



Coronavirus (COVID-19)

Executive Briefing

Understand the COVID-19 outbreak, its impact on the global economy, and initial implications for specific sectors

Last Updated: April 27, 2020
Twelfth in the series

Key Developments and Changes Since Last Update



343,142 new cases since Thursday; total confirmed cases exceed 2.9 million

- The virus has now spread to 187 countries/regions with more than 2.9 million confirmed cases and more than 200,000 deaths.

Slide 6

China risks a second wave of COVID-19 infection from transmission through asymptomatic and imported cases

- China has reported 118 new asymptomatic cases of COVID-19 since the last update on Thursday.
- Besides the asymptomatic cases, China reported 20 new imported cases and 12 domestic infections since Thursday's update.

Slide 9

The US records the highest number of infections; eight countries have now reported more cases than China

- US, Spain, Italy, Germany, France, UK, Turkey and Iran surpassed China in terms of confirmed cases, although testing rates in China are low.
- The number of confirmed cases in the US crossed 960,000, with deaths passing 54,000.

Slide 9

No therapeutic or preventative options are available, but the pipeline is crowded

- Currently there are 1,167 clinical trials for COVID-19. Despite massive efforts, the first vaccine will take at least a year to develop.

Slide 22

Upward trends in clinical trial disruption continue with at least 805 trials (+80 from the last update) and 330 Pharma/Biotech companies and CROs (+17 from the last update) are associated with disrupted clinical trials.

- Across the industry, ongoing trials, irrespective of indication, will likely be impacted not just in terms of trial enrollment and patient care but also data collection and analysis.

Slide 27

In the short-term, unemployment rates will rise in all major economies

- Last week, 4.4 million people filed unemployment claims in the US, bringing the total to 26.4 million in the last five weeks since a national emergency was declared.

Slide 36

GDP growth forecast to fall

- Consensus lowers the estimate of real GDP growth to (-)2.2% for 2020. Economic growth in the US and Europe is forecasted to plunge by 9.1% and 5.8% respectively during the year.

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A GlobalData poll shows increasing concern, but views on businesses' growth prospects are improving

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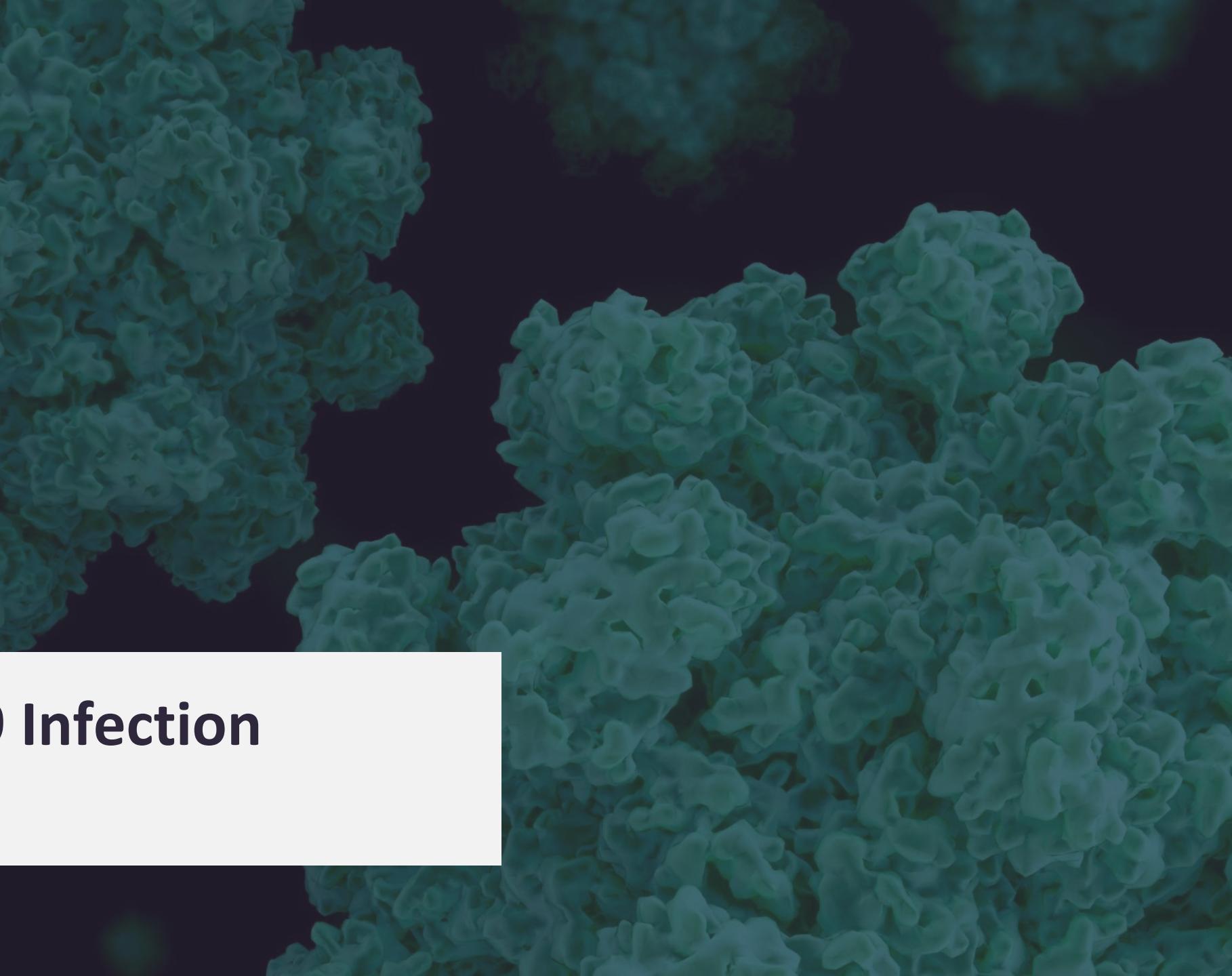
- Testing Statistics by Country

COVID-19 Vaccine and Therapeutic Development

Economic Impact

- Overview of Top Economies
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- Unemployment
- GDP
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Sector Impact

A close-up, high-magnification view of several COVID-19 virus particles. The particles are spherical and feature a complex, wavy, and somewhat porous surface texture, characteristic of coronaviruses. They are colored in a light teal or cyan hue against a dark, solid background.

1. COVID-19 Infection Update

COVID-19 Infection Update



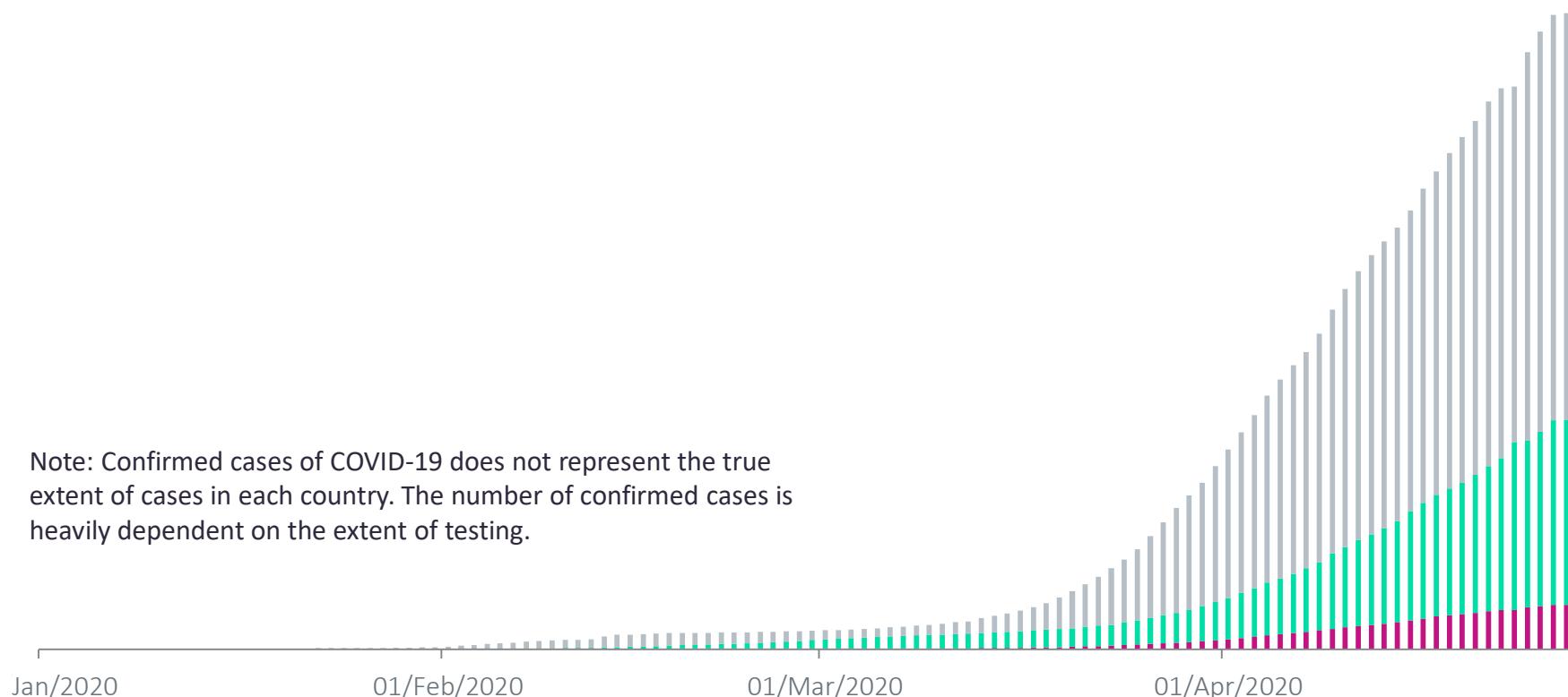
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- The virus has spread to 187 countries with over 2.9 million confirmed cases
 - Case count in the US, Spain, Italy, France, Germany, UK, Turkey and Iran exceeds China's
 - The number of confirmed cases in the US crossed 960,000
 - The US has also recorded the highest number of fatalities, which exceed 54,000
 - Infection Growth Curves Start to Flatten
 - Recorded Deaths Decline
 - Case fatality rates exceed 10% in Spain, Italy, France, and UK

Infection Rates Increase Exponentially



Impact of COVID-19 +/- change between 23 April 2020 and 27 April 2020
as of 27 April 2020

■ Deaths ■ Recovered ■ In Treatment



Note: Confirmed cases of COVID-19 does not represent the true extent of cases in each country. The number of confirmed cases is heavily dependent on the extent of testing.

343,142 new cases since Thursday's briefing

COUNTRIES/TERRITORIES AFFECTED
187

CONFIRMED CASES
2,971,669 +**343,142**

IN TREATMENT
1,899,284 +**239,167**

RECOVERED
865,836 +**80,850**

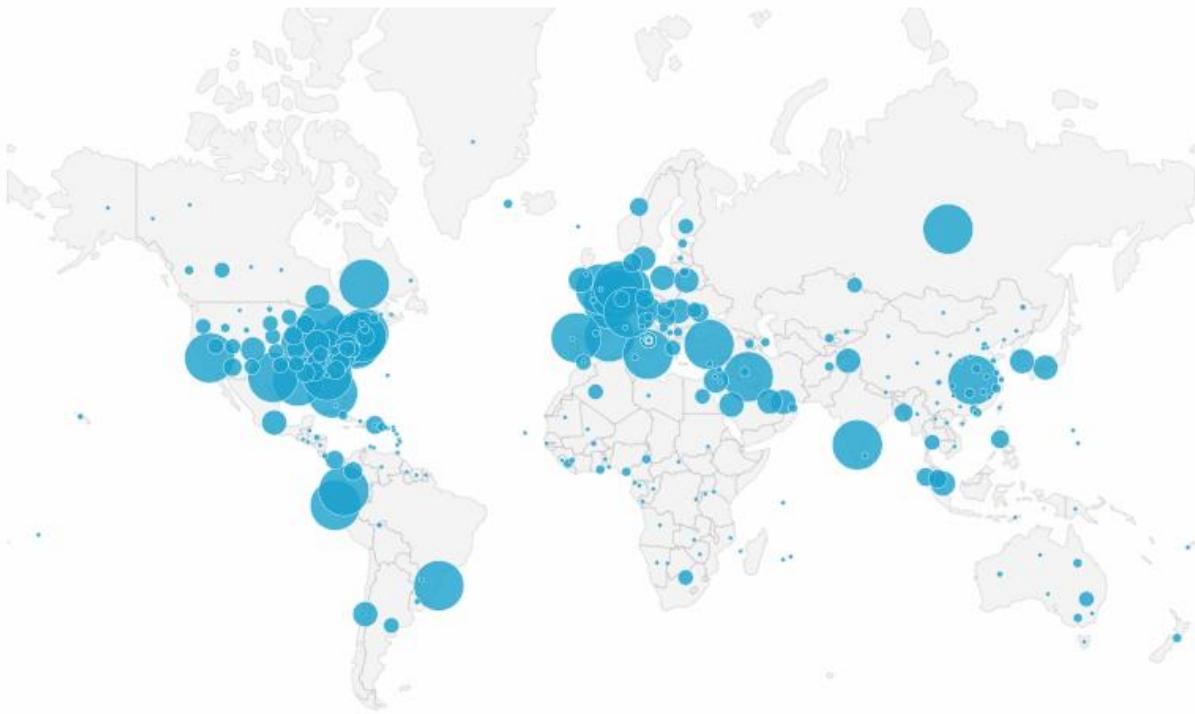
DEATHS
206,549 +**23,125**

COVID-19 is a Worldwide Problem



Affected Countries/Regions

as of 27 April 2020



Note:

Confirmed cases of COVID-19 do not represent the true extent of cases in each country. The number of confirmed cases is heavily dependent on the extent of testing.

China case counts do not include counts from Hong Kong (1,037 confirmed cases | 772 recovered | 4 deaths), Macau (45 confirmed cases | 31 recovered | 0 deaths) and Taiwan (429 confirmed cases | 281 recovered | 6 deaths)

Source: GlobalData Analysis; 2019 Novel Coronavirus COVID-19 (2019-nCoV) Data Repository by Johns Hopkins CSSE; Verdict Media

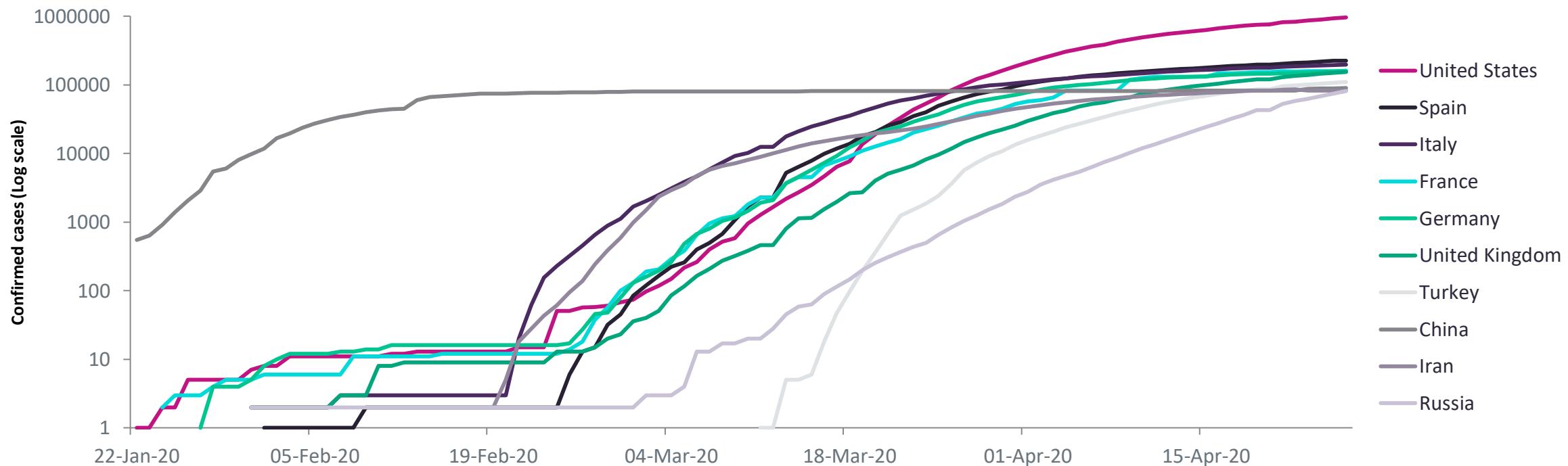
	Confirmed Cases	Recovered	Deaths
United States	965,942 +123,566	106,988 -45,298	54,883 +8,114
Spain	226,629 +18,240	117,727 +31,812	23,190 +1,473
Italy	197,675 +10,348	64,928 +10,385	26,644 +1,559
France	162,220 +5,085	45,681 +4,350	22,890 +1,517
Germany	157,770 +7,122	112,000 +12,600	5,976 +661
United Kingdom	154,037 +19,399	778 +95	20,795 +2,644
Turkey	110,130 +11,456	29,140 +12,663	2,805 +429
Iran	90,481 +4,485	69,657 +6,544	5,710 +319
China	82,830 +32	77,474 +267	4,633 +1
Russia	80,949 +22,950	6,767 +2,347	747 +234

Case Count in the US, Spain, Italy, Germany, France, UK, Turkey & Iran Exceeds China's

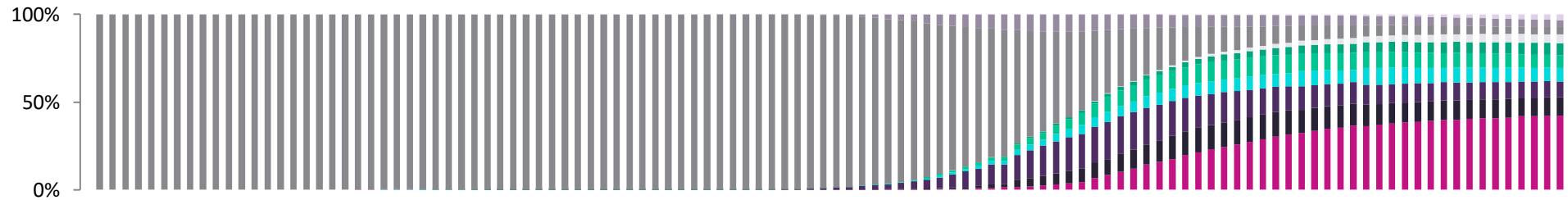


COVID-19 Confirmed Cases by Country

as of 27 April 2020



Breakdown of New Cases by Countries



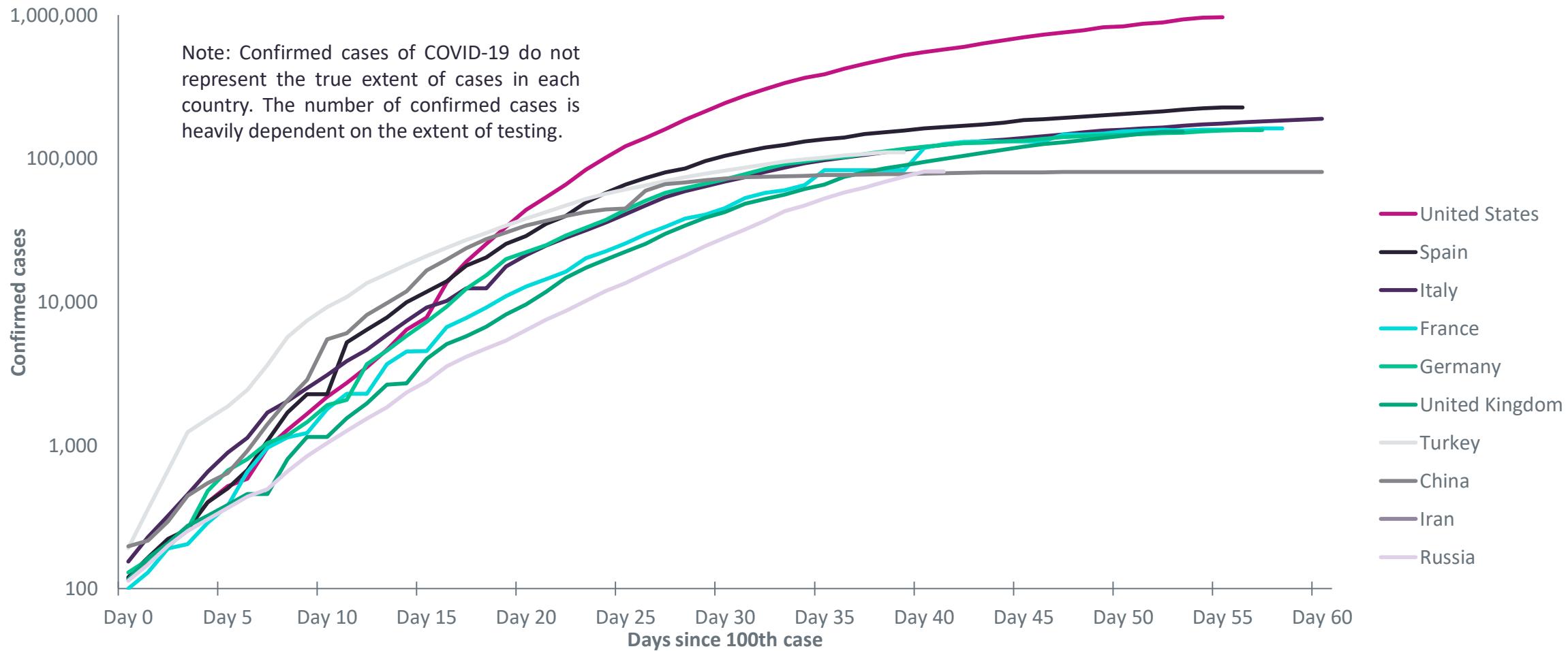
Source: GlobalData Analysis; 2019 Novel Coronavirus COVID-19 (2019-nCoV) Data Repository by Johns Hopkins CSSE

