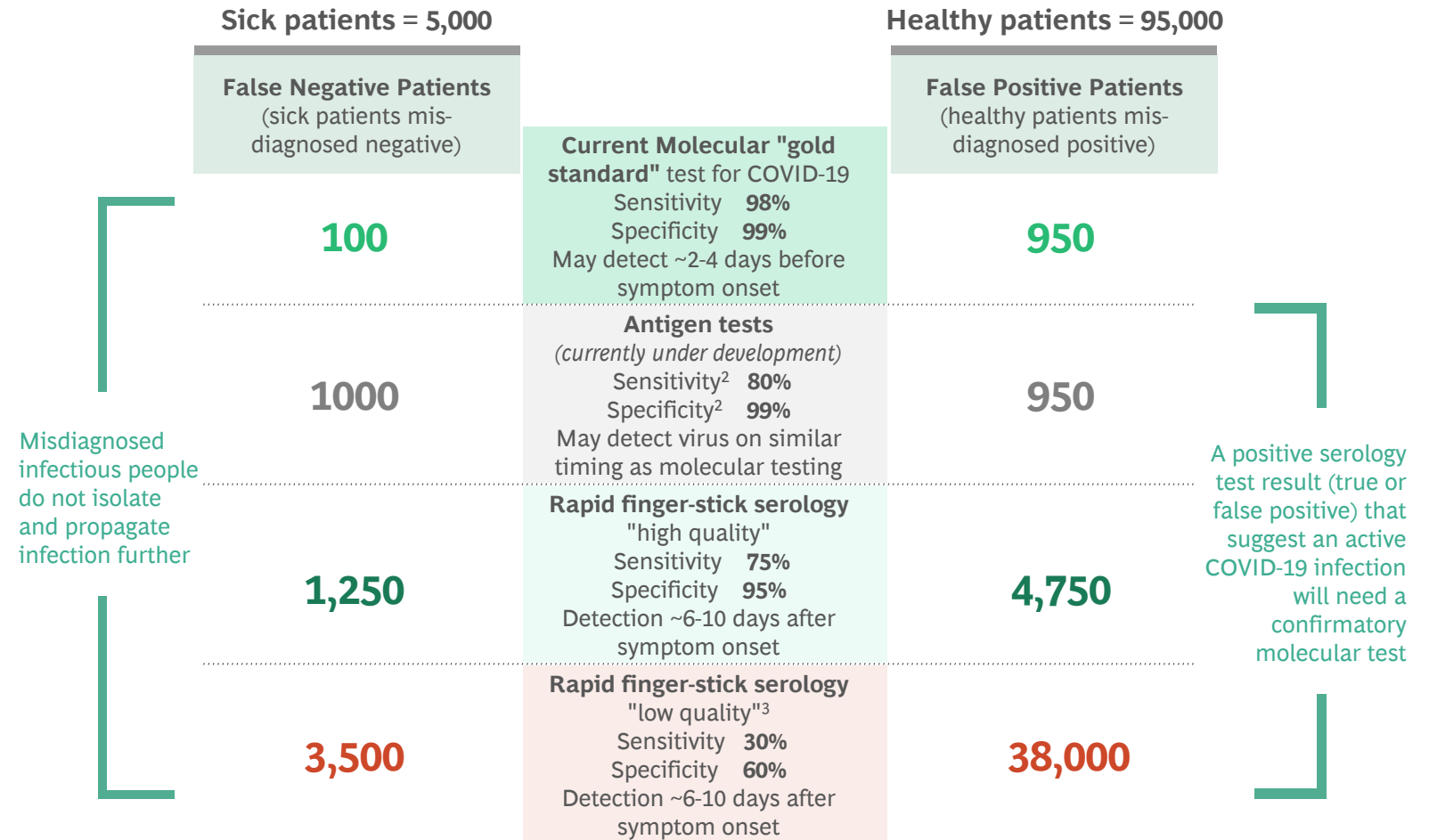
Two test types available for Covid-19 that differ in what they detect and how well they detect

1 "Gold standard" molecular tests provide the most accurate detection of the virus genetic material (RNA), typically from respiratory swabs, and can detect the virus before symptoms appear

2 Serological tests detect the human immune response to the virus about one week after symptoms appear; many "rapid" serology tests launched vary significantly in accuracy

Illustration for US: Implications of Accuracy for Covid-19 Testing

Base data: 100,000 tests performed¹; 5% disease prevalence








1. Roughly equivalent to US nationwide daily throughput as of March 31, 2020 2. Estimated using Quidel antigen test; while the specificity of that test was reported as 100% from 84 samples, 99% was used here as 100% specificity in unlikely in a large patient sample 3. The Guardian ("Coronavirus test kits withdrawn in Spain over poor accuracy rate", March 27, 2020) Source: Expert interviews; Popular press articles; Product specifications; BCG