Infection Growth Curves Start to Flatten



COVID-19 Confirmed Cases Trajectories for Select Countries

Cumulative confirmed cases, by days since 100th case for top 10 countries by confirmed cases till the 60th day, as of 27 April 2020

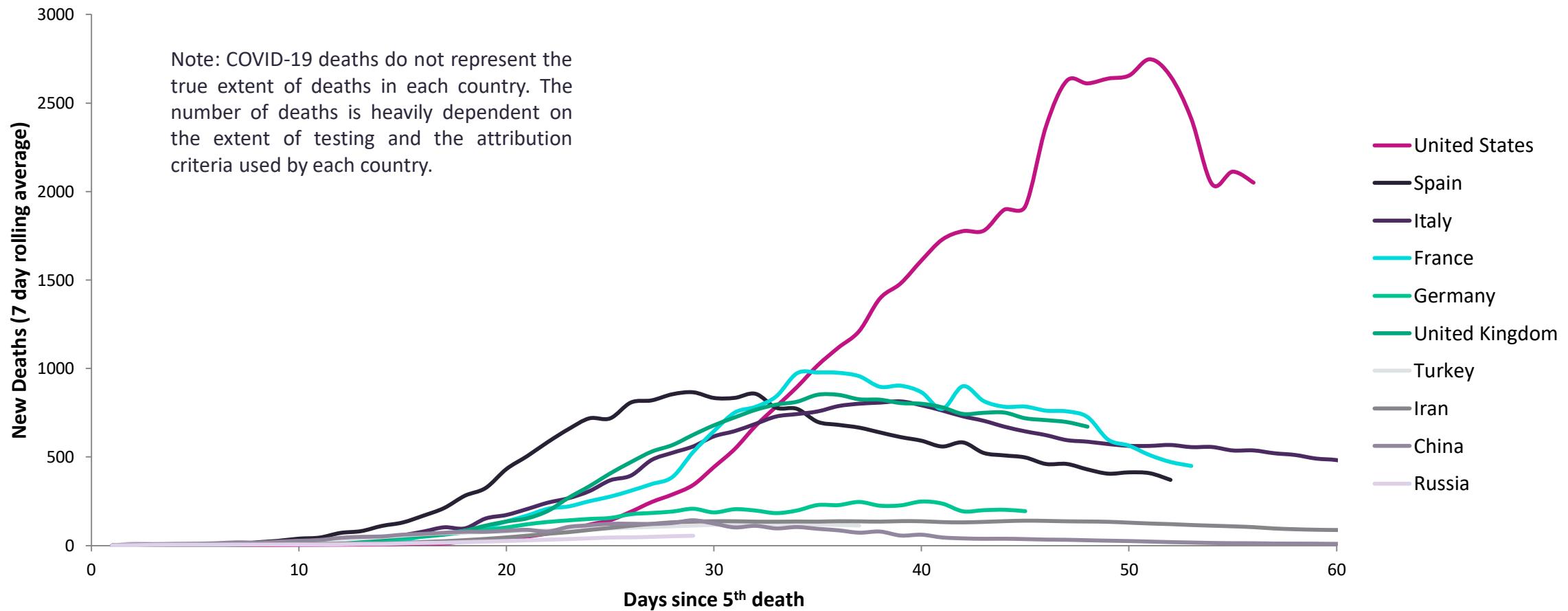


Recorded Deaths Decline



COVID-19 Death Trajectories for Select Countries

7 day rolling average of new deaths, by days since 5th death for top 10 countries by confirmed cases till the 60th day, as of 27 April 2020



Note: China's 7 day rolling average of new deaths continues to decline even after day 60 from day since 5th death



Infection Peak and Decline Forecasts for Select Countries

GlobalData Pharma Analysis

- Peak and recovery curves based on available data for COVID-19.
- Top 10 countries are holding steady this week.
- Spain: slight increase in new cases in the last weeks, recovery week extended by one week.
- Italy: new cases continue to decrease slower than expected, recovery extended to early June.
- Turkey: continues to show a decrease in reported daily new cases, and now expect recovery weeks almost 3 weeks earlier.
- Iran: trending along a flatter growth curve, with recovery weeks expected around end of May and early June.
- Belgium: no obvious peak week, constant level of new cases for several weeks. Plan to lift restricts beginning on May 4th is concerning.

Estimated Peak Weeks and Decline to Zero New Cases Weeks for Top Infected Countries (Excluding China)
as of 27 April 2020

Date (Weeks)	MAR	APR					MAY				JUN			
	30	6	13	20	27	4	11	18	25	1	8	15	22	29
US														
Spain														
Italy														
France														
Germany														
UK														
Turkey														
Iran														
Russia														
Brazil														
Belgium														

Note: Trends based on available data from China, US, Italy, and Spain, assuming countries will maintain strict lockdown measures and cases will follow the general epidemiological outbreak bell-shaped curve. Lighter coloured squares represent more uncertain estimates.

Peak weeks of outbreak shown in pink. Recovery weeks with decline in daily new cases close to 0 shown in green.

Source: GlobalData Analysis, JHU COVID-19 Database, WHO COVID-19 Situation Reports

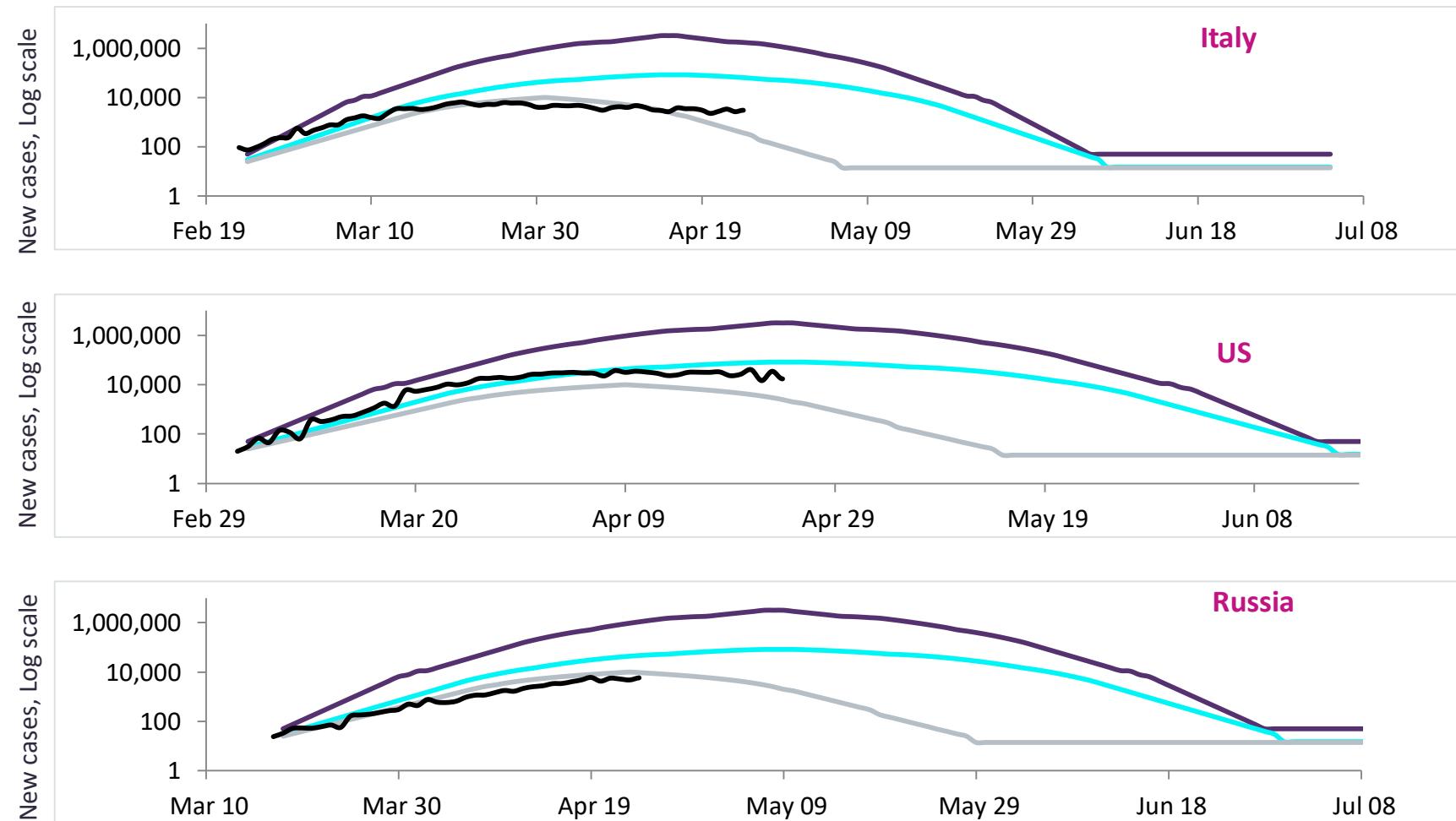


Infection Peak and Decline Forecasts for Select Countries

GlobalData Pharma Analysis

- Peak transmissions and potential dates for return to normal in the select countries are limited by the testing and reporting capabilities of each country.
- Trajectory dependent on continued implementation of effective social-distancing, high levels of testing and contact tracing, isolation of infected patients, and prevention of travel-related second-wave transmissions.
- Maintaining strong population movement control will be difficult as the number of new cases begin to fall. The public may feel safer to move around, which may result in second waves of peak transmission.
- GlobalData will monitor the evolving situation and consider long-term forecasts in the future.

Projections of Daily New Confirmed Cases for Select Countries, Since 100th Confirmed Case as of 27 April 2020



Source: GlobalData Analysis

Low Transmission Risk

Moderate Transmission Risk

High Transmission Risk

Actual Cases

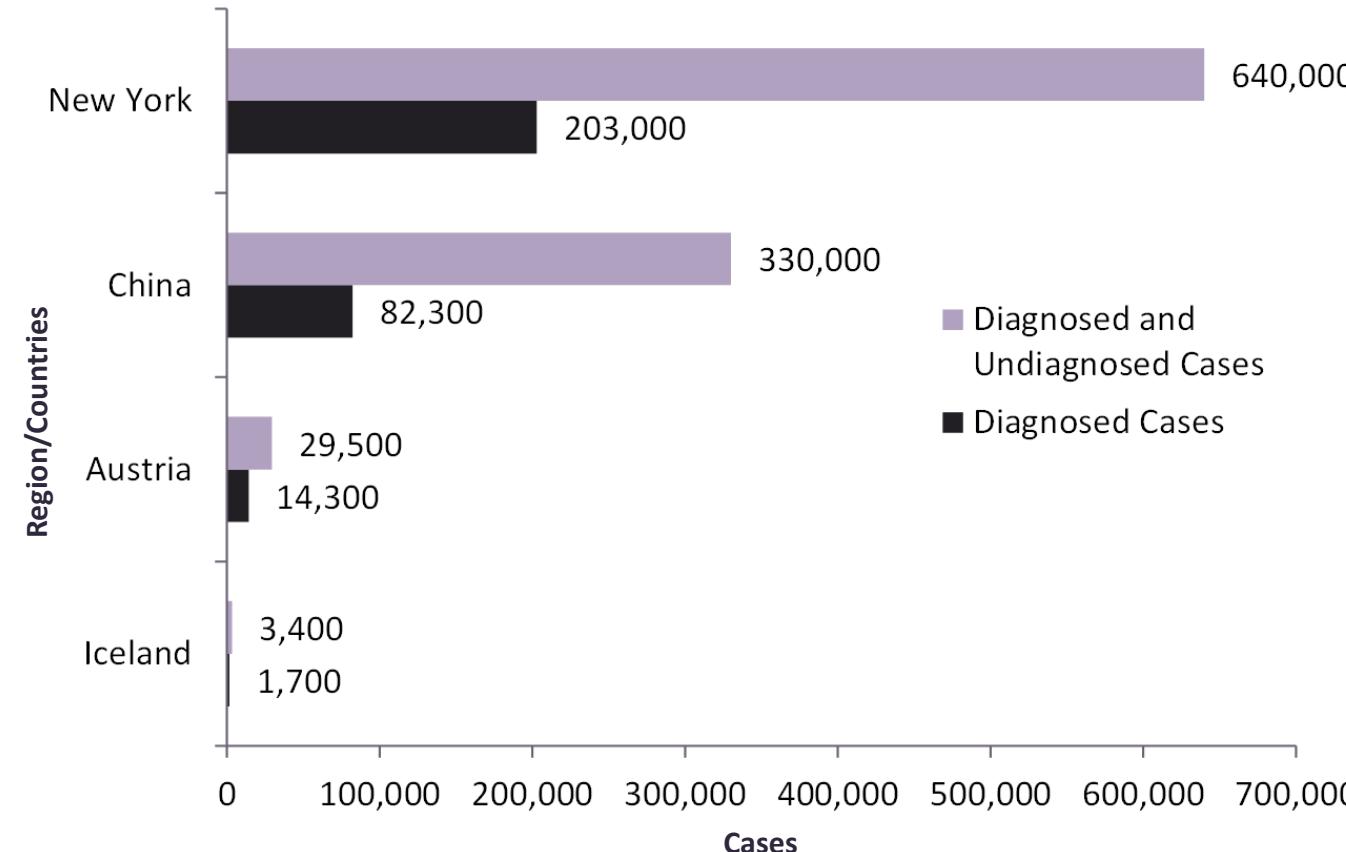
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GlobalData Pharma Analysis

- Current data suggest a wide range of 25-88% of cases could be asymptomatic carriers.
- Data from China indicates 80% of cases could be asymptomatic and not likely to be diagnosed.
- A random sampling survey in Austria reported 50% of cases are undiagnosed.
- Iceland, where testing is open to everyone, not just symptomatic cases, reported that 50% of cases are asymptomatic carriers.
- A study in New York of all women giving birth at a hospital showed 88% of those tested positive were asymptomatic carriers.
- The CDC has the most conservative estimate, where 25% are asymptomatic.

Studies of Asymptomatic Cases Estimate a Much Higher Case Count than Suggested by Official Reports

Estimated Undiagnosed and Diagnosed Cases for Studied Countries/Regions
as of 20 April 2020



Source: GlobalData Analysis

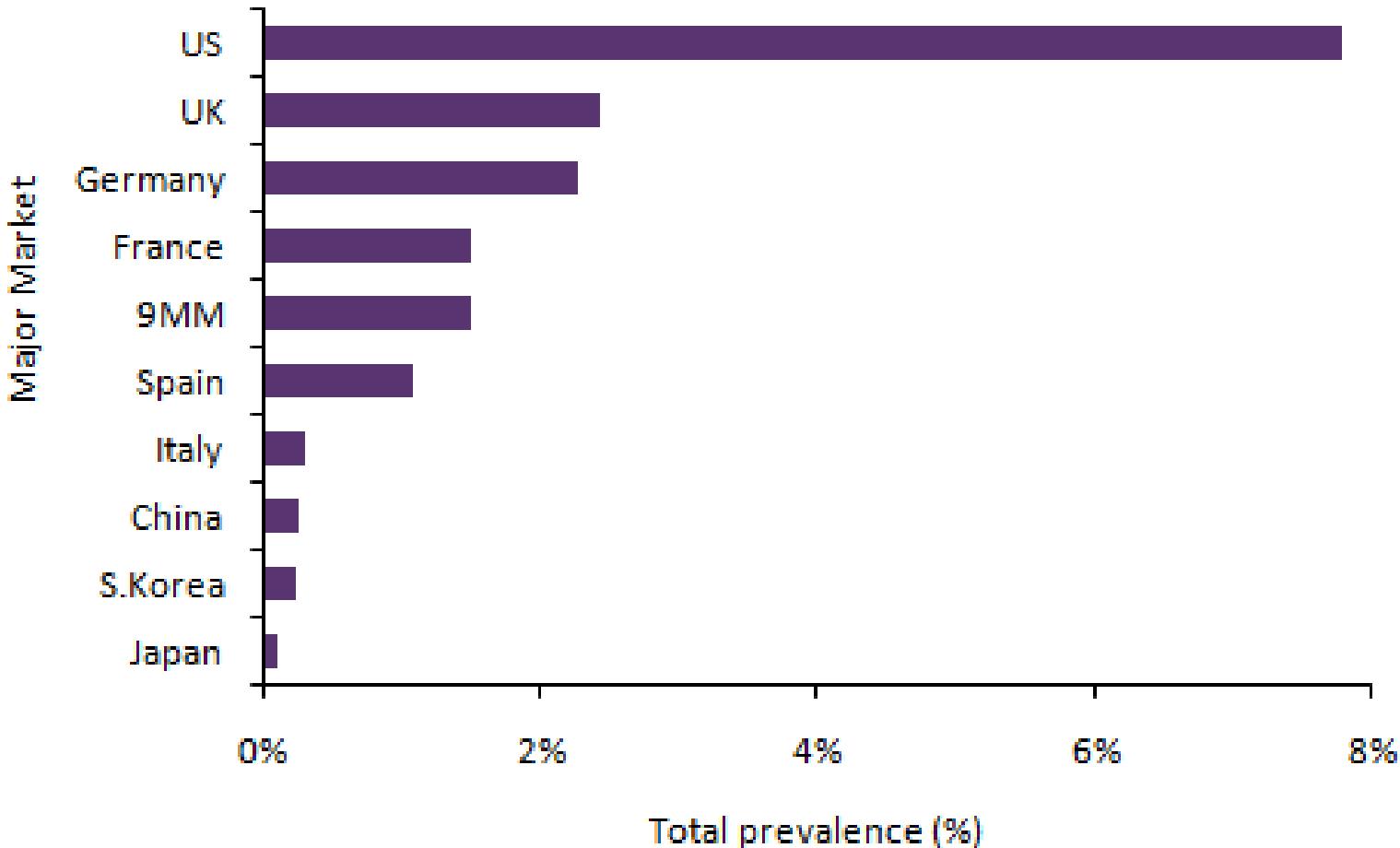


27 Million Severely Obese Patients Across 9 Major Markets Could Face Serious COVID-19

GlobalData Pharma Analysis

- CDC reports people with severe obesity (body mass index [BMI] of 40 or higher) are now considered at risk of developing serious outcomes from COVID-19
- Not unique to COVID-19: Swine flu outbreak in 2009 also reported severe obesity as a risk factor for severe disease.
- Severe obesity is the most prevalent underlying condition in young COVID-19 patients ages 18-64
- The US has the highest severe obesity prevalence, at 8%, followed by the UK at 2.5%.