Ramp up of supply chains critical to fully achieve molecular testing potential

As of 18 May 2020

Preliminary, US Example

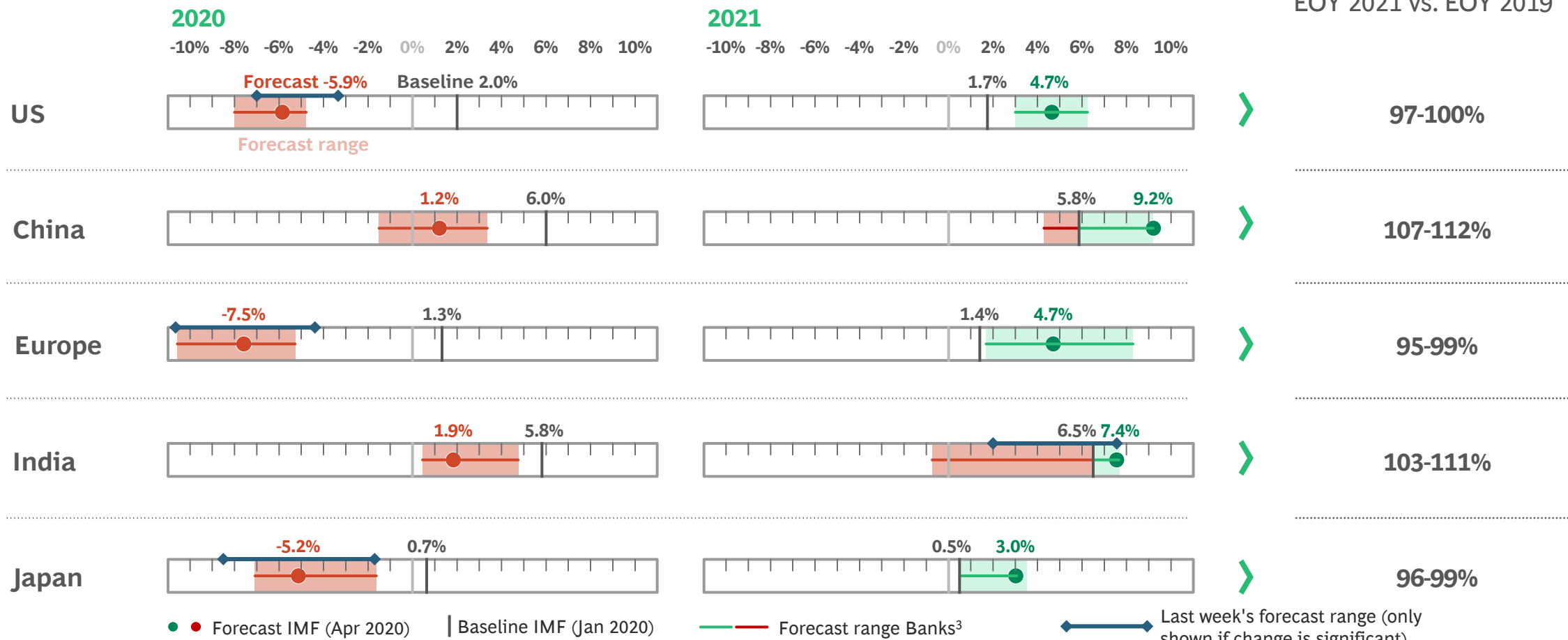
	Current daily MDx testing throughput: 200,000+	Capacity impact	Description	Workflow/install base impact	Examples
Capacity unlock levers ²	Remote specimens	High	<ul style="list-style-type: none"> Enabling all MDx equipped labs to receive remotely collected samples 	<ul style="list-style-type: none"> Non- /semi-automated 	
	Saliva testing	High	<ul style="list-style-type: none"> Validating and scaling saliva testing 	<ul style="list-style-type: none"> Non- /semi-automated 	
	Swab kits	Medium	<ul style="list-style-type: none"> Alleviating swab kit shortages 	<ul style="list-style-type: none"> Non- /semi-automated 	 (Defense production)
	EMR/Contracting	Medium	<ul style="list-style-type: none"> Enabling all MDx labs to contract with and report results to hospitals 	<ul style="list-style-type: none"> Non- /semi-automated 	
	Increased staffing	Medium	<ul style="list-style-type: none"> Adding more lab staff and longer shifts 	<ul style="list-style-type: none"> Non- /semi-automated, Near-patient, POC 	
	RNA prep kits	Low	<ul style="list-style-type: none"> Alleviating RNA prep kit shortages 	<ul style="list-style-type: none"> Non- /semi-automated 	
	Other	Low	<ul style="list-style-type: none"> Such as, if install all inventory on hand by vendors under current supplies constraints 	<ul style="list-style-type: none"> All 	
	Instrument inventory	Low	<ul style="list-style-type: none"> If install all inventory on hand with all other levers in place 	<ul style="list-style-type: none"> All, esp. automated 	
	Other MDx testing technologies (e.g. LAMP, TMA, CRISPR)	High	<ul style="list-style-type: none"> Utilizing other high-throughput and POC MDx testing technologies beyond PCR 	<ul style="list-style-type: none"> All 	
Max pragmatic throughput: 400,000-500,000		Estimated directional impact to currently observed throughput High: >30% Medium: 15-30% Low: <15%			

1. Average of empirically observed daily throughput in April to date 2. Impact of levers estimated semi-quantitatively when fully implemented, short term impact likely much smaller and will vary by lever
Source: Expert interviews; BCG

Economic forecasts deteriorating for US and Europe, rebound of global GDP not expected before 2021

As of 22 May 2020

GDP growth forecast vs. baseline



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 Fund, 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

TSR still not back on pre-crisis level across sectors; 11 sectors have >10% of companies with high probability of default

As of 22 May 2020

Decline reflects economic scenario and consumer sentiment

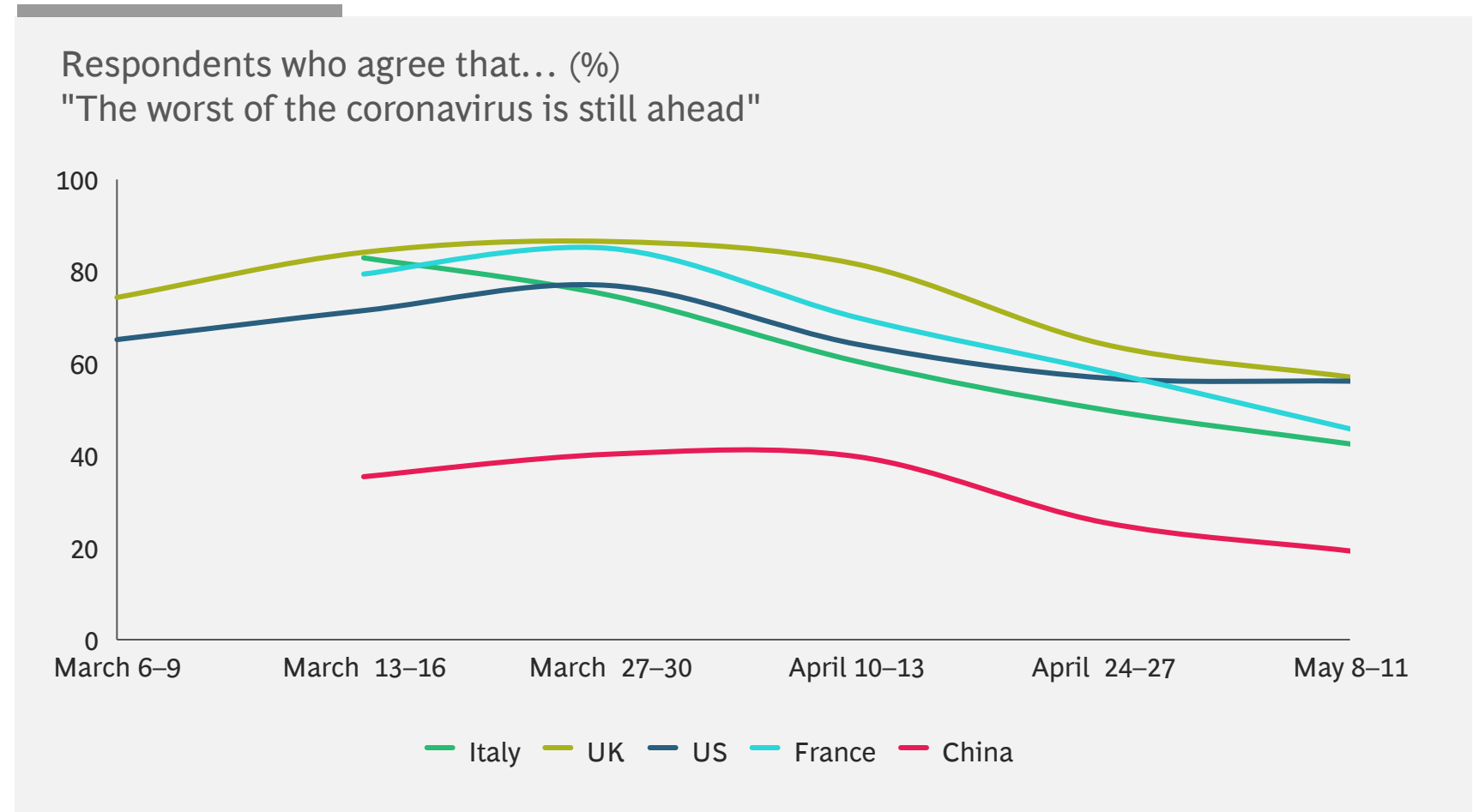
		TSR performance ¹			Companies with probability of default >15% ²		
		21 Feb 2020 - 20 Mar 2020	21 Feb 2020 - 22 May 2020	08 May 2020 - 22 May 2020	21 Feb 2020	22 May 2020	08 May 2020 - 22 May 2020
Healthier sectors	Pharma	-20%	-2%	→	0%	11%	→
	Food/staples Retail	-10%	-6%	→	0%	0%	→
	Household Products	-16%	-7%	→	0%	0%	→
	Health Equipment	-31%	-8%	↗	0%	0%	→
	Semiconductors	-30%	-9%	→	0%	0%	↘
Pressured sectors	Tech Hardware	-26%	-10%	→	0%	0%	→
	Software	-30%	-12%	→	9%	8%	→
	Food & Beverage	-23%	-12%	→	0%	0%	→
	Retailing	-40%	-13%	↗	0%	41%	↘
	Telecom	-17%	-14%	↘	0%	15%	→
	Materials	-32%	-14%	→	4%	15%	↘
	Prof. Services	-30%	-15%	→	0%	0%	→
	Transport	-34%	-15%	↗	0%	36%	→
	Media	-36%	-18%	→	0%	15%	→
Utilities	-30%	-19%	→	0%	3%	↗	
Vulnerable sectors	Capital Goods	-35%	-20%	→	2%	11%	→
	Auto	-41%	-22%	↗	0%	33%	→
	Financials	-35%	-23%	→	0%	0%	↘
	Durable Goods	-39%	-25%	→	0%	5%	↗
	Insurance	-39%	-29%	↘	0%	0%	→
	Hospitality	-44%	-32%	↗	7%	36%	↘
	Energy	-52%	-32%	→	0%	21%	↘
	Real Estate	-39%	-33%	↘	0%	17%	→
	Banks	-39%	-35%	↘	0%	4%	→