Total Prevalence of Severe Obesity in the 9MM, Men and Women, 2020 (%)
as of 27 April 2020



Breaking News: COVID-19 Infection Statistics



APRIL 27, 2020

Mexico coronavirus infections rise to 14,677 cases and 1,351 deaths

[View](#)

China reports 3 fresh COVID-19 cases, no new deaths

[View](#)

Coronavirus India Updates: Total Cases At 27,892; Death Toll At 872

[View](#)

APRIL 26, 2020

Coronavirus cases in Russia top 80,000

[View](#)

Coronavirus live updates: Singapore reports 931 new cases, global numbers above 2.9 million

[View](#)

Indonesia reports 275 new coronavirus cases, 23 more deaths

[View](#)

APRIL 26, 2020

US COVID-19 cases top 900,000, deaths touch 52,000

[View](#)

More than 2,500 coronavirus deaths in Canada as confirmed cases cross 46K

[View](#)

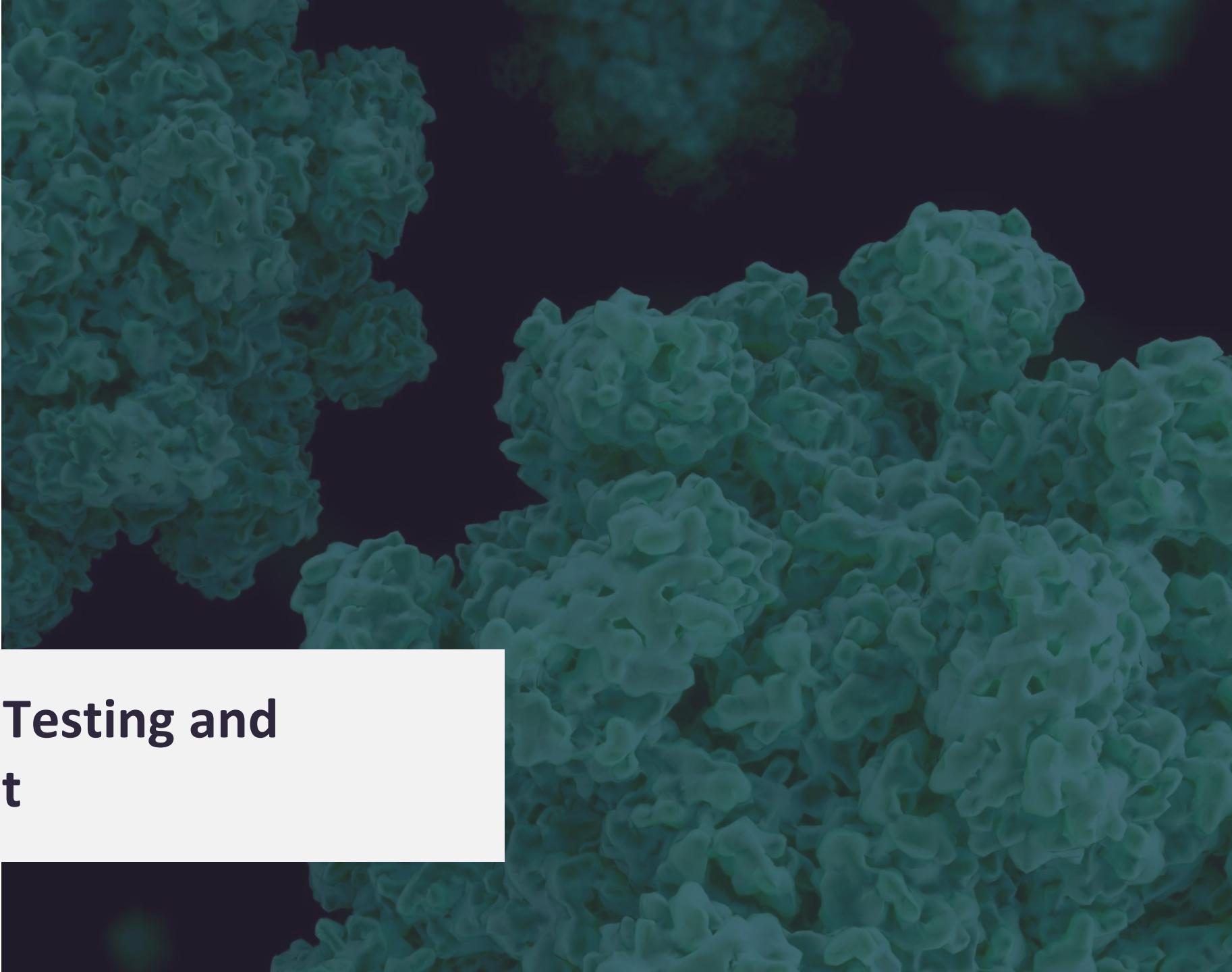
Coronavirus: 536 new cases reported in the UAE

[View](#)

Saudi Arabia records 1,223 new corona cases, three fatalities

[View](#)

2. COVID-19 Testing and Management





Testing

- Rapid and Point of Care Testing now make up more than 50% and 30% of pipeline and marketed diagnostic tests, making the prospect of population level testing increasingly likely.
- Supply issues of test reagents continue to have an impact, particularly in countries reliant upon ad hoc test protocols that are dependent upon so-called home-brew reagents.
- Abbott's launch of the ID NOW molecular point of care test is a potential game changer, allowing a molecular test to detect the virus in as little as five minutes. Abbott is on track to initially provide 50,000 ID NOW COVID-19 tests per day, equating to less than 3 tests for each of the 18,000 ID NOW machines in use in the US.
- US PCR testing volumes appear to be plateauing at 140,000-150,000 tests per day.

Management

- Ventilator shortage became a critical issue after the COVID-19 outbreak, starting from China and Italy, now to the UK and US. According to GlobalData's analysis, approximately 880,000 more ventilators are in demand globally due to the COVID-19 outbreak.
- The Ventilator Challenge consortium, lead by the High Value Manufacturing Catapult research group is best placed to deliver new ventilators soonest, as it is making use of spare production capacity to scale up production of Smiths Detection machines, that are already in use with the NHS, such as the Parapac transport ventilator.
- Non-medical companies globally are developing and building emergency ventilators, with rudimentary designs appearing in developing markets, as inventories of ventilators from established manufacturers are exhausted.
- Donald Trump has now invoked the Defense Production Act, a law stemming from the Korean War, to force General Motors to produce ventilators. GM's deal with medical equipment maker Ventec Life is expected to result in shipments from next month.

Per Capita Testing for COVID-19 is Still Low For Many Countries

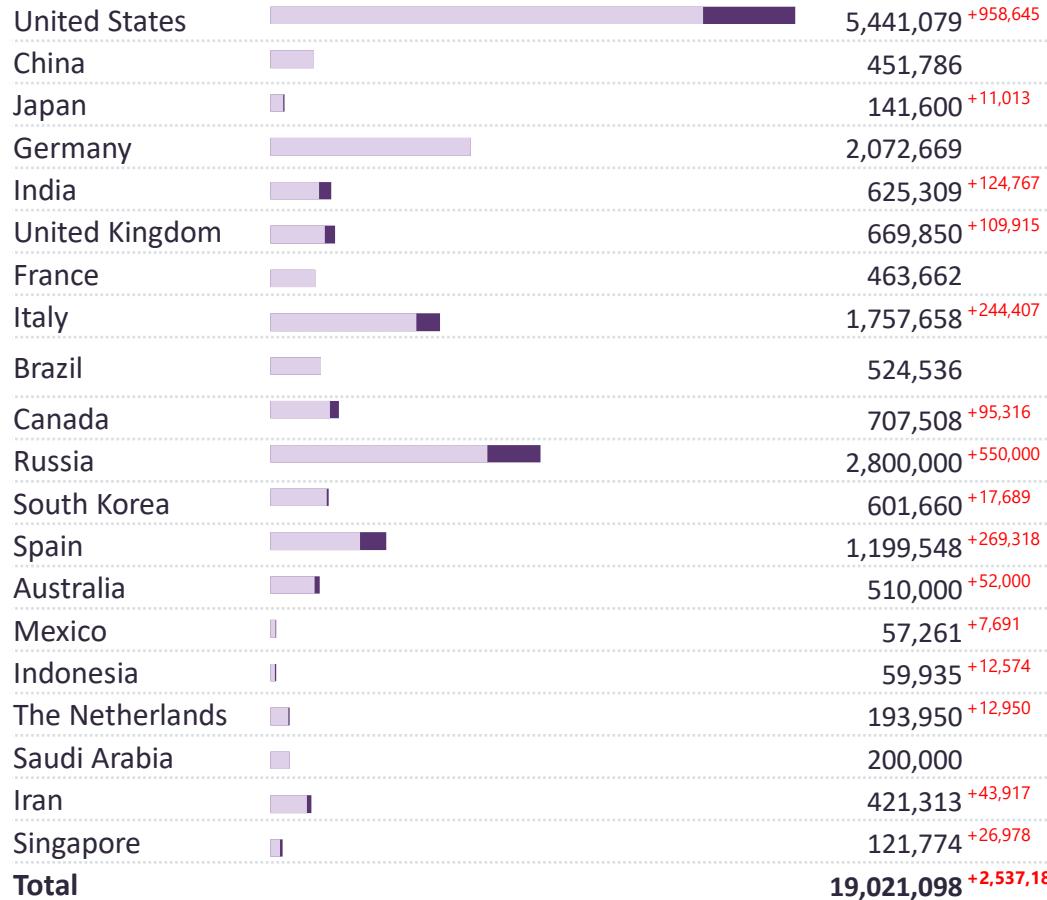


Total Tests and Per Million Population Tests for Top Economies

as of 27 April 2020

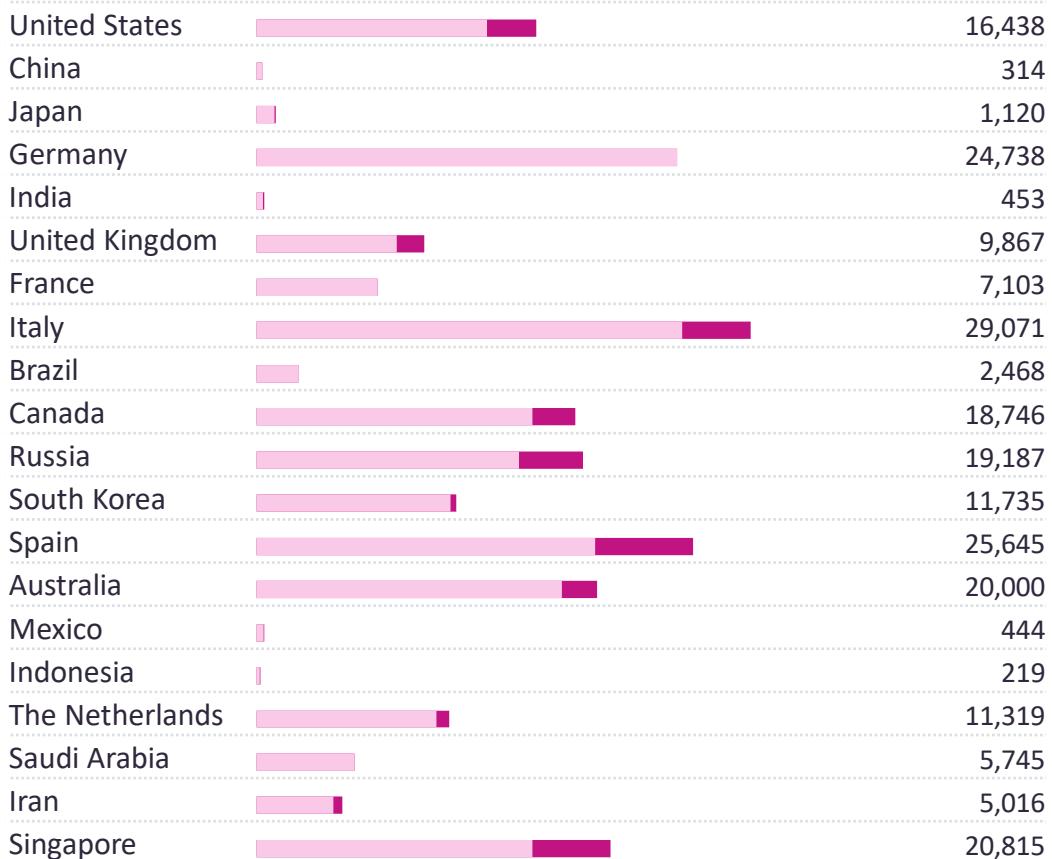
Total Tests Performed

Additions to the previously reported values are in a darker shade



Total Tests Performed Per Million Population

Additions to the previously reported values are in a darker shade



Note: The last known test counts taken for China (21-04-2020), Germany (21-04-2020), France (19-04-2020), Brazil (22-04-2020) and Saudi Arabia (21-04-2020). Other figures updated between 24-04-2020 and 27-04-2020.

Source: GlobalData Analysis; Government/Ministry of Health websites; Factly.in; Ourworldindata.org

Breaking News: COVID-19 Testing



APRIL 27, 2020

Coronavirus Test in 5 seconds using X-ray scan: why this Indian invention is a game changer!

[View](#)

Massive 145% profiteering exposed in coronavirus rapid test kits sold to ICMR

[View](#)

APRIL 26, 2020

New York to allow coronavirus tests in pharmacies

[View](#)

Britain sends out mobile units to boost coronavirus testing

[View](#)

APRIL 26, 2020

Coronavirus UK: government assessing antibody test kits
[View](#)

APRIL 25, 2020

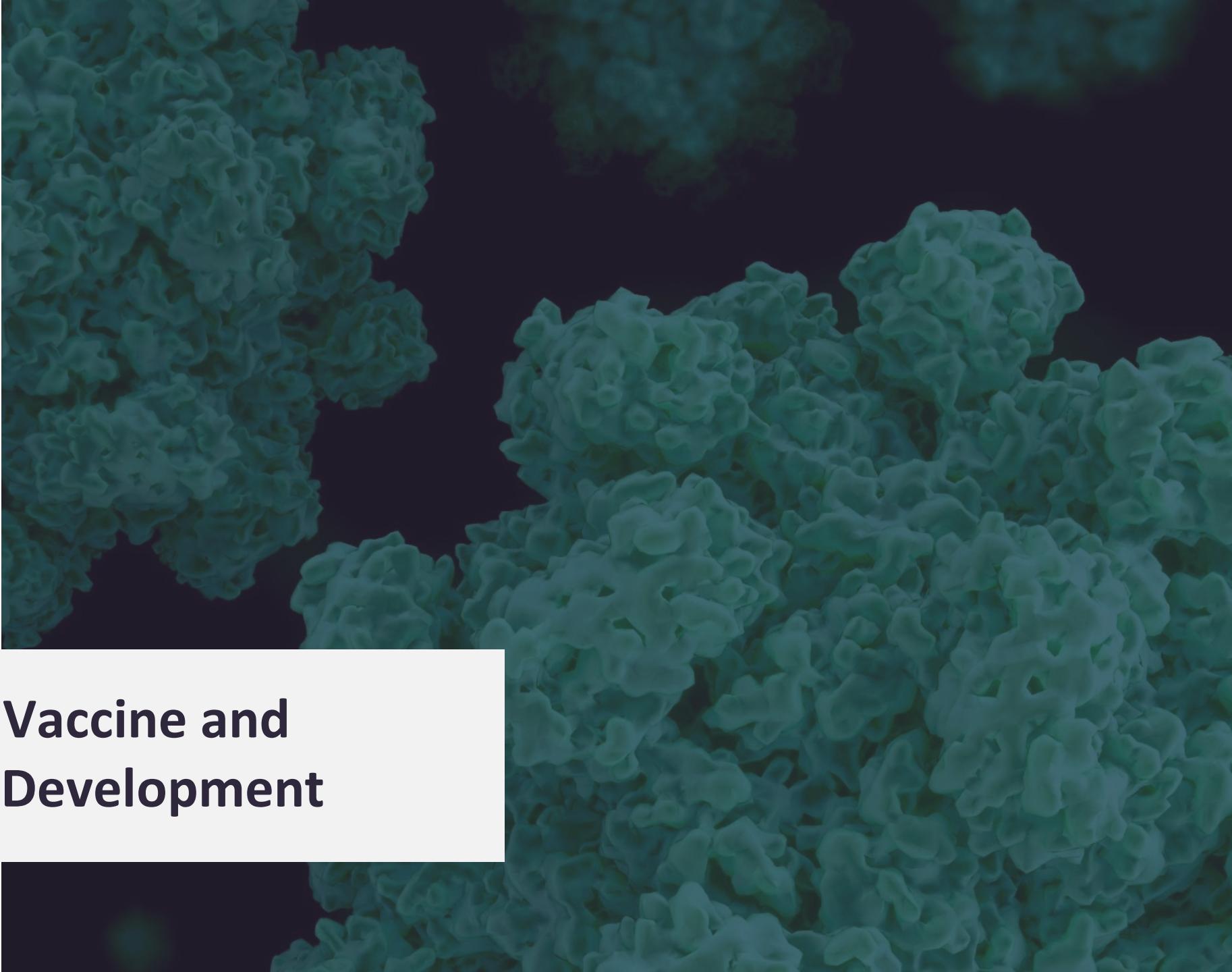
Abbott's Fast COVID-19 Test Poses Safety Issues, Lab Workers Say
[View](#)

With same-day results, Danville lab provides coronavirus testing for nursing homes, assisted living facilities

[View](#)

US Food And Drug Agency Authorises 'At-Home Test' Kits For Coronavirus
[View](#)