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 based on median 2. 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%

As of 11 May 2020

Consumers continue to display less pessimistic outlook than four weeks ago



Question text: "How much do you agree with each of the following statements about the coronavirus?"

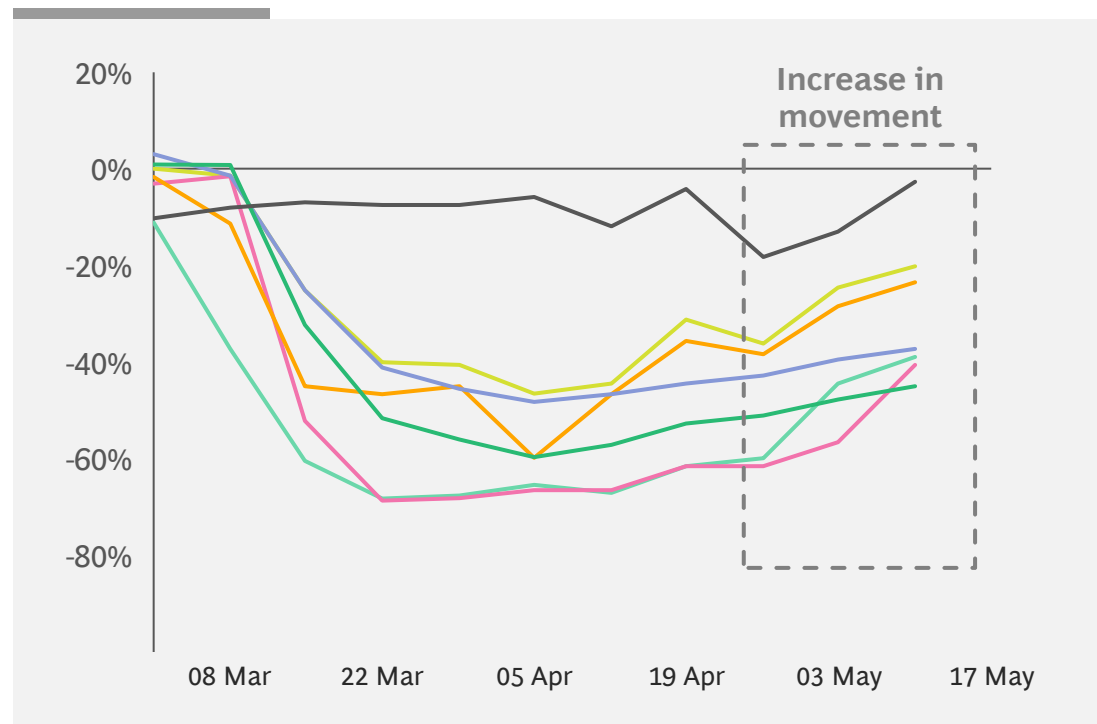
Source: BCG COVID-19 Consumer Sentiment Survey, March 6–May 11, 2020 (N =2000-3500), unweighted, representative within ±3% of census demographics

With easing of lockdowns, consumers have started stepping out for work and essentials

As of 16 May 2020

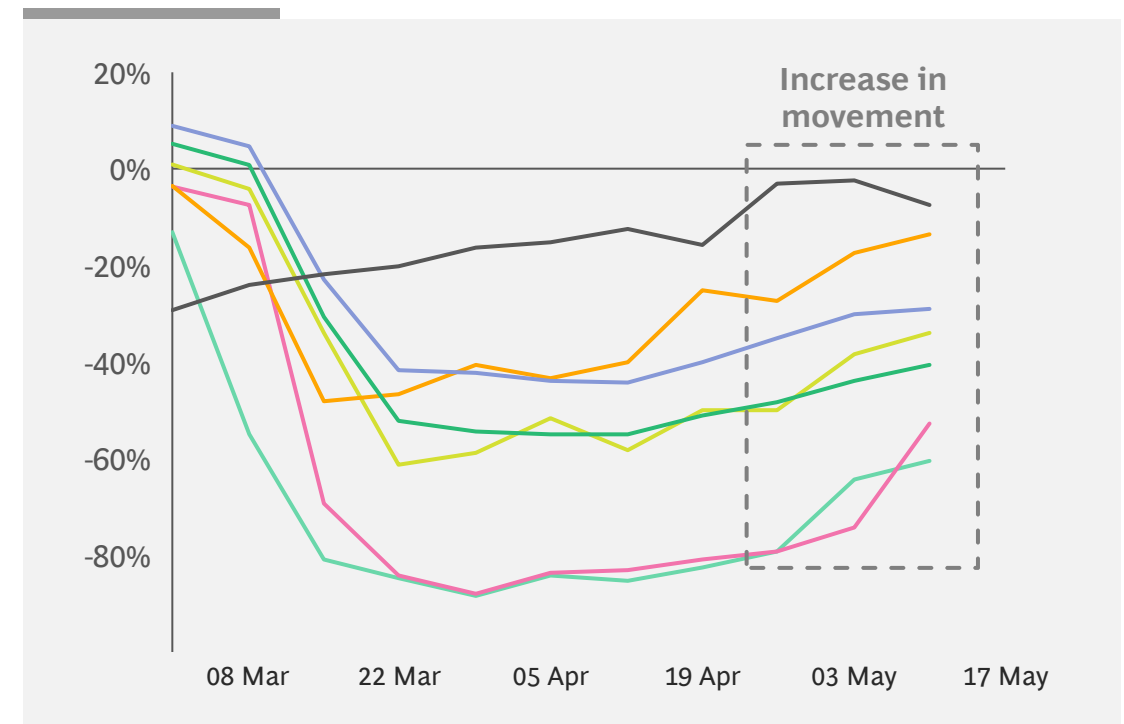
Workplaces

Tracked as changes¹ in visits to workplaces



Retail stores and recreation spaces

Tracked as changes¹ in visits to shopping centers, restaurants, theme parks, movie theaters, etc.