3. COVID-19 Vaccine and Therapeutic Development



No Therapeutic or Preventative Options Are Available but the Pipeline is Crowded



Examples of Vaccines and Therapeutic Agents in Development for COVID-19

as of 26 April 2020

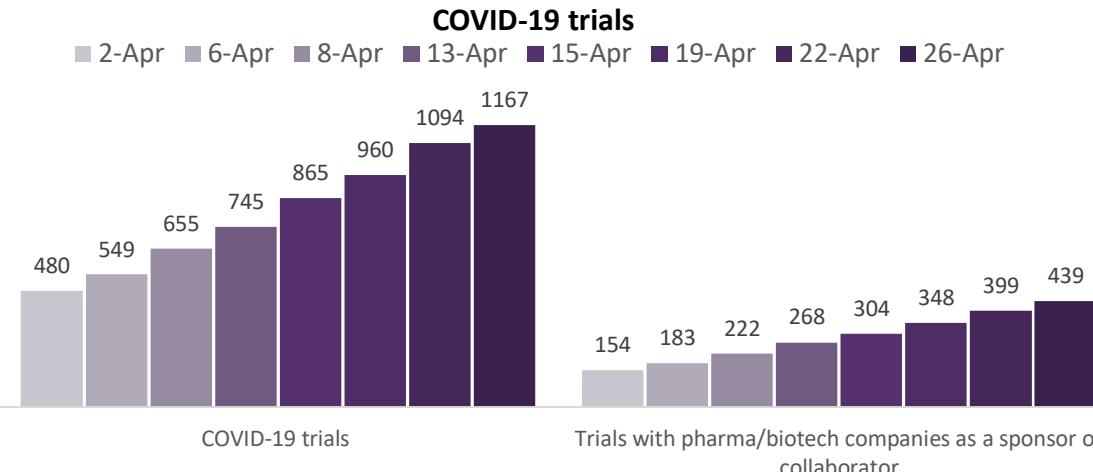
Intervention Type	Drug in Trial	Trial Title and Phase	Trial Status
Therapeutic	Hope Biosciences' Stem Cell Therapy	A Clinical Trial to Determine the Safety and Efficacy of Hope Biosciences Autologous Mesenchymal Stem Cell Therapy (HB-adMSCs) to Provide Protection Against COVID-19 (Phase II)	Ongoing, recruiting by invitation
	Pluristem Therapeutics' emiplacel	Clinical Study of Compassionate Use of Emplacel (Phase I)	Ongoing, recruiting
	Cytodyn's leronlimab	Study to Evaluate the Efficacy and Safety of Leronlimab for Mild to Moderate COVID-19 (Phase II)	Ongoing, recruiting
	Oncolimmune's CD24Fc	A Randomized, Double-blind, Placebo-controlled, Multi-site, Phase III Study to Evaluate the Safety and Efficacy of CD24Fc in COVID-19 Treatment (Phase III)	Ongoing, recruiting
	Asclexis's ASC09 + ritonavir	A Randomized, Open, Controlled Clinical Study to Evaluate the Efficacy of ASC09F and Ritonavir for 2019-nCoV Pneumonia (Phase III)	Ongoing, recruiting
	Alexion's eculizumab (trial by Hudson Medical)	Eculizumab (Soliris) in COVID-19 Infected Patients (SOLID-C19) (Phase III)	Ongoing, recruiting
	Gilead's remdesivir	A Phase III Randomized Study to Evaluate the Safety and Antiviral Activity of Remdesivir (GS-5734) in Participants with Moderate COVID-19 Compared to Standard of Care Treatment (Phase III)	Ongoing, recruiting
Vaccine	Sanofi/Regeneron's sarilumab	Evaluation of the Efficacy and Safety of Sarilumab in Hospitalized Patients With COVID-19 (Phase II/III)	Ongoing, recruiting
	F. Hoffman-La Roche's tocilizumab	Pre-emptive Tocilizumab in Hypoxic COVID-19 Patients, a Prospective Randomized Trial (Phase III)	Ongoing, recruiting
	J&J's Coronavirus Disease 2019 (COVID-19) vaccine	Phase I Study of Coronavirus Disease 2019 (COVID-19) Vaccine (Phase I)	Planned
	Inovio Pharmaceuticals' INO-4800	Safety, Tolerability and Immunogenicity of INO-4800 for COVID-19 in Healthy Volunteers (Phase I)	Ongoing, recruiting
	Moderna's mRNA-1273 (trial by NIAID)	Safety and Immunogenicity Study of 2019-nCoV Vaccine (mRNA-1273) for Prophylaxis SARS CoV-2 Infection (Phase I)	Ongoing, recruiting
	CanSino Biologics's Coronavirus Disease 2019 (COVID-19) vaccine	Phase I Clinical Trial of a COVID-19 Vaccine in 18-60 Healthy Adults (CTCOVID-19) (Phase I)	Ongoing, not recruiting
	Sinovac Biotech's Coronavirus Disease 2019 (COVID-19) vaccine	Phase I Clinical Study of Coronavirus Disease 2019 (COVID-19) vaccine (Phase I)	Ongoing, recruiting

...With Clinical Investigations of Novel and Existing Drugs Growing Exponentially



Clinical Investigations for therapeutics and vaccines for COVID-19 by numbers

as of 26 April 2020

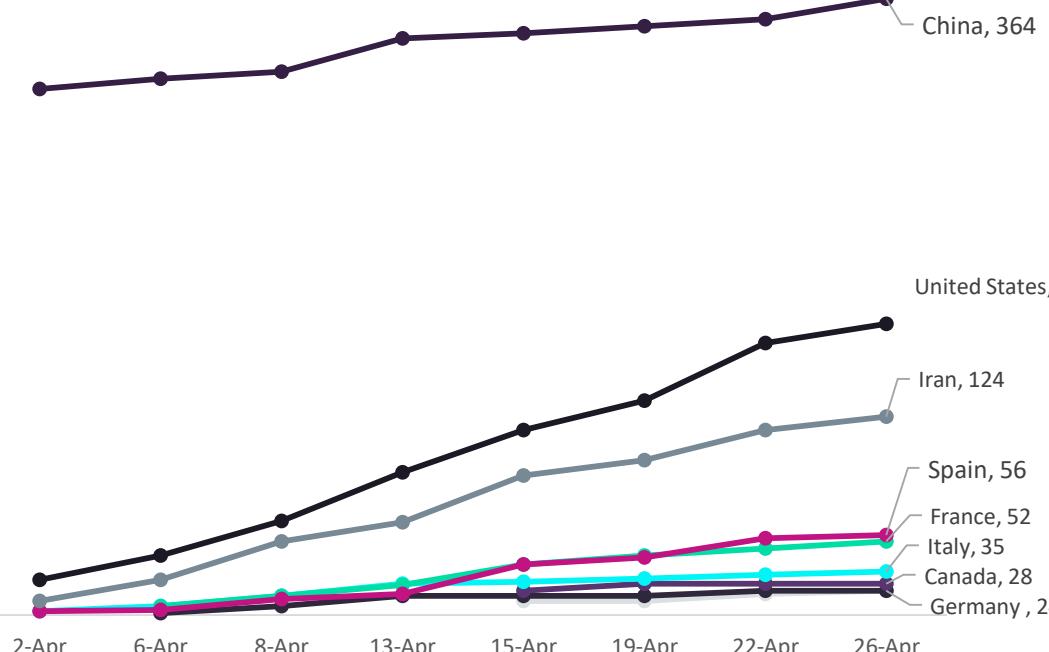


Where is the trials activity?

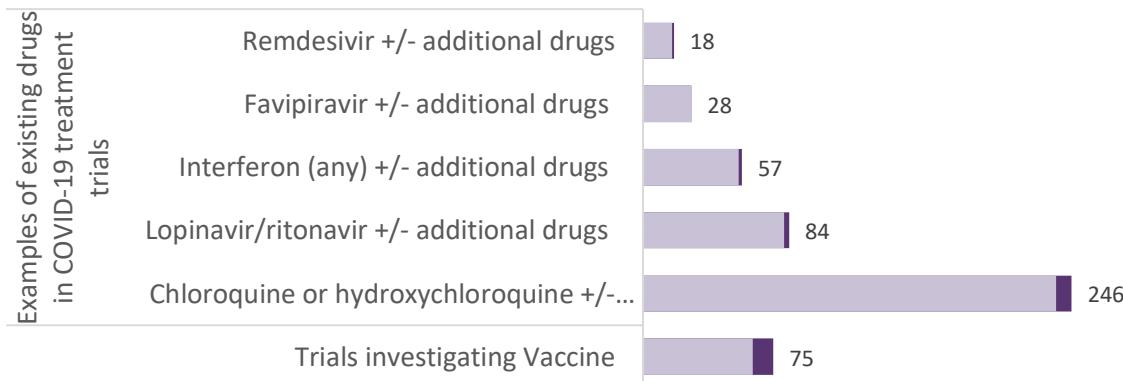
- 47 (+3) multinational trials, 942 (+54) single country trials (remaining trials have not disclosed locations)

Countries with more than 20 COVID-19 trials

Number of trials in the US and Iran are growing at a much higher rate than other countries



Investigational drugs in COVID-19 trials





Despite Massive Efforts, the First Vaccine Will Take at Least a Year to Develop

Summary of COVID-19 Clinical Trial Activity (changes since our last update)

as of 26 April 2020

- Sanofi and GSK, two of the largest vaccine manufacturers globally, will collaborate on developing a COVID-19 vaccine using innovative technology from both companies; expected to enter clinical trials in H2 2020.
- On April 16, news broke of Gilead's remdesivir being effective based on its use in a study in Chicago. However, similarly to a study published in the New England Journal of Medicine on compassionate use of Gilead's antiviral, the study lacked a placebo comparator, making it difficult to quantify the impact of this agent. More recently, two trials for remdesivir in China were either halted or suspended due to a lack of patient enrollment. Trials in the US are unaffected by this setback at the moment.
- Chloroquine and hydroxychloroquine, possibly in combination with azithromycin, have been touted as "game changers" by President Trump; ; however, positive data have only come from trials with questionable design and data interpretation. Increasingly, emerging data are negative. According to a recent study from Brazil, treatment with high-dose chloroquine in combination with both azithromycin and ceftriaxone should not be recommended for COVID-19 treatment because of its potential safety hazards, while a study from the US found hydroxychloroquine alone to be associated with increased mortality, and the combination of hydroxychloroquine/azithromycin did not reduce the need for mechanical ventilation.

“

It will take at least a year and a half to have a vaccine we can use.

”

Anthony Fauci, MD, Director of National Institute of Allergy and Infectious Diseases

Intel from GlobalData's Investigative Journalist Team

- Phase III investigator-led COVID-19 pneumonia trial is expected to have dosed first patient on 24 April. The trial's 1,500-patient target is likely to be hit in November. Treatments include Sanofi/Regeneron's Kevzara, Eli Lilly's Olumiant, convalescent plasma or hydroxychloroquine.
- Aqualung Therapeutics eyes Phase Ia ALT-100 safety trial followed by Phase Ib ARDS trial with COVID-19 cohort and expects first tranche out of \$15M Series A to close in August.

SARS-CoV-2 Antivirals & Vaccines Are Being Developed Independently...



Independently Developed Antivirals

as of 14 April 2020



- Gilead is developing remdesivir, an antiviral in Phase III trials in China/Asia and the US.
- A drug candidate developed by APEIRON Biologics named APN01 was planned to be tested in China at The First Affiliated Hospital of Guangzhou Medical University in a Phase I pilot trial as a treatment for COVID-19, however this study was withdrawn before initiation.
- Innovation Pharmaceuticals announced that it is evaluating Brilacidin, a defensin-mimetic drug candidate, as a potential treatment for coronavirus. Brilacidin has shown antibacterial, anti-inflammatory, and immunomodulatory properties in several clinical trials.



Independently Developed Vaccines

as of 14 April 2020



- An intranasal COVID-19 vaccine is being developed by US-based clinical-stage biopharmaceutical company, Altimmune.
- Vaxart is developing an oral recombinant vaccine in a tablet formulation using its proprietary oral vaccine platform, VAAST.
- The MIGAL Research Institute is modifying an Infectious Bronchitis Virus (IBV) vaccine for COVID-19. The vaccine has demonstrated efficacy in pre-clinical trials conducted by the Volcani Institute.
- Clover Biopharmaceuticals is developing a recombinant subunit vaccine using its patented Trimer-Tag technology, based on the trimeric S protein (S-Trimer) of the COVID-19 coronavirus, which is responsible for binding with the host cell.

Source: GlobalData Analysis; Client & Subject Matter Expert Interviews; Press Articles; Company Announcements; Verdict Media, Gilead Sciences Inc., Vaxart Inc.



The speed with which remdesivir has moved into clinical development for this coronavirus reflects the pressing need for treatment options and the shared commitment of industry, governments, global health organizations and healthcare providers to respond to this public health threat with the highest urgency.



Merdad Parsey, MD, PhD, Chief Medical Officer, Gilead Sciences



The results of our recently published influenza challenge study demonstrated that our oral tablet vaccine primarily protects through mucosal immunity, a potential key factor when targeting mucosal pathogens such as this new coronavirus.



Sean Tucker, PhD, Chief Scientific Officer of Vaxart

...and Through Partnerships Between Public and Private Sectors



Example Partnership as of 26 April 2020



Description of Partnership Activity

- ReiThera, LEUKOCARE AG, and Univercells, announced a strategic collaboration for the development and large-scale manufacturing of a novel adenoviral vector-based vaccine against COVID-19.
- The vaccine candidate is expected to enter clinical trials during summer 2020 with large-scale vaccine production planned to start soon after. The partners will contribute to the program combining their individual strengths and expertise to accelerate the development of the vaccine.

- Bayer announced that its Canadian organization Bayer Inc., Mississauga, Ontario, will partner with the Population Health Research Institute (PHRI) in launching a major clinical research program aimed at identifying potential treatments against COVID-19. The two studies will evaluate the safety and efficacy of different combination therapies including chloroquine and interferon beta-1b.
- Bayer will make a financial commitment of CAD 1.5 million towards the studies and will supply study drugs to support the research. This adds to the CAD 0.5 million committed by the PHRI earlier this month which enabled the development of the research program.

Partner View

“ By combining the experience of the partners, the advanced stages of this vaccine development will allow for a swift response to the COVID-19 pandemic. The LEUKOCARE team is perfectly prepared to contribute to this eminently important co-development. **”**

Michael Scholl, Chief Executive Officer, LEUKOCARE

“ Treatments against COVID-19 are urgently needed as no validated options are currently available. **”**

Mike Devoy, Chief Medical Officer, Bayer

Note: The majority of deals for COVID-19 are partnerships, and these are focused in North America and Asia. There have been no associated M&A deals to date.

Source: GlobalData Analysis; Client & Subject Matter Expert Interviews; Press Articles; Company Announcements; Verdict Media



GlobalData Analyst View

"

...solutions on the horizon are antivirals, with Gilead's remdesivir and Ascletis's ASC09/ritonavir possibly reaching the market in late 2020 if the results of ongoing late-stage clinical trials are positive.

"

The Race Is On, but With Hurdles Along the Way

COVID-19 Impact Assessment

as of 26 April 2020

The pharmaceutical industry race to develop both preventive and therapeutic interventions

- The nearest solutions are antivirals such as Gilead's remdesivir, but older drugs such as chloroquine and hydroxychloroquine are being touted as potential "game changers." The number of clinical trials in which chloroquine or hydroxychloroquine are used as a primary or secondary intervention continue to expand.

Restricted manufacturing resulted in drug supply shortfalls

- Multiple companies with facilities in China closed manufacturing plants at the height of the outbreak, per public statements and countries such as India placed restrictions on export of certain active pharmaceutical ingredients (APIs) and finished dose forms.
- In a recent GlobalData poll, about 90% of respondents expressed some level of concern about supply chain disruption due to the coronavirus outbreak.

Respondents' Perspective on Supply Chain Disruption

How concerned are you that the coronavirus outbreak will disrupt the drug supply chain? (N = 1,100)



Based on poll data collected from respondents who visited the Pharmaceutical Technology site between Mar 26-April 1, 2020



GlobalData Analyst View

"

...Clinical trials irrespective of indication will likely be impacted, not just in terms of recruitment and immediate patient care but also in terms of data collection and analysis in the months to come. Pharma could see an uptick in virtual trials during and after the pandemic.

"

Ongoing disruption of non-COVID Clinical Trials

COVID-19 Impact Assessment

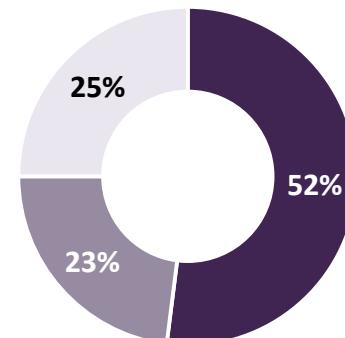
as of 26 April 2020

Clinical trials and regulatory delays could impact future approvals and revenues

- Upward trends in clinical trial disruption continue with at least 805 trials (+80 from the last update) and 330 Pharma/Biotech companies and CROs (+17 from the last update) are associated with disrupted clinical trials.
- The FDA has suspended inspection of foreign manufacturing plants and Advisory Committee Meetings have been cancelled or postponed.
- In a recent GlobalData poll, about 75% and 80% of respondents expressed some level of concern about clinical trial or regulatory delays respectively due to the coronavirus outbreak.

Respondents' Perspective Clinical Trial Delays

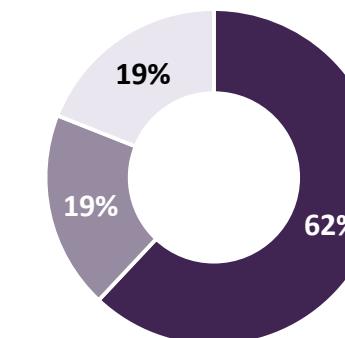
What is the likelihood that there will be clinical trials delays as a result of the coronavirus outbreak? (N = 527)



- Very likely
- Somewhat likely
- Not likely at all

Respondents' Perspective Regulatory Delays

What is the likelihood that there will be regulatory delays as a result of the coronavirus outbreak? (N = 679)



- Very likely
- Somewhat likely
- Not likely at all

Based on poll data collected from respondents who visited the Clinical Trials Arena site between Mar 26-April 2, 2020

Oncology and CNS Trials Being the Hardest Hit Therapy Areas

Eli Lilly was the first large global pharmaceutical company to announce clinical trial delays.

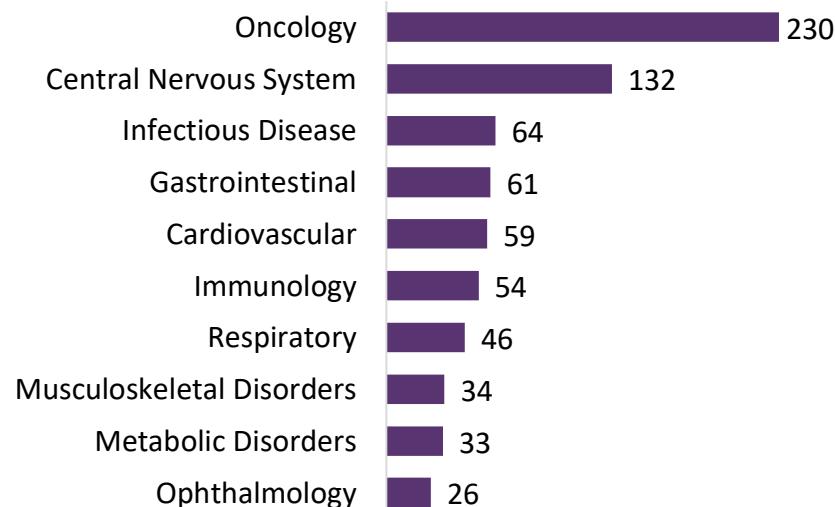
Additional large pharma companies, including Pfizer, Merck, Amgen and BMS, as well as smaller biotech companies, have followed suit in delaying start of planned trials and suspending recruitment of subjects in ongoing trials.

Oncology trials have suffered the most disruption due to the COVID-19 pandemic.

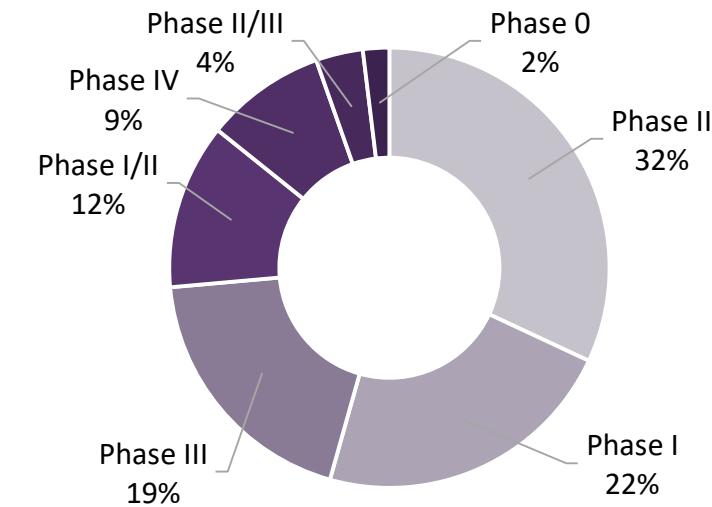
Examples of Disrupted Clinical Activities as of 26 April 2020

Trials disrupted due to COVID-19	Companies reporting trial disruption due to COVID-19
Overall trials disrupted due to the COVID-19 pandemic	805 (+80) All sponsor (Industry and non-industry) 599 (+27)
Planned trials that have delayed initiation	108 (+3) Companies in a role as sponsor, collaborator or CRO 330 (+17)
Ongoing trials impacted due to slower enrollment	105 (+3)
Ongoing trials that have suspended enrollment (includes trials suspended before initiation)	592 (+74) Companies in a role only as sponsor or CRO 247 (+10)

Disrupted Clinical Trials by Therapy Area



Disrupted Clinical Trials by Trial Phases





Supply Chain Restoration in China Provides Some Hope

US Food & Drug Administration

“
As of 2018, China ranks second among countries that export drugs and biologics to the United States by import line (13.4 percent)... In addition to these import lines, APIs manufactured by China also come to the U.S. as part of finished drug products manufactured in other countries, for example, India.