Germany Italy France Norway United States Canada South Korea

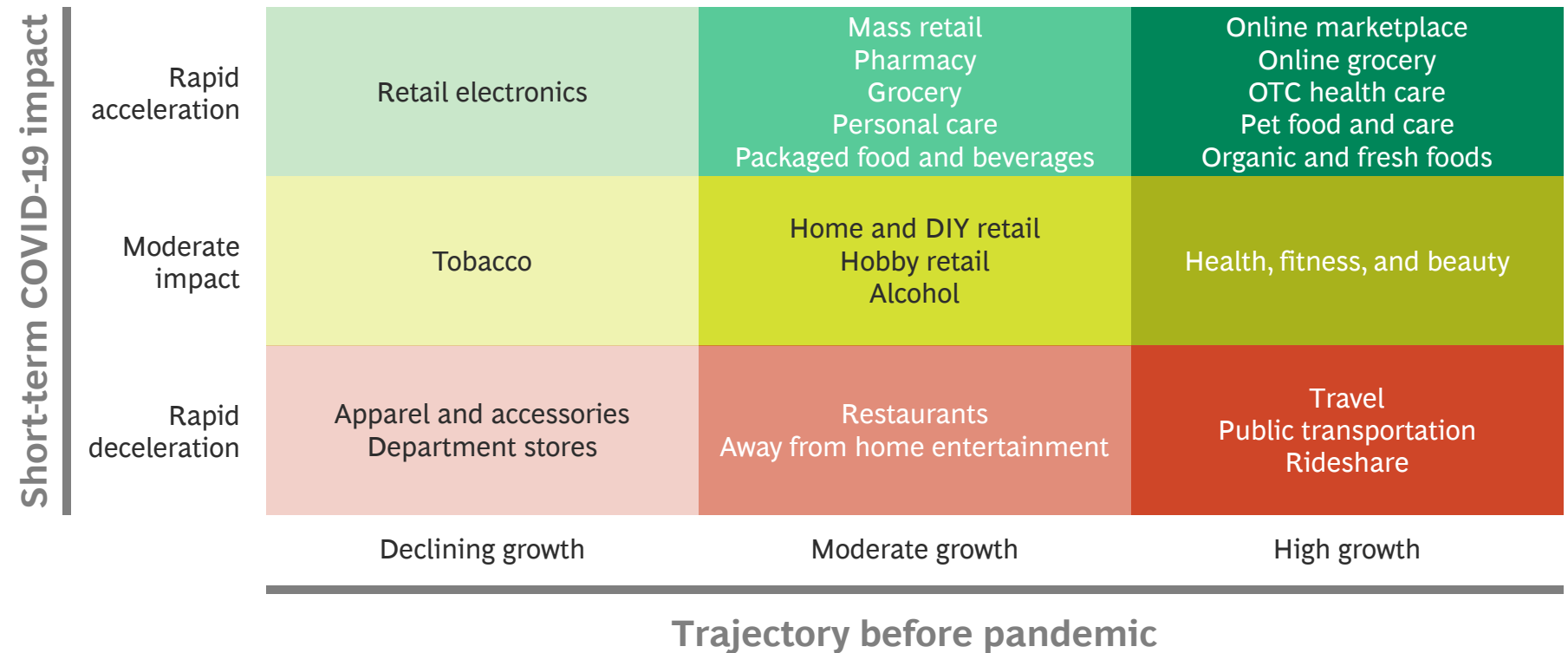
1. Taken as weekly average compared with decline from baseline (median value to corresponding day of the week during Jan 3-Feb 6 2020); Represented only for selected countries. Source: Google Covid-19 Community Mobility Reports; BCG

Shift of spend visible to categories relevant in stay-at-home context

As of 11 May 2020

US example

COVID-19 short term impact on long-term growth trends before the crisis



Note: Based on credit card and IRI data from the US for March 2020 vs. Compound annual growth rate from January 2016 to January 2020 in same categories

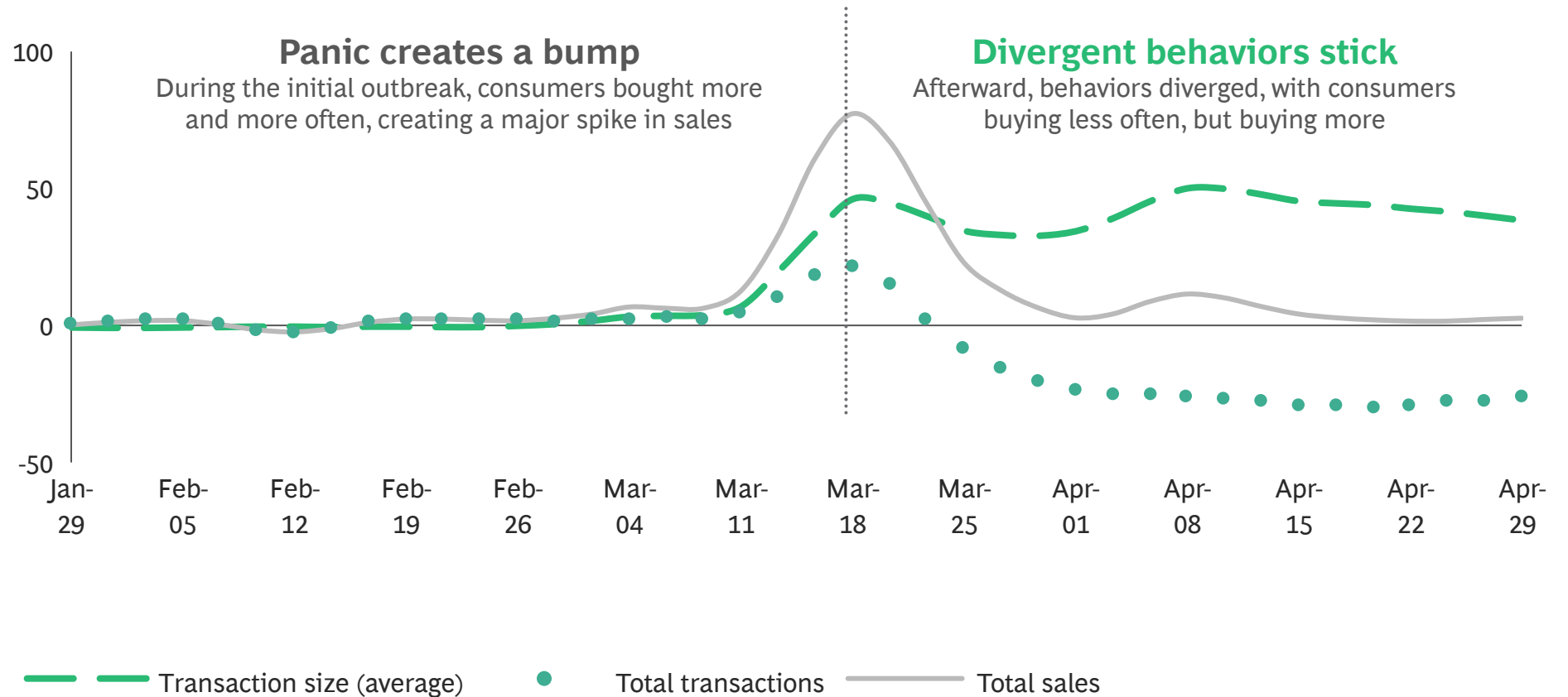
Source: BCG Gamma; BCG Henderson Institute; BCG