Therefore, the percentage of APIs produced by China for the United States marketplace is likely underrepresented by our numbers as China is a major supplier of APIs for other countries.

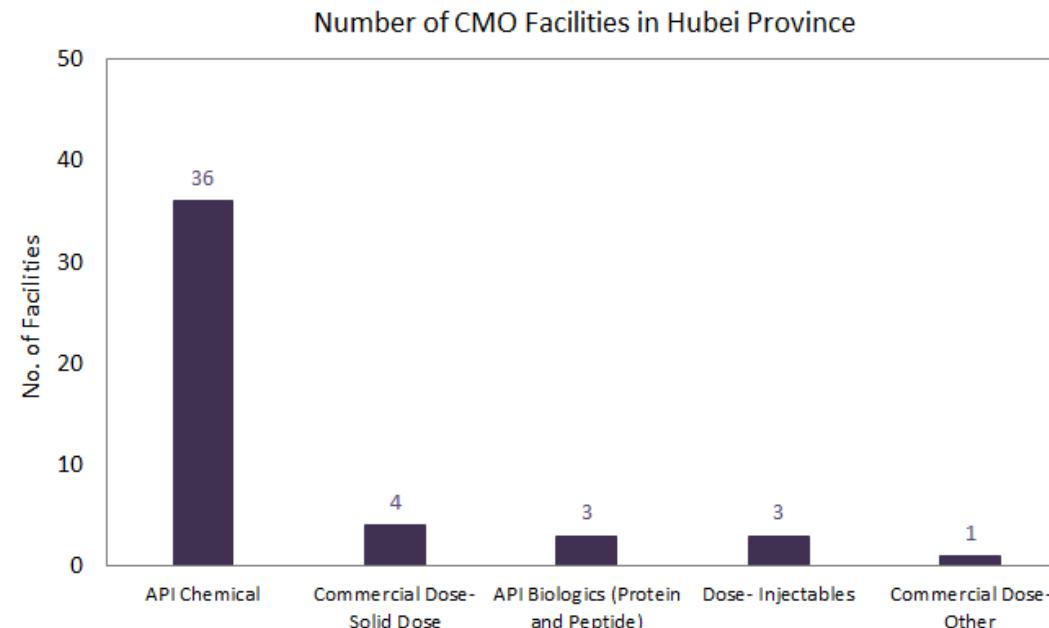
”

COVID-19 Impact Assessment as of 26 April 2020

March 8, 2020 – Wuhan, Hubei quarantine is lifted

March 12, 2020 – WuXi AppTec announced that the company's Wuhan site resumed operations yesterday and will ramp up to full production in following weeks

April 23, 2020 – Shortages of the raw materials required for hydroxychloroquine have been reported in China due to increased production



Source: GlobalData Contract Service Providers Database ; Press Articles; Company Announcements

Breaking News: COVID-19 Therapeutic Development



APRIL 27, 2020

Indian American group sets up Covid-19 plasma therapy programme

[View](#)

Disappointed in clinical trials of two major coronavirus drugs

[View](#)

Off-label drugs may now be used in Philippines coronavirus trials

[View](#)

Coronavirus study: UCSF testing plasma transfusions on COVID-19 patients

[View](#)

APRIL 26, 2020

New York clinical trial quietly tests heartburn remedy against coronavirus

[View](#)

APRIL 26, 2020

Covid-19: Gilead's Remdesivir May reduce sperm count and increase abnormalities in mice, shows Chinese study

[View](#)

Canada warns against chloroquine use as coronavirus treatment

[View](#)

WVU Medicine doctor receives approval for coronavirus treatment

[View](#)

APRIL 25, 2020

Ultraviolet Light technology to treat coronavirus

[View](#)

Breaking News: COVID-19 Vaccine Development



APRIL 27, 2020

Valo Therapeutics to Support development of a pan - coronavirus vaccine

[View](#)

Coronavirus crisis puts vaccine trials on the fast track

[View](#)

Russian Researchers will test COVID19 vaccine using special mice - consumer watchdog

[View](#)

APRIL 26, 2020

Pune's Serum Institute to start making coronavirus vaccine that is under trial

[View](#)

Not developing Covid-19 vaccine, clarifies Pakistan

[View](#)

APRIL 26, 2020

Bill Gates's Coronavirus vaccine could be ready in 12 months

[View](#)

UK vaccine trial volunteer says she is 'doing fine' after online death rumours

[View](#)

Race for coronavirus vaccines: 3,200 young volunteers from 52 nations have enlisted

[View](#)

APRIL 25, 2020

China approves third coronavirus vaccine for clinical trials

[View](#)

Chinese biotech firm says coronavirus vaccine protects monkeys

[View](#)



4. Economic Impact



- Fears surrounding the impact of COVID-19 hit the world's top economies
- Major market indices are improving
- Oil price dips below zero but rebounds quickly
- Many economists have cut their GDP forecasts; 2020 consensus forecast for GDP growth is currently -2.2%
- Many predict a recession
- The US sees a historic surge in people applying for unemployment benefits
- Governments are responding with aggressive measures
- Central banks have cut interest rates
- Poll insights: Concern over the spread of COVID-19 remains high, business optimism declines
- Poll insights: Hiring is on hold, lays offs expected

COVID-19 has Impacted the World's Top Economies



Countries	Confirmed Cases	Cases per Million Capita	Deaths	Case Fatality Rate	Stimulus (\$ Billion)	Stringency Index	Active Jobs (30 Day Change)	Market Index (YTD Change)	GDP Growth (2020 Estimate)
United States	965,942	2,918	54,883	5.7%	4,984	76.19	-22.0%	-11.7%	-4.8%
China	82,830	58	4,633	5.6%	368	57.14	-16.6%	-7.2%	1.2%
Japan	13,441	106	372	2.8%	1,006	66.67	-18.1%	-15.3%	-4.4%
Germany	157,770	1,883	5,976	3.8%	1,231	80.95	-19.4%	-22.0%	-5.2%
India	27,890	20	881	3.2%	23	100	-28.5%	-22.1%	-1.0%
United Kingdom	154,037	2,269	20,795	13.5%	446	71.43	-39.6%	-24.2%	-5.4%
France	162,220	2,485	22,890	14.1%	456	100	-18.3%	-25.8%	-6.0%
Italy	197,675	3,269	26,644	13.5%	818	95.24	-24.4%	-30.1%	-8.2%
Brazil	63,100	297	4,286	6.8%	121	76.19	-29.6%	-53.5%	-2.5%
Canada	47,147	1,249	2,663	5.6%	139	85.71	-29.4%	-15.7%	-4.0%

Note: Case Fatality Rate is the ratio of total death to total confirmed case. Market Index data is based on MSCI index of respective country. GDP growth estimates are based on consensus data from various analysts and firms.

Stringency index, created by Oxford COVID-19 Government Response Tracker (OxCGRT), is the aggregated score based on several different common policy responses governments have taken, such as school and workplace closures and restrictions on travel and gatherings etc.

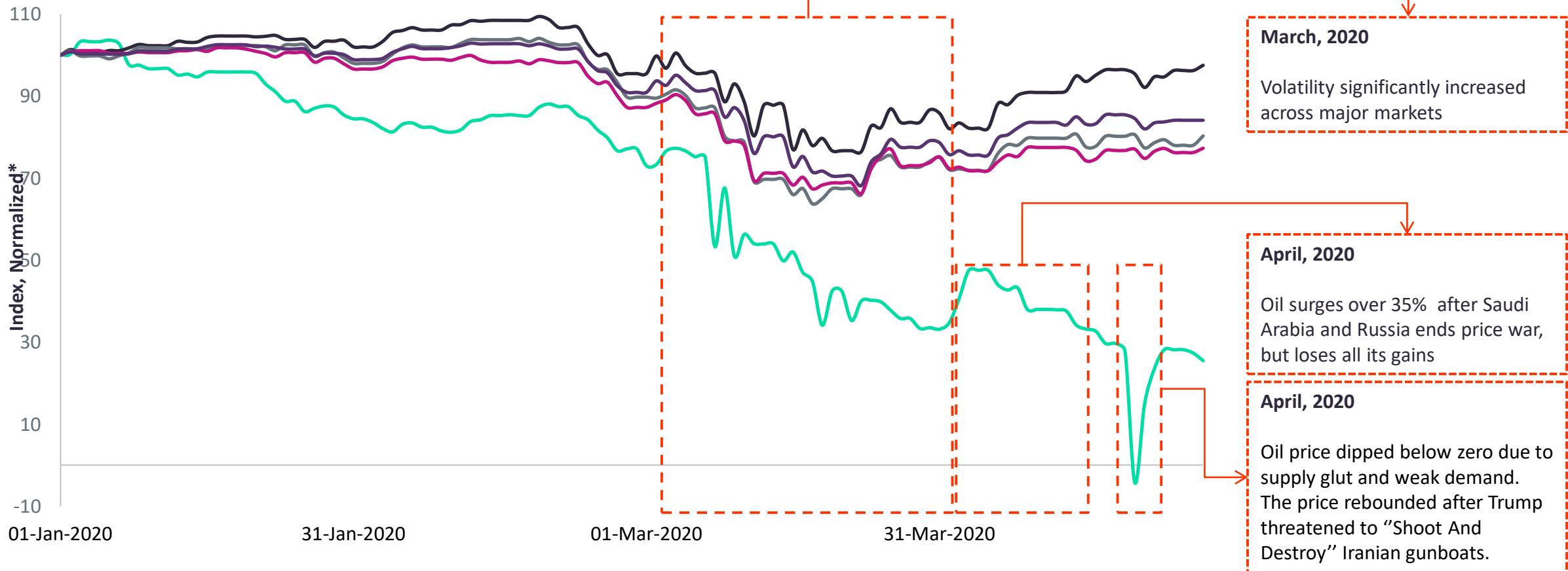
Major Markets are Improving; Oil Price Dips Below Zero but Rebounds Quickly



Impact of COVID-19 on Asset Prices

Year-to-date performance, Indexed to 100 as of 27 April 2020

Crude Oil NASDAQ DAX FTSE 100 MSCI ACWI



Note: *All indexes normalized, with value equals 100 on January 1, 2020

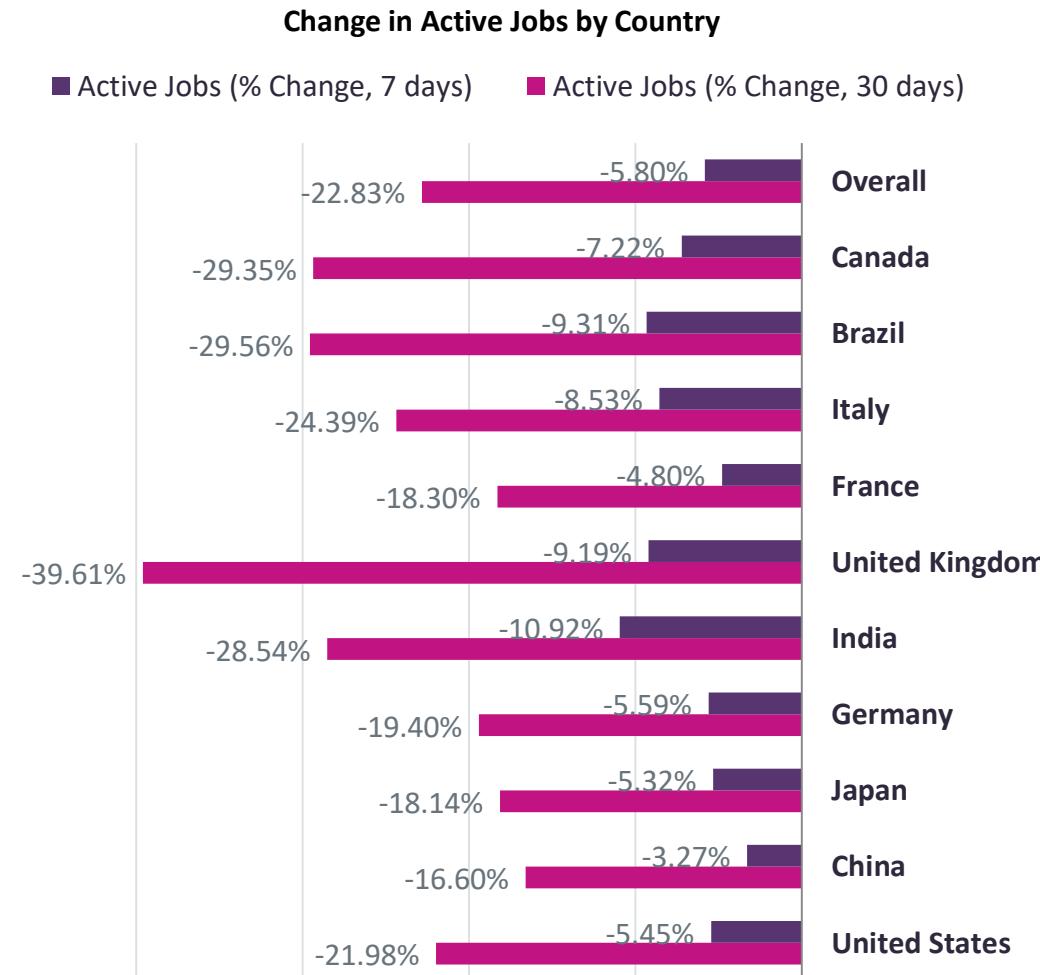
Source: GlobalData Analysis; Yahoo Finance; Investing.com; Bloomberg

Active Job Vacancies Plummet, While Unemployment Rises



Job Trends

as of 27 April 2020



Forecasters Sound the Alarm

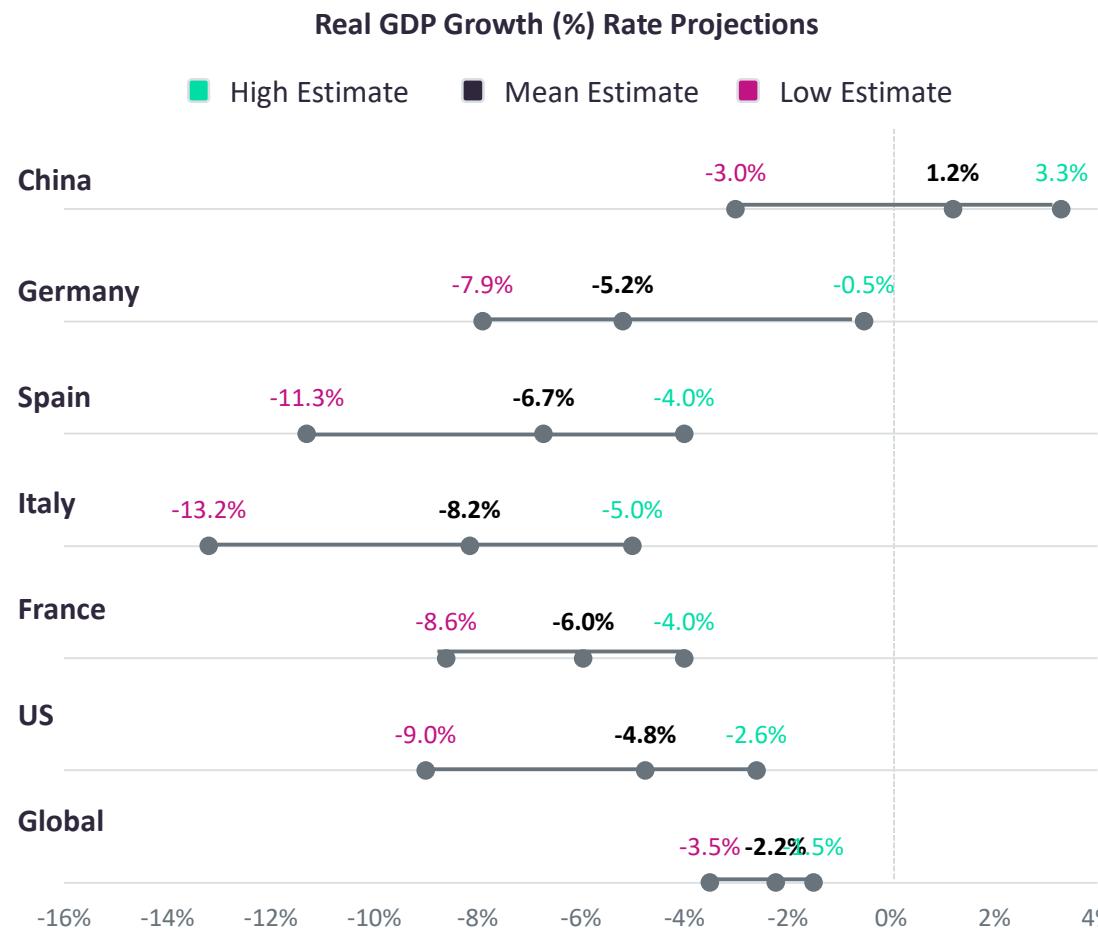
- The International Labour Organization estimates 6.7% of worldwide working hours will be wiped out in Q2 2020, equivalent to 195 million workers.
- World Travel and Tourism Council (WTTC) estimates job loss of 100.8 million in the travel and tourism industry due to the economic damage caused by COVID19 outbreak.
- Around five million people in China lost their jobs in January and February 2020.
- Last week, 4.4 million people filed unemployment claims in the US, bringing the total to 26.4 million in the last five weeks since a national emergency was declared.
- The IMF estimates unemployment will be more severe in Spain than in Italy. It predicts Spain's 2020 jobless rate to reach 20.8% compared to 12.7% in Italy.
- According to French government, 10 million people (equivalent to one out of two in the private sector) has been laid off during the lockdown.
- CMIE expects 140 million people in India to lose employment during lockdown period, with the unemployment rate rising to 26.2% in the third week of April.

Consensus Expects a Global Recession



Estimated 2020 GDP Growth

as of 27 April 2020



Note: Estimates on 2020 GDP growth based on multiple broker projections

Source: GlobalData Analysis; National Statistics Office; The World Bank; Broker Estimates; BBC; Twitter; Reuters

Forecasters Sound the Alarm

- IMF forecasts the global economy to contract by 3% in 2020 as 'Great Lockdown' causes a dramatic drop in economic activity. Economic growth in the US and Europe is forecasted to plunge by 9.1% and 5.8% respectively during the year.
- Declared the global economy to be in recession and estimates \$2.5 trillion finance is needed to support emerging economies.
- The World Bank projects South Asian nations will register a growth rate of 1.8%–2.8% in 2020, worst in over 40 years.
- UNCTAD projects the world economy, except India and China, to be in recession, forecasting \$2-\$3 trillion reduction in investments in the commodity-rich exporting nations.
- Banco Bilbao Vizcaya Argentaria (BBVA) research forecasts the Spanish economy to contract by 8% in 2020 and recovery to a growth of 5.7% in 2021.
- Goldman Sachs projects the global economy to shrink by 2% in 2020
- Morgan Stanley expects a global recession in the first half of 2020. It forecasts global GDP to contract by 2.3% in the first half of 2020 compared to 2019.
- Rating agency, Fitch, forecasts the global economy to contract by 1.9% in 2020. It also projects the 2020 economic growth of the US, Eurozone and the UK at (-)3.3%, (-)4.2% and (-)3.9% respectively.

Governments' Response to the Threat [1/5]



United States

Confirmed cases	965,942
Deaths	54,883
Recovered	106,988

- A public health emergency declared. 30-day travel ban from 26 European nations from March 14, 2020. Imposed its most stringent travel advisory, which instructs US citizens not to travel abroad and urges Americans abroad to repatriate on March 19. Extended social distancing guidelines till April 30.
- Ten states under a broad lockdown, with around 43 out of 50 states under "Stay at Home" orders. Ramped-up federal assistance to the hardest-hit states. As of April 27, many states started lifting lockdown orders amid very high rate of unemployment claims.
- Approved a \$4.5 trillion fiscal stimulus package. USDA announced a \$19 billion bailout package for farmers. A new relief package worth \$484 billion was signed off by the Trump administration on April 22, to support small businesses and hospitals deluged by sick patients.
- Announced a 3-phase plan to lift the lockdown: Re-open restaurants, theaters and places of worship with strict social distancing measures followed by re-opening schools and resumption of non-essential travel, and finally lift all restrictions.