In-store purchase frequency has decreased while transaction size has increased

As of 06 May 2020

US example

Grocery sales | Year-over-year change (%)

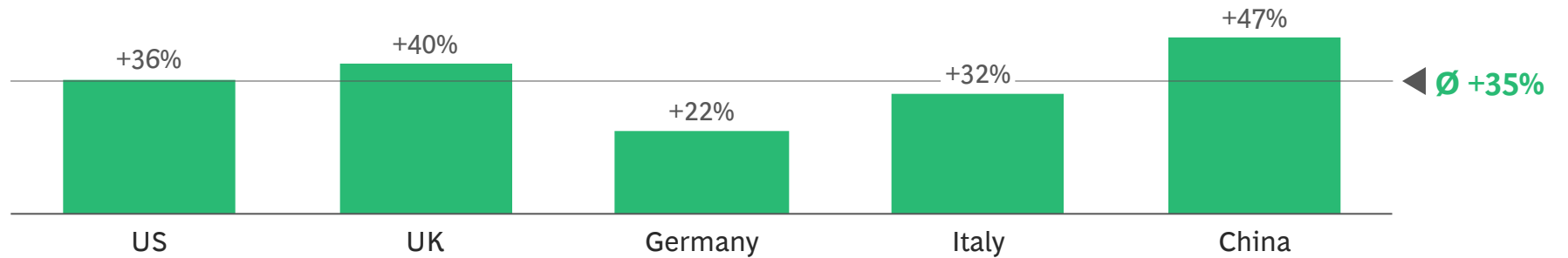


Note: Spending data is based on consumer credit card/debit card/checking account activity from a panel of US consumers from Earnest Research (tracked responses exclude cash/other)
Sources: Earnest Research; BCG

Shoppers preferring strong and integral brands in times of uncertainty

As of 20 April 2020

Net likelihood¹ of buying brands that stood out in a positive way during the crisis (%)



Example: How companies supported society during COVID-19

Protective gear

Clothing company started producing 50,000 medical gowns and **2.5 million masks** in April 2020

Ventilators

Automotive manufacturer is building **50,000-30,000 ventilators** per month starting in April 2020

Staff

Fast-food chain lends **1,750 workers** to grocery stores to cope with initial increase in shopping demand

Suppliers

Natural resources company accelerated **~\$60M payments to small suppliers** by reducing payment terms

Return flights

Airline company brought back **90,000 people in 160 flights**, partially from countries not approached before

1. Difference between people that are likely to increase and people that are likely to decrease

Source: BCG-COVID-19 Consumer Sentiment Survey, April 17-20, 2020 (N = 5728 across US, UK, Germany, Italy and China; unweighted); press releases; BCG

Additional perspectives on COVID-19

COVID-19 BCG Perspectives



Edition #6

[Restructuring costs, and managing cash and liquidity](#)



Edition #4

[Accelerating digital & technology transformation](#)



Edition #2

[Preparing for the restart](#)



Edition #5

[Revamping Organizations for the New Reality](#)



Edition #3

[Emerging stronger from the crisis](#)



Edition #1

[Facts, scenarios, and actions for leaders](#)

Selected general publications



Marketing & Sales

[COVID-19 Consumer Sentiment Snapshot #9: A Lighthouse to Navigate](#)



Revenue Management

[A Revenue Management Reset in Consumer Goods](#)



Supply Chain

[The New Reality for Chief Supply Chain Officers](#)



Demand Sensing

[Shining a Light on Customer Demand During the COVID-19 Crisis](#)