Spain

Confirmed cases	226,629
Deaths	23,190
Recovered	117,727

- Imposed a nationwide two-week lockdown from March 14, with people banned from leaving home except for buying essentials, medicines, or for work. The lockdown was further extended till May 9.
- All public transport to cut their services to half and all means of transport should only operate with one-third occupancy.
- The government announced a stimulus of \$220 billion (15.82% of GDP) to support the economy. Also plans to introduce universal basic income to help people from the economic fallout following COVID19 outbreak.
- SMEs and the self-employed allowed to delay tax payment worth 30K over the next six months.
- The government has begun a gradual lift of the lockdown and allowed 300,000 non-essential workers to return to work. On April 22, lockdown measures were eased for children, allowing short walks outside. Announced on April 25 to relax measures that will allow outdoor exercise and walk from May 2 onwards if spread of virus slows down.

Governments' Response to the Threat [2/5]



Italy

Confirmed cases	197,675
Deaths	26,644
Recovered	64,928

- The nationwide lockdown was extended until May 3. The Italian government allowed a few shops and businesses to re-open from April 14 onwards as it seeks to ease restrictions.
- All retail trade is suspended, save for essential goods, and banking, financial, and insurance services. All gatherings of people are forbidden, and the movement of people is restricted.
- Travel that isn't for essential work, or for health or family emergencies, is banned.
- Italy will allow a narrow range of businesses to resume operations this week.
- Italian government's total stimulus package is worth \$818 billion (41.2% of GDP) to support the country's economy and healthcare system.
- The government also decided to make \$444 billion worth of liquidity and loans available to the companies that have been disrupted due to the coronavirus.
- On April 26, government announced phase two lockdown exit plan allowing factories and building sites to re-open from May 4 onwards.



France

Confirmed cases	162,220
Deaths	22,890
Recovered	45,681

- The French government extended the nationwide lockdown until May 11 and announced a plan to ease lockdown measures in two weeks' time, by first lifting restrictions on travel and businesses.
- People were barred from leaving their house without a signed permission form.
- The French government's stimulus package is worth \$455.6 billion (16.8% of GDP), focused on supporting its healthcare system, struggling small businesses, and to revive the economy.
- Support from the State and the Banque de France (credit mediation) to negotiate with its bank a rescheduling of bank credits
- The French government also amended a new budget law under which it will provide state guarantee loans to companies.
- On April 22, announced gradual easing of lockdown in different regions from May 11 onwards. Cafes, restaurants, cinemas will remain closed, and festivals postponed till mid-July.

Governments' Response to the Threat [3/5]



Germany

Confirmed cases	157,770
Deaths	5,976
Recovered	112,000

- The German government extended the nationwide lockdown until April 19, 2020 and intends to further extend it to May 3, 2020. Banned public gatherings of more than two people, expanded curbs on social interactions, closed all restaurants, hotels, and other businesses.
- The country will gradually ease lockdown measures, reopening schools in early May along with retail businesses. However, social distancing measures are likely to remain.
- Temporarily closed several schools and workplaces & cancelled many upcoming events, including Leipzig Book Fair and ITB Berlin.
- Closed borders with France, Switzerland, Austria, Denmark, and Luxembourg from March 16, 2020..
- The German government has approved a stimulus package worth \$1.22 trillion. Tourism companies allowed to defer tax payments and workers sent home by the employers to be compensated under government subsidy scheme.
- Approved an additional \$11.2 billion stimulus package.



United Kingdom

Confirmed cases	154,037
Deaths	20,795
Recovered	778

- On March 23, British nationals were advised against all but essential international travel. Travelling citizens were advised to return to the UK. PM Boris Johnson imposed a three-week lockdown to prevent the spread of coronavirus. On April 16, the government extended the lockdown by three weeks.
- On April 26, British foreign Secretary announced that the government is not planning for lockdown exit as the UK is in a very "delicate and dangerous" stage at present.
- The government directed people to stay at home throughout this period except for essential purchases, essential work travel or medical needs.
- Bank of England has slashed interest rates by 0.65% and lowered capital requirement for UK banks.
- Stimulus package worth \$446 billion (15.94% of GDP) has been approved by the government for tax cuts and business loan grants.

Governments' Response to the Threat [4/5]



Turkey

Confirmed cases	110,130
Deaths	2,805
Recovered	29,140

- On March 27, 2020, Turkey suspended all foreign flights and imposed travel restriction on 30 cities.
- All entry and exit into the municipalities is banned, except for the transport of essential supplies.
- On March 17, 2020, the Central Bank of Turkey lowered the policy rate by 100bps to 9.75% and a package of financial measures was introduced.
- The Turkish government announced a \$15.5 billion package to mitigate the potential economic fallout from the deadly pandemic.
- On April 20, announced full lockdown of 31 cities from April 23 onwards for four days.
- An additional \$28.7 billion stimulus package has been adopted by the Turkish government on April 26 that will include working allowance, minimum wage support, tax postponement and preservation of commercial life among others.



Iran

Confirmed cases	90,481
Deaths	5,710
Recovered	69,657

- On 25 March 2020, a partial lockdown was announced, closing businesses and government offices for two weeks and banning travel between different cities.
- The Iranian government allowed low risk businesses to re-open from April 18 onwards. High risk economic activities such as sports and cultural centers, hotels, shopping malls, salons etc. were suspended until further notice.
- The Central Bank agreed with commercial banks to postpone repayment of loans due in February 2020 by three months and provided temporary loan waivers for non- performing loans.
- Announced a stimulus package worth \$56.2 billion - equivalent to 8.5% of GDP - to support vulnerable social groups.
- On 6 April 2020, announced guaranteed bank credit of US\$61 to 23 million poor families to boost consumption expenditure.
- On April 26, government allowed mosques to re-opens in COVID-19 free areas of the country.

Governments' Response to the Threat [4/5]



China

Confirmed cases	82,830
Deaths	4,633
Recovered	77,474

- As the number of COVID-19 cases ease, employees are back to work and Chinese factories started its operation. The country also re-opened 500+ cinemas, shops, bars and tourist spots.
- Lockdown lifted from the central Chinese city of Wuhan. Citizens can leave home, with rail and road connectivity re-established.
- With re-emergence of new imported cases, the Chinese government on April 12, decided to tighten border controls and quarantine measures. China has banned all non-residents and outside vehicles from entering the Harbin city that borders Russia.
- The Chinese government has approved fiscal measures worth \$368 billion to control the spread of the disease, produce medical equipment, disburse unemployment insurance, provide tax relief, and waive social security contributions.
- On March 30, 2020, People's Bank of China reduced its 7 days reverse repurchase rate to a record low of 2.2% and injected \$7 billion into the financial system to revive the economy.

Concern Over the Spread of COVID-19 Remains High, Business Optimism Declines



Poll to Assess Business Sentiment

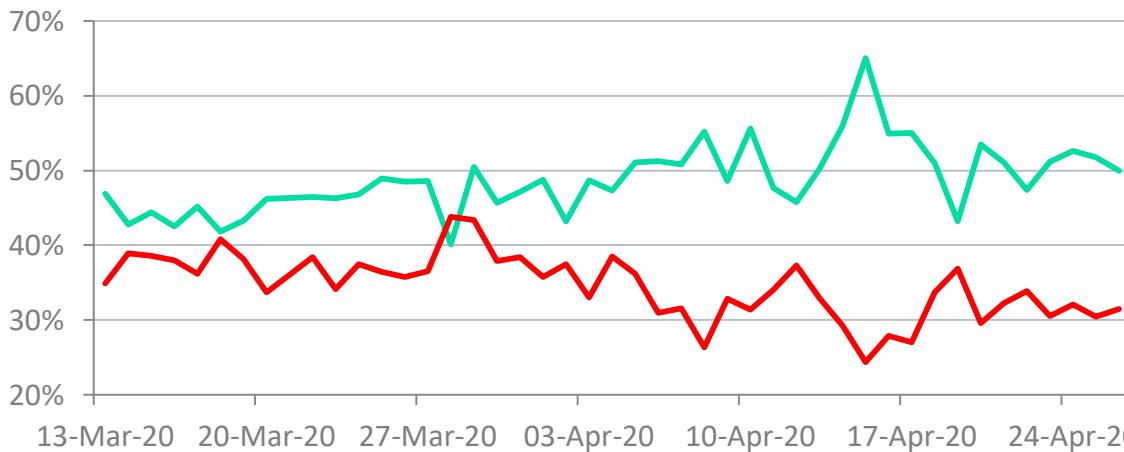
as of 27 April 2020

How optimistic are you about your company's growth prospects?

- Very optimistic
- Optimistic
- Neither optimistic or pessimistic
- Pessimistic
- Very pessimistic

Companies' View on Future Growth Prospects

— Optimistic — Pessimistic



Note: Optimistic includes respondents with response as "very optimistic" and "optimistic". Pessimistic includes respondents with response as "pessimistic" and "very pessimistic". Neutral respondents were discounted from the analysis. 16,837 responses were received.

Source: GlobalData Analysis

Poll to Assess Concern Related to Spread of COVID-19

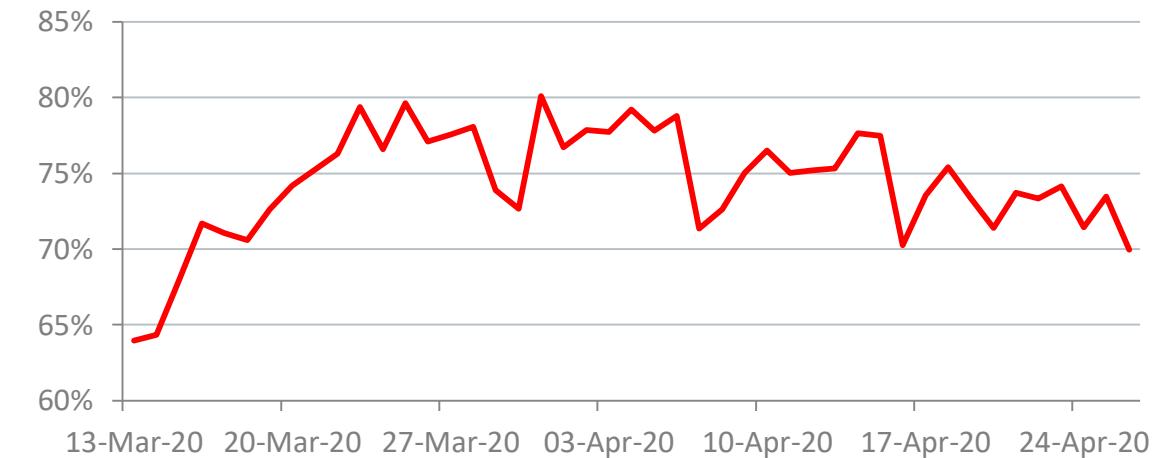
as of 27 April 2020

How concerned are you about the spread of coronavirus?

- Very concerned
- Slightly concerned
- Neither concerned nor unconcerned
- Not very concerned
- Not concerned

Covid-19 Concern Index

— Very Concerned



Note: Concern index is based on respondents who answered that they are "very concerned" about the spread of COVID-19. The index is based on a total of 116,623 responses.

Hiring Is On Hold; Lays Offs Expected

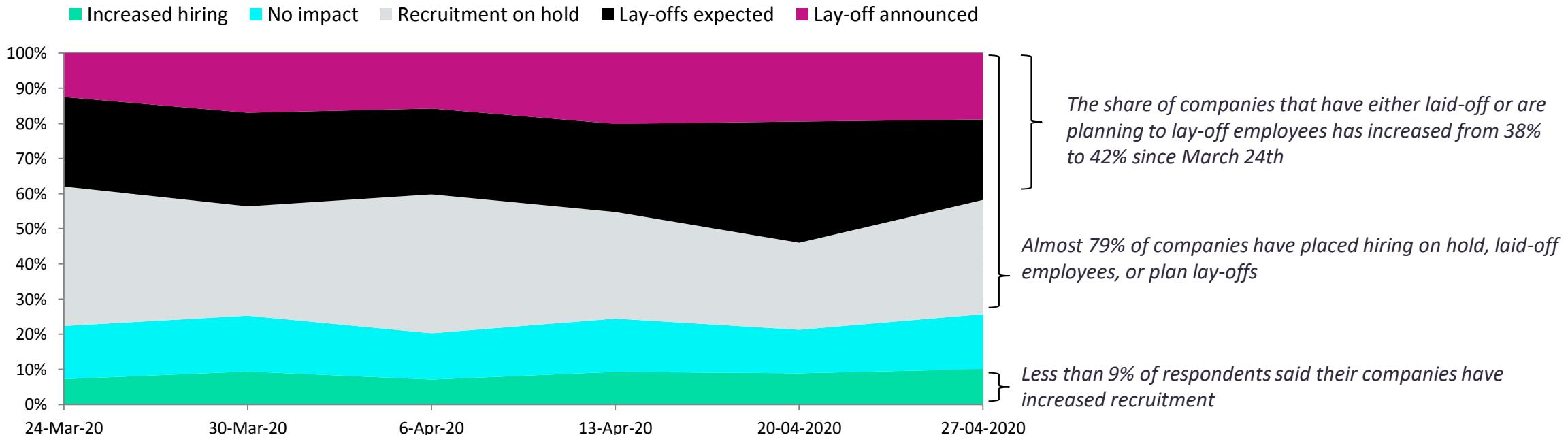


Poll to Assess Impact on Recruitment

Results till 27th March, 2020

Do you see impact on recruitment in your company due to COVID-19 pandemic?

- Lay-offs announced
- Lay-offs expected
- Recruitment on hold
- No impact
- Increased hiring



Note: Analysis based on 11,834 responses received till April 27, 2020

Source: GlobalData Analysis

Breaking News: Unemployment Figures



APRIL 27, 2020

Macau: COVID-19 pushes up jobless rate to 2.1%

[View](#)

APRIL 26, 2020

United States: 50 million travel industry jobs may be lost, 50 percent of travel cut — due to coronavirus

[View](#)

Belgium: Almost 100,000 people apply for temporary unemployment in Brussels

[View](#)

Nigeria: Employers demand 60% salary support from FG to save jobs

[View](#)

APRIL 25, 2020

India: Airlines staring at 2.9 million job losses, 47% drop in demand

[View](#)

APRIL 24, 2020

Global: WTTC Estimates more than 100 million travel industry job losses

[View](#)

South Africa's poorest workers are more likely to lose jobs, says data report

[View](#)

APRIL 23, 2020

US: 26.5 million Americans Lost their jobs in the past five weeks

[View](#)

The EU's 100 billion euro scheme to tackle unemployment caused by COVID-19

[View](#)

Unemployment around the US will reach 16% this year, CBO says

[View](#)

Unemployment rate in Iran drops

[View](#)

Breaking News: Stimulus Announcements



APRIL 27, 2020

Egypt seeks aid from IMF amid virus-inflicted downturn

[View](#)

India Inc awaits govt stimulus to revive corporate, MSMEs amid layoffs and salary cuts

[View](#)

UAE's \$70 billion stimulus will help buyers get on property ladder, says Seven Tides CEO

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APRIL 26, 2020

SAARC nations unveil emergency stimulus packages to tackle COVID-19 economic fallout

[View](#)

Turkey spends \$28.7 billion to protect economy against COVID-19

[View](#)

China weighs new fiscal stimulus plan

[View](#)

APRIL 24, 2020

Coronavirus: EU moves towards trillion-euro recovery stimulus package

[View](#)

Japan's stimulus to boost real GDP by 4.4%: economy minister

[View](#)

When \$8 trillion In global fiscal stimulus still isn't enough

[View](#)

APRIL 25, 2020

\$110 trillion renewables stimulus package could create 50 million jobs

[View](#)

APRIL 23, 2020

Workers and restaurants benefit from Germany's new €10 billion coronavirus package

[View](#)

Breaking News: Other Macroeconomic Indicators



APRIL 27, 2020

UK resists calls to ease lockdown as Johnson set to return to work

[View](#)

Some states begin to reopen as US closes in on 1 million coronavirus cases

[View](#)

APRIL 26, 2020

France, Italy and Spain prepare to ease coronavirus lockdowns

[View](#)

COVID-19 Informer: Figures paint positive picture as Australia plans for COVID-19 recovery

[View](#)

Virus-hit APEC region to post 2.7% economic contraction in 2020

[View](#)

Israel: Ministry of Finance Chief Economist Shira Greenberg forecasts a rise in the fiscal deficit to 11% of GDP.

[View](#)

S. Korea's economy to shrink 0.3 percent in 2020

[View](#)

APRIL 25, 2020

India plans to fast track Chinese investments after policy change

[View](#)

APRIL 24, 2020

UPDATE 2-Russia lowers interest rate to 5.5% amid coronavirus outbreak

[View](#)

Saudi Monetary Authority directs banks to postpone 3-month installment payments

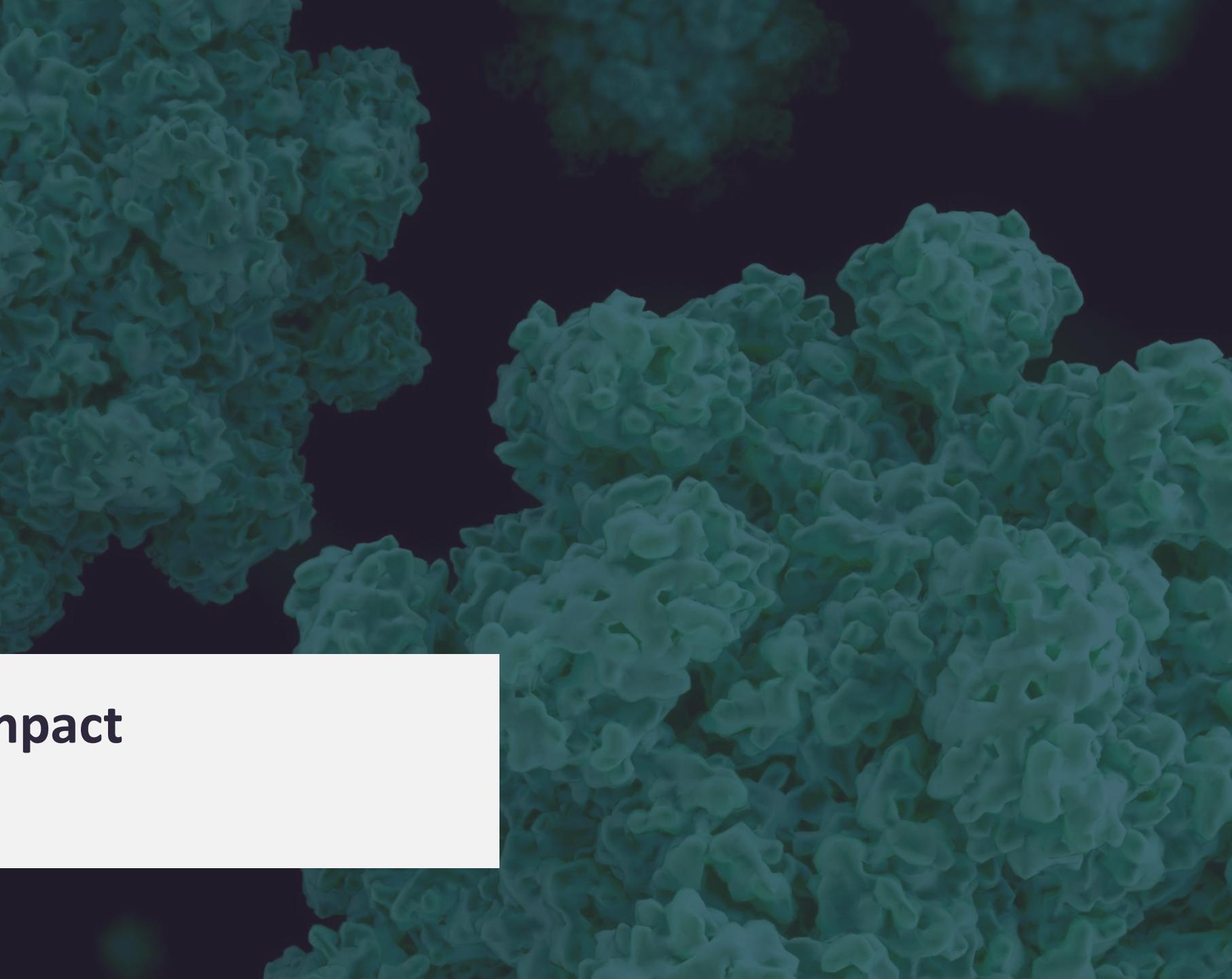
[View](#)

Africa faces 'hunger pandemic' as coronavirus destroys jobs and fuels poverty

[View](#)

Fitch Affirms Netherlands at 'AAA'; Outlook stable

[View](#)



5. Sectoral Impact

Aerospace, Defense & Security COVID-19 impact assessment



Interdependent and complex relationship between Aerospace and Defense will spread the damage

Revenue Predictions

- § Commercial Aerospace struggled prior to the outbreak, but now finds itself in a crisis worse than 9/11 and SARS combined. IATA's estimate of lost airline revenue has been revised upwards four times, and now stands at \$315bn as of 23rd April. The immediate impact on OEMs, services and aftermarket parts is catastrophic.
- § The future of Commercial Aerospace depends on whether COVID-19 represents an inflection point resulting in an L-shaped recovery or a prolonged U or W-shaped recovery and reversion to previous growth patterns.
- § Defense prospects are brighter but may be curtailed by medium term fiscal restraint as a result of measures to combat COVID-19, with differing impacts per subsector and per region. Defense is likely to be used as a stimulus in markets with large domestic capacity.