People & Organization

[People Priorities in the Ramp-Up and Return to Work](#)



Leadership

[Communicating Leadership During COVID-19](#)

Selected sector publications



Consumer

[COVID-19 Consumer Sentiment Snapshot #10: The Trip Back](#)



Automotive

[How to Avoid the Auto Industry's Looming Price War](#)



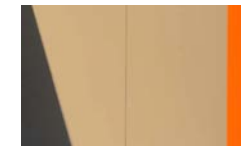
Technology

[Businesses in Asia-Pacific Can Find Resilience and Growth in the Cloud](#)



Consumer

[COVID-19 Consumer Sentiment Snapshot: Special Feature—Asia-Pacific](#)



Retail

[The \\$2.5 Trillion Opportunity for Grocers That Are First to the Future](#)



Healthcare

[The Timelines and Implications for COVID-19 Vaccines](#)

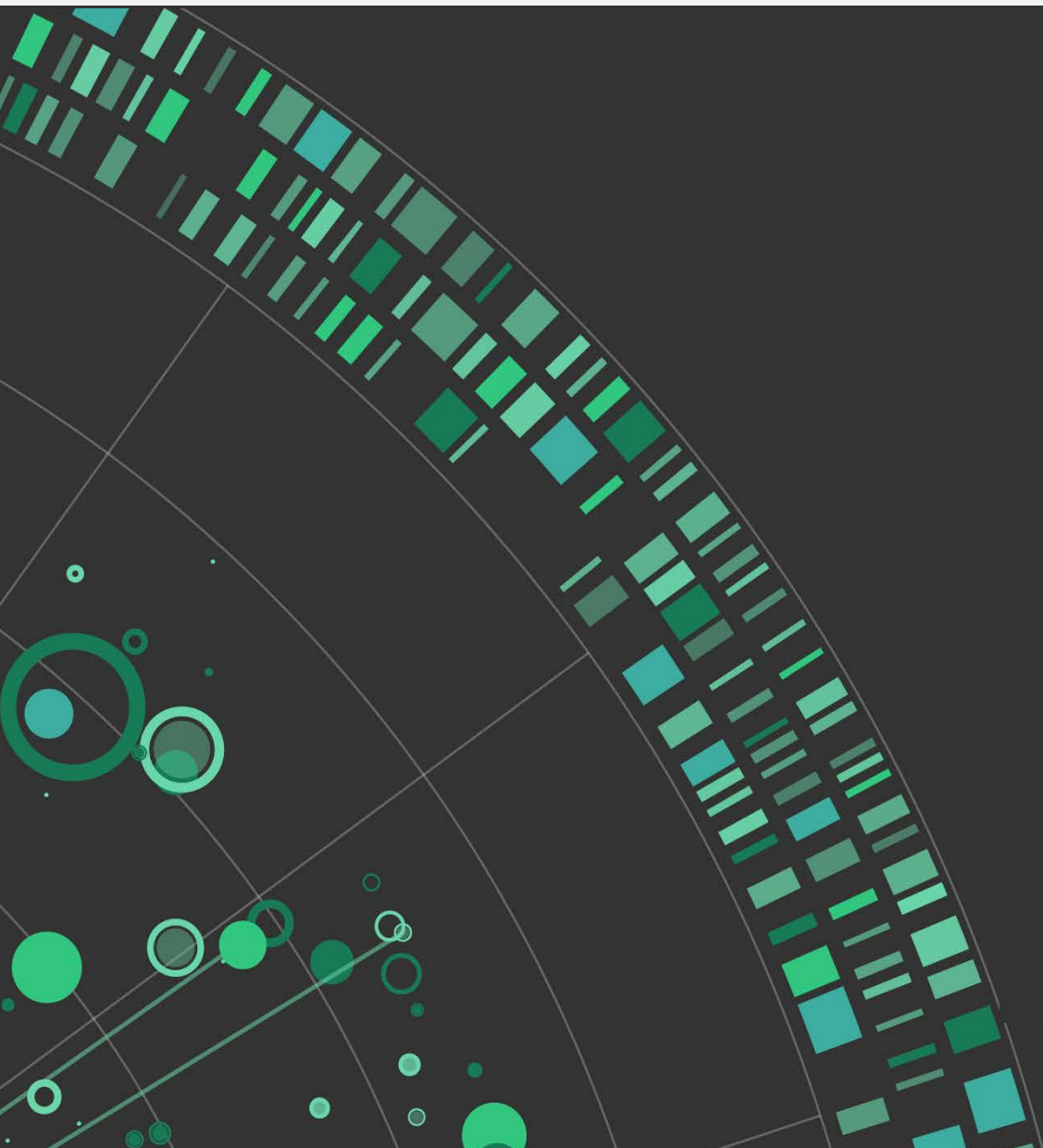
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