Unemployment

- Aerospace has already shed thousands of jobs with tens of thousands under furlough. Defense has yet to be majorly impacted, however. Strategic capabilities will be protected, as they are extremely difficult to resurrect in short order once lost. A small number of defense primes, notably Lockheed Martin, have added to headcount recently.

Supply Chain & Demand Disruption

- § The US DoD expects three-month delays on major defense acquisition programmes (MDAPs). It also notes specific vulnerability within aerospace, shipbuilding, and small space launch markets.
- § Long term defense demand will be defined by knock-on macroeconomic impact within 1-2 years.

Sector-specific Stimulus Programs

- Largest so far is the US CARES act, providing \$17bn in specific funding for businesses critical to national security along with \$61bn in aviation and broader aerospace support. There is an expectation of additional funds to mitigate DoD MDAP slippage in CARES Act 2, now being discussed.
- Governments are also implementing prompt payment measures to their defense supply chains with a particular focus on supporting SMEs and identifying weak points, specifically on civil aerospace exposure.

Being A Force For Good

- Along with the automotive sector, Aerospace & Defense are at the forefront of efforts to manufacture ventilators at pace using methods such as 3D Printing and leveraging experience with rapid acquisition.

Aerospace, Defense & Security COVID-19 value chain impact



Variation in impact across tiers and timeframes

	Prime Contractors	Tier 1 & 2 Subcontractors	Tier 3 & 4 Components & Fabrication	Tier 5 Raw Materials
Short-term impact	Defense primes face production & supply issues but supported by programme assurance. Civil Aerospace in deep freeze.	High relative vulnerability to civil markets in key areas, risk of failure without state aid.	Disruption to supply chains, labour force and revenue from commercial markets.	Disruption to supply chains, labour force and revenue from commercial markets.
Mid-term impact	L or U-shaped aviation recovery defines medium term impact. Prospects for defense budgets also apparent in the mid-term.	Consolidation needs become acute. Debt financing for M&A now more feasible, however.	Diversification to mitigate supply chain and customer risk.	Global recession keeps civil demand checked.
Long-term impact	Rebalanced civil aerospace sector and no reversion to previous demand patterns, depressed defense budgets.	Landscape emerges after M&A. Greater supply chain scrutiny from governments throughout the tiers.	Reshoring of some capability to guarantee security of supply (PCB, cables, assemblies etc.).	Broader view of what counts as strategic industry may include some elements of raw material production/supply.



Automotive COVID-19 impact assessment

Over \$100 billion in lost revenue for North American and European industry alone

That's assuming a return to production by May. No guarantees that's the cap on losses...

Revenue Predictions

- The hit to the market will be greater than in the 2007/8 financial crisis.
- Our base COVID-19 light vehicle sales scenario forecasts a fall of 16.2% on 2019 to 75.2 million.
 - Declines heavily weighted to Q2; measures to suppress the virus allow for recovery from Q3 onwards.
- Most plants in Europe and North America are closed: up until end of April, 4.1 million light vehicles will have been removed from production.
- Revenue cost of \$131.1 billion to the OEMs here alone.
 - Given base case globally losses scale up to over \$450 billion.
- For the aftermarket there will be some income loss from extended service intervals and lower annual distances travelled.

Unemployment

- Demand decimation and production stoppages damaging all parts of the value chain.
- Furloughing of staff is widespread: dealers, suppliers and OEMs all applying measures to try and conserve cash.

Source: GlobalData Analysis

Supply Chain & Demand Disruption

- The complexity of supply chains was revealed as production at FCA and Hyundai plants in Europe and South Korea was disrupted due to Wuhan's shutdown.
- Concern moved from supply chain disruption to the demand side.
- Suppliers contribute ~60% of a vehicle translating to \$78.7 billion in lost revenue in Europe and North America alone up until April.
 - Profit hit at an average 3% margin is nearly \$2.4 billion.

Sector-specific Stimulus Programs

- The tools to stimulate demand, such as scrappage from the last crisis, are not viable just yet.
- Will be required once the public health risk subsides, with emphasis on green vehicles.

Being A Force For Good

- Sector at forefront to manufacture ventilators and masks.
- Vehicles have been donated and payments made to help communities.
- OEMs extending warranties and offering payment holidays to customers.

Automotive COVID-19 value chain impact



Difficult to see beyond a rebasing of the entire value chain at this point: structural imbalances finally addressed

But last pandemic did give way to the 'roaring twenties'...

	Supplier Network	Auto Manufacturers	Sales & Marketing	End Market	Sale & Post-sale Activity
Short-term impact	Devastating, unless can pivot to new markets or highly automated production.	Double whammy. Supply chain disruption mutates into demand decimation.	Day job disrupted, messaging shifts away from product to CSR.	Lockdowns limit vehicle need. Big ticket items move right to the back of the queue however much one digitalizes.	Goodwill initiatives abound; offer help to customers you do have.
Mid-term impact	M&A need accelerates. Technology and geographic portfolios reassessed.	Cash conservation is king, R&D checked. Back to basics. Capacity rationalization looked at. OEMs do right by society and don't wait to be impelled by legislation.	Sales and marketing function reset at OEMs. Messages focus on positive CSR aspects of the products.	Digital comms and virtual commuting take hold. Only vital journeys undertaken, demand becomes normalized to utility and not wealth.	More focus on 'cradle-to-grave' support that are the profit generating activities of any national sales company or dealership group.
Long-term impact	Leaner, more agile, supplier base results. Industry 4.0 fully implemented and industrial manufacturing repatriated.	Supply chains remapped. Single source risks mitigated. Industry rationalized, less need to foist upon consumers unwanted tech for unsustainable advantage.	Simplified but more oligopolistic marketing function emerges. Increased spend on advertising as non-price competition becomes more important.	Sector moves from push-to-pull. Industry no longer pushes product into people's hands who can ill-afford it. Damage to PCP market after macro damage.	Moves from footfall in the showroom being the mantra to traffic in service bay. Return to Jac Nasser-era vision for Ford.

Banking COVID-19 impact assessment



COVID-19 is creating conditions of acute economic stress and disruption worldwide

Retail banks will play a critical operational and strategic role in helping absorb the first-round adjustment costs

Revenue Predictions

- In the near-term, COVID-19 will be analogous to the credit crisis, creating a period of economic paralysis and leaving a massive hole in banks' balance sheets.
- Fee and interest income will fall, driven by reduced use of cards (interchange fees), and the obligation to provide payment holidays and waive interest and overdraft charges.
- Non-performing loan (NPL) ratios will increase, particularly across SMEs in sectors such as retail, travel, tourism, and entertainment.
- New mortgage lending will freeze. Net interest margins will remain low and/or be compressed further by rate changes.
- Short-term costs will increase amid lost productivity from increased work from home, and scenario analysis and stress testing of possible COVID-19 impacts.

Unemployment

- The International Labour Organization (ILO) estimates job losses of around 25 million worldwide.

Supply Chain & Demand Disruption

- Massive increases in digital activity, both from employees working from home and customers using mobile apps/websites, will drive increased risk of performance disruption.
- Much longer than normal lead times for infrastructure components (such as, servers, storage, parts and networking gear).

Sector-specific Stimulus Programs

- Various measures are being implemented including fiscal stimulus steps, rate decreases, liquidity measures, and a relaxation of capital rules.
- Operational challenges and lack of policy clarity have left some banks fearful of "writing blank cheques" when providing emergency finance.

Being A Force For Good

- By taking various counter-cyclical measures, banks will play a critical role in protecting employees, customers and the wider economy.



Banking COVID-19 value chain impact

Significant negative impact across the entire value chain but ultimately “forcing” through necessary business model change

	Channels	Products	Operations	Infrastructure
Short-term impact	Rapid change in channel usage, diverting primarily to call centres.	Loss of income, “forced” lending to vulnerable segments, and waived fees and charges.	Operational workarounds to affect process changes quickly at expense of long-term process simplification.	Legacy systems break amid increased volume and velocity of data processing and new time-to-market imperatives.
Mid-term impact	Banks that built out mobile as a full sales and service channel reap benefits.	Cautious resumption of lending but with non-traditional credit risk metrics.	Growing reliance on open banking partnerships to refine credit assessment and remote on-boarding.	Cloud migration, software-as-a-service partnerships, and data consolidation to enable more personalized digital interactions.
Long-term impact	Accelerated decline in branch usage and conversion of digital holdouts.	More flexible product options, greater personalization and hybridization of features.	Increased process automation to improve business resilience and re-on-shoring of business-critical activities.	Cloud-native, mobile-native, micro-services architectures to optimize agility and flexibility.

Construction COVID-19 impact assessment



Global construction output to fall by 1.4% in 2020

Sharp declines in activity expected in Europe and North America

Output predictions

- The construction industry will be subdued beyond the immediate period of lockdowns and other containment measures despite huge government stimulus packages.
- GlobalData predicts that global construction output will contract by 1.4% in 2020, a sharp downward revision compared to the forecast of 3.1% in the pre-COVID-19 case.
 - Western Europe output will contract by 5.1%
 - North America output is expected to drop by 4.3%
 - North-East Asia output will grow by just 1.2%

Sector specific stimulus

- Governments and public authorities will advance spending on infrastructure projects as soon as normality returns to reinvigorate the industry.
- This will be spread across all areas of transport infrastructure and energy and utilities.

Supply chain & demand disruption

- The construction industry will be heavily affected by the economic downturn. Planned projects are at a high risk of being delayed or cancelled.
- In the short term there is a high risk of projects in execution being halted because of lockdowns, a lack of materials, and other supply chain disruption.
- Projects at pre-construction stages will be severely delayed, given disruption processing building permits, tendering, and awarding contracts.

Unemployment

- While European governments are still permitting construction sites to remain open, there are reports of staff being laid off.



Construction COVID-19 Sub-sector impact. Note: no value-chain analysis for construction so sub-sectors are shown instead

All sectors to experience short term disruption, with commercial and industrial hit hard

Infrastructure investment will be a focus for efforts to boost the recovery

Commercial

Commercial construction is likely to be the hardest hit in the early part of 2020, with sectors such as retail, leisure and hospitality already suffering from the knock-on effects of the decline in trade, travel, and consumer and business confidence.

Energy & Utilities

Spending on energy and utility projects will be severely impacted by global supply chain disruptions and plunging oil prices. However governments and public authorities will likely advance spending on power and utilities projects as soon as normality returns.

Industrial

The industrial sector is most at risk from the severe drop in economic activity. Immediate priorities for manufacturers will be to stay afloat and rebuild core operations, rather than expand and invest in new premises or capacity.

Infrastructure

Infrastructure projects will be a priority for government investment as soon as normality returns, to reinvigorate the industry. With interest rates at record lows, borrowing costs will be at a minimum, but success will depend in part on the financial standing of governments post COVID-19.

Institutional

Governments across the world are preparing to fight the virus outbreak by strengthening their healthcare infrastructure, and building of new hospitals is rising sharply. This investment helping to support the expansion in institutional buildings.

Residential

The residential sector will struggle as unemployment rises, despite low interest rates and direct government support. There is a high risk that a considerable proportion of the early stage projects in the sector will be cancelled or pushed back, and few new projects will start in Q2 2020.

Consumer COVID-19 impact assessment



Furloughs, lay-offs and job insecurity continues to affect consumers' willingness to spend, with the greatest impact on high-end or 'non-essential' products

Unemployment

- Unemployment and job insecurity will continue to focus consumers' spend on essential goods, with premium and non-essentials falling by the wayside.

Revenue predictions

- Geographic and product diversification will provide resilience to companies from the worst effects of COVID-19.
- The number of meals eaten at home will remain at an all-time high, with the highest increase being lunches eaten at home. These lunches, now prepared at home rather than being pieced together in the forms of meal-deals and foodservice, present opportunities for eating together, with unique new product opportunities.
- Simple and filling food, as well as emotionally comforting treats like chocolate and biscuits, are expected to do well during lockdown.
- Consumer goods choices will continue to reflect the weather, but mass unemployment will alter spending on consumer goods. Meat and ice cream are expected to do well where it's sunny, although a shift to private label and bulk products is most likely.

Source: GlobalData Analysis

Supply chain & demand disruption

- Falling oil prices are positive for key industries like FMCG logistics and couriers, as business costs come down.
- Demand for online delivery is high during lockdowns. Retailers are adapting to accommodate this through click and collect as well as increased home delivery services.
- Several supermarkets have unveiled new ways to shop in-store, using their own proprietary apps. These apps use the smartphone's camera to scan barcodes so customers can scan and pack as they pick up their shopping. This reduces the potential for infection from fomites.
- Coca-Cola reported volume losses of 25% due to a mixture of changing demand and the closure of foodservice outlets.

Being a force for good

- While Corporate Social Responsibility continues to be in the spotlight, some local organizations, such as Feed Britain are taking it one step further and developing social business models. These companies run at-cost distributing meals and ingredients from local suppliers, and profits go to charity to ensure key workers get hot meals.

Consumer COVID-19 value chain impact



COVID-19 could change longer-term consumer behavior, the most successful companies will alter their strategies to accommodate this

	Supplier Network	Manufacturers	Logistics and distribution	Channels	Consumers
Short-term impact	Consumer Goods companies will experience short term delays from suppliers, especially those from further afield.	Manufacturing will experience minor short term disruption from ill staff and supplier disruption. Focus will shift away from smaller convenience products.	Delays in distribution networks may prevent revenue maximization.	Online orders and convenience stores are become more popular.	Major shifts in consumption behaviour are occurring rapidly making it difficult to react.
Mid-term impact	Consumer Goods companies are likely to be forced to analyse their sourcing strategies.	Product development will be hampered by COVID-19 disruption. The sales mix is likely to change—favourable for some, though others will struggle.	Longer-term effects might persist for some time, causing on-going difficulties.	Online retailers will become increasingly important for consumer goods manufacturers.	A global recession will increase demand for value products.
Long-term impact	New supplier networks might be created with the aim of building more resilience into overall arrangements.	While weaker businesses and brands might fail, those left should be well placed to fill any voids.	“New normal” patterns will bed in.	Overall channel mix will likely be altered for some time, requiring greater operational complexity to be managed.	Long-lasting impacts force CPG companies to alter pricing and promotion strategies.

Insurance COVID-19 impact assessment



Economic instability will have the longest impact on the industry

Premium impacts

- The Chinese insurance industry is expected to generate ¥4,467.06bn (\$629.8bn) in gross written premiums (GWP) in 2020. This forecast was revised down from an initial estimate of ¥4,754.22bn (\$670.29bn) before COVID-19, representing a decline of 6.0%.
- The reliance on health insurance in the US could cause premiums to surge by up to 40% as the insurers face an unprecedented number of claims.
- According to Secured Retirement Institute, the sale of fixed-rate deferred annuity products in the US registered a growth of 57% in March 2020, when compared to the previous month.

Changing claims landscape

- Travel insurance claims are anticipated to reach record levels due to trip cancellations. In the UK, the ABI estimates claims costs will reach £275m.
- Workers compensation premiums are expected to decline due to falls in global employment rates. However, claims relating to workers compensation linked to coronavirus in California are expected to reach US\$33.6bn.

Economic instability

- A global recession would initially be felt in commercial lines with business closures reducing demand. This will trickle through to personal lines as consumers' disposable incomes fall.
- Volatility in financial markets has raised the pressure on insurers' balance sheets as exposure to corporate bonds has increased in recent years in search of better returns.
- The expected recession exposes vulnerability on multiple fronts. Carriers already expect a decline in the volumes in both retail and commercial segments. During this time, any catastrophe event could make recapitalisation extremely difficult, resulting in potential business failures.

Being a force for good

- Some motor insurance providers in the US are refunding premiums to policyholders who are unable to use their vehicles during the lockdown due to considerable fall in claims.
- Insurance regulators are extending the premium payment grace period, policy term periods and expiry dates in markets impacted by the pandemic.

Insurance COVID-19 value chain impact



Long term benefits are possible across the value chain despite short term pain

	Product development	Marketing & distribution	Underwriting & risk profiling	Claims management	Customer service
Short-term impact	There will be little capacity for new product development as the industry responds to the crisis.	The sale of new policies has been paused in some lines of business as insurers limit their exposure.	Policy terms must be reviewed in order to understand potential hidden exposures.	The surge of claims will put increasing strain on claims management. With social distancing measures making it challenging to effectively process claims	With many businesses being uninsured due to policy wordings policyholders will feel the level of customer service received is sub-standard.
Mid-term impact	The cost of claims will result in a lack of funds for innovation as core product lines are protected.	The industry will need to engage with customers and highlight the changes which have occurred to policies.	The impact on reinsurance will become evident as natural catastrophes occur.	In the medium term claims will begin to stabilize after the peak of the virus is reached.	The impact of customer service on market share will become evident as renewal dates are approached.
Long-term impact	Changes in consumer habits which occurred as a result of lockdown measures will create demands for new policies to be developed.	New policies will have a reliance on technology particularly those which are usage-based, resulting in the need for new distribution channels.	The industry will benefit from the wealth of data which will become available allowing for improved underwriting accuracy relating to future pandemics.	The need for a contactless claims process will result in significant investment in technology which enables virtual claims processing.	The high demand for clear communication of policy terms will lead to a change in industry practice.

Medical COVID-19 impact assessment



Governments around the world are approving stimulus packages to ensure hospitals can continue to operate during the crisis

With hospitals focusing on COVID – 19 patients, the more lucrative procedures are taking a back seat

Revenue predictions

- GlobalData expects the current spend for disposable hospital supplies to increase \$8B worldwide, substantially up from the current estimate of \$16.4B, based on worst-case scenario assumptions.
- The key beneficiaries of this increase are Cardinal Health Inc., Molnlycke Health Care AB, and McKesson Corp., which collectively account for 38% of the global disposable hospital supplies.
- Other beneficiaries include 3M Health Care due to its supply of N95 filter face masks.
- General Surgery, Orthopedic and Cardiovascular devices are now reporting impacts on business, including delayed product launches, repositioning of inventory and extended lines of credit.
- 15–30% of elective surgeries are likely to be cancelled.

Unemployment

- Medical manufacturers' available jobs fell 22% in the last month.
- Quest Diagnostics has increased the number of active jobs by 8.8%, between December and February 2020.

Supply chain & demand disruption

- Qiagen will meet shortages of essential COVID-19 test reagents by quadrupling production of its RNA extraction kit by end of April, eventually aiming for a 13-fold increase by end of 2020.
- SI-Bone suspends the planned Q2-Q3 launch of its cellulite reduction RAP device until the Aesthetic market stabilises.
- Abiomed is moving inventory to US, Japan and Germany.
- iCAD secures a loan and 4-year line of credit to ensure its continued trading.
- Shortages of N95 masks force end users to use disinfectants in order to reuse masks.

Sector-specific stimulus programs

- US Congress approved a \$100B stimulus package for US hospitals to help address the pandemic.
- Experts believe that most of this money won't go to lifesaving care or equipment, but to underwrite the astronomical administrative costs of negotiating a complicated network of private insurance providers and other bureaucratic functions.



Medical COVID-19 value chain impact

Disruption in medical markets is expected to continue through the end of 2020

Companies with minimal supply chain disruption are better equipped to perform well over the long term

	Supplier Network	Manufacturers	Sales & Marketing	End Users (Patients, Physicians, Hospitals)
Short-term impact	Logistics and dearth of device components supplies will be major issues for all.	Most Medical companies will show a decline in revenues in Q1 and Q2 due to the limited number of procedures being done.	With disruptions in face-to-face meetings, sales forces will lower effectiveness using virtual and electronic marketing tools.	Physicians are currently overworked, understaffed, and have inadequate supplies to handle large influxes of patients with severe disease.
Mid-term impact	As concerns over availability of materials subside, manufacturing process will begin to resume, though will initially lag relative to regular operations.	Developers of COVID-19 interventions could thrive; the bulk of the industry will be challenged with supply chain interruptions, and limited procedures.	Sales will begin to recover once supply chains and procedures are not disrupted.	Healthcare providers will continue to struggle with providing adequate patient care as long as there are shortages in any aspects of patient care.
Long-term impact	Growth will be derived from opportunities to manufacture and support distribution of COVID-19 tests and test capabilities.	The need for devices will grow above pre-COVID-19 levels due to the increased number of procedures to catch up the delay.	Sales volumes will increase as devices are sold to make up for the lack of procedures in early 2020.	The healthcare system will remain overburdened by the number of procedures that are required post COVID-19, but providers will not be overburdened.

Mining COVID-19 impact assessment



COVID-19 is impacting both the demand and supply side of the mining sector

Demand side

- The latest forecast for global construction output growth is a decline of 1.4%, versus initial expectations of 3.1% for 2020.
- A slowdown in construction has impacted copper and steel demand
- Lower automotive manufacturing will also impact demand for steel, aluminium, platinum and palladium.

Capital expenditure

- Original guidance for the leading miners' capex growth was 11% in 2020. However, capex is being cut back.
 - In April, Rio Tinto advised capex for the full year would be between US\$5-6 billion, down from the previous guidance of \$7 billion, partly due to COVID-19, but also partly due to the strength of the US dollar.
 - On 24 April, Freeport-McMoRan announced a cut in capex from the initial guidance of US\$2.8bn to US\$2.0bn.
 - Antofagasta's capex will be less than \$1.3bn, compared with original guidance of \$1.5bn due to suspension of work on the Los Pelambres expansion project.

Supply side

- Suspensions of mining activity have now ended in Argentina, South Africa, India and Zimbabwe, while lockdowns continue in Bolivia (to 30 April) and Namibia (4 May). In Quebec, the government extended restrictions to 4 May, however, it is allowing mines to reopen from 15 April as essential services if they comply with strict measures to limit the spread of the virus.

Operations

- Mining companies are undertaking a range of measures to minimize the potential for infections and the impact of the virus on mining operations.
- With concerns over infections being brought in by FIFO workers, Rio Tinto is trialing a rapid blood-testing system for FIFO workers before they board their flights to its Western Australian mines. The test screens for viral-related antibodies and should anyone test positive, they self-isolate and seeks out a COVID-19 test. Workers also complete a questionnaire the day before travel and are assessed at the airport by medical personnel.

Mining COVID-19 value chain impact



The speed of recovery will also vary by commodity

	Prospecting & Exploration	Mine Development	Extraction & Processing	Marketing
Short-term impact	Much prospecting and exploration has been deferred due to financial consolidation by mining companies.	Construction activities have been slowed by lockdowns, whilst investment decisions have stalled pending market improvements.	Large numbers of mines have been temporarily closed in several markets, except where mining is considered an essential service. Interruptions to supply chains will affect production.	Demand for many commodities, such as base metals and PGMs has dropped significantly with the slowdown of the global economy.
Mid-term impact	Continued closure of borders and travel restrictions will hinder explorers, whilst investor sentiment will impact capital raising.	Investments will depend on the recovery of commodity prices and ability to source the required workforce to develop each site.	Delay to recovery of equipment and consumables suppliers could impact supply chains. However, miners will attempt to redress production deficits.	Recovery in China and public sector investments will support demand for commodities for industrial production and infrastructure construction. However, lower luxury purchases affects PGMs, diamonds, etc.
Long-term impact	Exploration budgets may be constrained in many commodities whilst markets recover.	Recovery in commodity demand will spur an increase in mine development activity to meet future demand requirements.	Improvements to emergency response plans and investments in worker health. Increased investment in technology and potentially an increase in automation.	As the global economy returns to growth, demand growth for commodities will return to pre-COVID expectations.

Oil & Gas COVID-19 impact assessment



The oil & gas industry is heavily impacted on all fronts as falling demand and geopolitical ambitions are greatly impacting company finances

Upstream sector will bear the brunt of the COVID-19 outbreak as the falling oil prices will impact production economics.

Revenue predictions

- Lockdown measures have brought a sharp drop in global oil and gas demand, with The IEA estimates that global oil demand could fall by 29 percent in April 2020.
- The crash in prices - aggravated by a rapid build in liquids storage that caused lower utilization at producers' end - will significantly impact revenue and profit margins.

Capex realignment

- IOCs, NOCs, and independents alike are cutting capex and opex in tune with the low oil prices, which have been battered further by COVID-19 pandemic.
- Announced cuts to capex guidance for 2020 now exceed US\$89 billion as of 26 April 2020, considering 140+ companies.
- Capex revisions are primarily being felt in cuts to drilling in the US shale plays, in postponement of project FIDs and reductions to exploration budgets.
- Major FID postponements to date include Woodfibre LNG, Rovuma LNG, and the Scarborough gas field and Pluto LNG expansion.

Supply chain disruption

- Production shutdowns in China have disrupted raw material and equipment supply chains across all industries, especially those that are heavily dependent on China.
- Restrictions aimed at limiting the spread of COVID-19 are hampering progress for some ongoing projects, with a major example being the Tortue LNG project in Mauritania and Senegal, delayed for around 1 year.

Government policy responses

- OPEC and other major producers collectively agreed over 9.7 million bpd of oil production cuts in order to offset reduced demand.
- Canada, Ghana are among the first countries that are planning for a fiscal stimulus to support the country's ailing oil and gas industry from the downturn.
- Highly oil-dependent countries, such as those in the Middle East and North Africa could face deep economic stress due to this downturn.

Unemployment

- Shrinking E&P activity and closing oil and gas plants are leading to layoffs in the services industry.
 - Halliburton announced job cuts in Texas and Oklahoma.

Oil & Gas COVID-19 value chain impact



Low prices coupled with a prospect of low demand does not bode well, and forces to rethink on project timelines and cost cutting across value chain
Projects with high capital intensity are at a high risk of cancellation or FID delay

	Upstream	Midstream	Downstream	Petrochemicals	Equipment & Services
Short-term impact	Production cut. Projects put on hold. Drilling suspension.	Project delays. Production cuts. Product surplus at storage facilities. Volatility in tariff.	Reduced utilization. Suspension/closures of refinery operations. Delay in critical maintenance activities.	Lower utilization due to temporary closures. Projects delays. Delay in maintenance.	Supply chain disruption. Shortage of labour. Delay in project execution. Cost escalation.
Mid-term impact	Review of asset portfolio. Reassessment of capital allocation based on prevalent pricing and demand.	Opex reduction. Re-evaluation of new and active projects. Possible consolidation in the industry.	Possible consolidation in the industry. Refineries to assess margins and configurations in light of crude oil abundance.	Opex reduction. Re-evaluation of new projects.	Re-look of risk clauses. Project backlogs to be handled. Margins under stress.
Long-term impact	Companies to restructure with focus shifting to cleaner options - gas, light oil, renewables etc.	Review of supply chain infrastructure for oil and gas. Reassessment of risk clauses for supplier and contractors.	Focus on large integrated refineries to continue. Demand for cleaner fuel will increase further.	No perceptible impact on demand. Focus shift to large integrated complexes for better profitability.	Consolidation on E&S is expected. Diversification of sector, geography and service.

Payments COVID-19 impact assessment



The long-term prospects for payments look bright as consumers shift to electronic tools over cash

COVID-19 may be the trigger that finally heralds the long-awaited “cashless society”

Revenue Predictions

- Decline in electronic payments growth to at least 2023 will hit projected electronic payments revenue.
- Long-term revenue will grow as consumers move away from cash.
- Regulators will take aim at card fees once the dust settles – if merchants take less cash they will resume complaints, lobbying, and lawsuits aimed at reducing interchange again.
- E-commerce revenue will increase more rapidly than originally forecast – companies with a strong online presence will do well.

Unemployment

- Payments will be less affected than other sectors.
- Working remotely is feasible for almost all payments companies.
- Banks will see furloughs and layoffs as the likely recession bites.

Cash On A Sharp Decline

- Cash is shunned as a disease vector and central banks, card schemes and other industry players rush to push consumers away from it.
- ATM network operators will see their business shrink rapidly.

Growth Prospects

- E-commerce is already performing more strongly than forecast and will continue to do well as consumers move from physical retail to online.
- Mobile payments have a major growth opportunity at the POS.
- P2P and especially instant payments also have major growth opportunities.

Being A Force For Good

- Banks are offering repayment holidays on credit card debt to support those hit financially.
- Card schemes – most notably Mastercard – roll out increases to contactless payment limits to reduce consumer exposure to disease vectors (and try to kill off cash use).

Supply Chain Impact

- Many payments companies are mostly software based, and these will be sheltered from the impact.
- Terminal manufacturers, card manufacturers and ATM manufacturers will all see a hit as trade slows.

Payments COVID-19 value chain impact



Long-term economic depression will impact consumer spending strongly, hitting payments revenue

Cash is on the way out, though, which will buoy electronic payment spending specifically.

	Banks/Issuers	Acquirers and Processors	Schemes	Card and terminal manufacturers	Alternative Payment Providers
Short-term impact	Revenue will be hit hard by reduced consumer spending under lockdown.	Consumer spending reduction hits revenues hard. E-commerce specialists will see growth as consumers shun physical stores.	Schemes are less exposed to changes in transaction numbers – their networks will remain necessary and funded.	Supply chains impacted by lockdowns. In-store payments greatly reduced and stores close, cutting down demand.	Specialists in e-com, mobile, and real-time payments benefit immediately from consumers turning to remote channels and low-contact tools.
Mid-term impact	Electronic payments overall will go up, but growth will be lower than pre-COVID forecasts as economic downturn bites.	As lockdowns lift, physical stores will see increased traffic, though merchant partners may struggle with lower overall spending.	Schemes will gain from greater electronic payments usage as cash falls off.	Spending reductions will bite hardest in face-to-face commerce, and merchants may struggle. Banks may shift to virtual card issuing.	With strong enough marketing and a good enough initial user impression, alternative tools can funnel ex-cash users to their platforms.
Long-term impact	More instant card issuing and remote card issuing – lower cost base will offset revenue losses as regulators target card fees.	Ramping up of e-commerce demand puts the big, merged processors and e-com specialists in strong positions.	Schemes' positions are not guaranteed – vulnerable to disruption from real-time payment systems which have a big opportunity to grow.	In-store payments will recover, but remote digital spending will gain a lot of ground. Growth prospects overall lower than pre-COVID.	Strong, sustained growth as consumers who adopted tools during the crisis maintain usage habits.

Pharma COVID-19 impact assessment



The COVID-19 pandemic has propelled the pharmaceutical industry into action to develop both preventive and therapeutic interventions

The industry is in a period of uncertainty but companies that are investing in R&D for COVID-19 drugs and vaccines are likely to fare better than their counterparts...

Product Development

- The pharmaceutical industry is racing to develop both preventive and therapeutic interventions.
 - There are currently 1,067 clinical trials for COVID-19.

Clinical Trials and Regulatory

- Upward trends in clinical trial delays continue.
 - At least 805 trials and 330 Pharma/Biotech companies and CROs are associated with disrupted trials.
 - The FDA has suspended inspection of foreign manufacturing plants and Advisory Committee Meetings have been cancelled or postponed.

Supply Chain

- Companies with facilities in China closed manufacturing plants at the height of the outbreak.
- Restrictions on export of active pharmaceutical ingredients (APIs) and finished dose forms in countries such as India.
- Ban on parallel exports and hoarding in countries such as the UK.

Source: GlobalData Analysis

Finance and Business Development & Licensing

- Drop in completed venture capital (VC deals) in Feb 2020 vs Feb 2019 (54% in value, 90% in volume); followed in increase in March.
- Infectious Diseases VC deals are 2nd most funded vs. 5th position in 2019.

Marketing and Commercial Activities

- Cancellation of clinical events will limit face time with physicians, which may result in weaker launches and reduced sales.
- Sales representatives' visits to physicians will be restricted, forcing companies to find alternatives to reach their audience.
- Sales of immunosuppressive drugs could decline while sales of anti-hypertensive, respiratory drugs, analgesics, NSAIDs, anti-pyretics and painkillers could increase.

Patient Access to Services

- Telemedicine is becoming a critical strategy to limit the risk of person-to-person transmission.

Being A Force For Good

- A consortium of Big Pharma companies and the Bill and Melinda Gates Foundation are pooling assets, resources, and knowledge to fight COVID-19.

Pharma COVID-19 value chain impact



In the short-term, impact will overall be negative, slowly recuperating over time

Adverse impacts to sales, drug development, and patient care will resolve as the outbreak is addressed by containment measures and the anticipated launches of interventions

	Drug Development	Supply Chain & Manufacturing	Sales & Marketing	End Users (Patients, Physicians, Hospitals)
Short-term impact	Developers of COVID-19 interventions could thrive; the bulk of the industry will be challenged running trials and supply chain interruptions.	Logistic and supplies of APIs and intermediates will be a major issue for all players involved in the manufacture and marketing of finished dose forms.	With disruptions in face-to-face meetings, sales forces will lower effectiveness using virtual and electronic marketing tools.	Physicians are currently overworked, understaffed, and have inadequate supplies to handle large influxes of patients with severe disease.
Mid-term impact	Developers will have to cut losses and terminate COVID-19 programs if they do not appear promising.	As concerns over availability of APIs subside, manufacturing process will begin to resume, though will initially lag relative to regular operations.	Sales will begin to recover once supply chains and sales forces are not disrupted by COVID-19 and associated safety measures.	Healthcare providers will continue to struggle with provided adequate patient care as long as a shortage in any aspect of patient care is deficient.
Long-term impact	Experience in developing COVID-19 agents could be leveraged for other investigational programs.	Growth will be derived from opportunities to manufacture and support distribution of COVID-19 interventions.	The approval of an effective therapeutic or vaccine for COVID-19 could drive blockbuster revenues for a developer.	The availability of a vaccine or therapeutic will significantly improve public health, reducing stress on the healthcare system.

Power COVID-19 impact assessment



New capacity auctions and contract awards are deferred

Several under-construction projects are experiencing delays due to supply-chain disruption and manpower shortage

Revenue predictions

- Eurelectric estimates new utility investments will drop 10-15%.
- We expect generators to retire aging and expensive fossil fuel power plants and reduce investments on new capacity.
- The drop in energy prices and market uncertainty significantly impede PPA negotiations.
- Power utilities are downgrading earnings following reduced demand.
- 9% average downward earning revisions for global top 220 utilities

Unemployment

- Wind: AWEA reports coronavirus threatens 35k jobs in US.
- Solar: marketing jobs at stake as retail/ direct sales are prohibited.

Sector-specific stimulus programs

- In 14 European countries a temporary moratorium has been announced on energy bills.
- Austria introduced the new “Corona law”, extending the construction duration for wind power projects by six months.

Supply chain & demand disruption

- In the US, about 4.9GW, or 39%, of new utility-scale capacity is expected to be either canceled or indefinitely postponed from April through September.
- The impact of COVID-19 on the Indian wind gearbox supply chain is expected not only on the home market, but also on the US market.
- Production at some wind turbine assemblies and component production facilities, for example in Spain, Italy, the UK and India, have been suspended to stem the spread of coronavirus
- Covid-19 may impact India’s coal-fuelled power plants using Chinese equipment due to disruptions in O&M, major overhauls and critical spares.

Being a force for good

- Utilities have suspended service shutoffs of customers impacted, waived penalties, and introduced flexible payments.
- GE Renewables is making 3D-printed shields for used-masks.
- Bloom Energy is refurbishing ventilators.
- US utilities have donated over \$10m.
- Enel drew a new insurance plan to cover its 68k employees for COVID-19 infection.

Power COVID-19 value chain impact



Distribution utilities to face cash flow issues due to payment delays.

Investments in RE sector looks promising in medium-to-long run, despite the short term impact

	OEMs & Equipment Vendors	Power Producers	Transmission	Distribution & Retail Sales	Services – EPCs, PMCs
Short-term impact	Shutdowns cause delays in supply. Facing severe pressure from customers.	Fall in electricity prices and low demand to impact 2020 revenue. Operating at low PLFs. Working with reduced staff.	Staff under pressure; constant surveillance & response to generation/consumption imbalances.	As governments announce moratoriums, losses will increase. Reduced consumption affects sales.	Most construction halted.
Mid-term impact	Focus on strict deadlines to deliver order-backlogs.	Projects will be delayed or cancelled. New auctions/contracts to be deferred.	New large projects could be announced to boost sector.	Non-collectible write-offs will increase. Increased spend in employee HSE.	Legal complexities to arise due to COVID-induced delays.
Long-term impact	Project owners try to mitigate risks by local sourcing.	Slow change in generation, new-capacity mix; RE & gas to replace coal.	Safety & surveillance technology adoption to increase.	Increased competition from distributed energy resources.	New business from construction starts to meet capacity addition targets.



Retail impact assessment

Impact on retail will be devastating, increasing the shift online and shaking out weaker operators even faster

Global recession will limit the bounce-back in spend in some sectors

Industry predictions

- The enforced boost to online shopping will convert many more shoppers to the channel, reducing the need for expensive store space even further, and placing yet more strain on retail landlords.
- Working from home will become more widespread, which will help to boost local services, including retail, though on a small scale.
- While some consumers will have saved during lockdown, and are ready to spend, others will be without jobs and unable to spend, increasing the demand for discounters and value-led retail.
- Mature Western markets will suffer the most from lost spending during COVID-19, but a global recession will hit all markets.

Unemployment

- Food retailers and online businesses have taken on large numbers of new employees to support high demand from locked-down consumers and to cover staff absences.
- However, as life returns to a new normal, many retailers will not have survived, and overall retail employment will fall.

Supply chain & demand disruption

- Some are still panic buying, but supply chains have had to adapt to greater consumption of grocery as more meals are made at home in lockdowns.
- The cancellation of fashion orders in the wake of store closures is putting severe strain on suppliers and the huge quantities of unsold stock will flood the market pushing prices down further and increasing the strain for surviving businesses.
- Hobby-related items bought to relieve isolation boredom – e.g. arts & crafts, toys, home baking, gaming, sports equipment will not enjoy similar growth post-pandemic as consumers will have less spare time and less replacement needs.

Sector-specific stimulus programs

- Retail is a major employer, so any government stimulus programs tend to have a major impact – UK has cancelled property tax on business for the year and pays 80% of salary of furloughed workers.

Being a force for good

- Brands are diverting production to aid health workers and supporting local communities. As they have a direct connection with the public, retailers are keen to be seen to playing their part in the community.

Value chain impact



The shift online and acceleration of store closures will shake out weaker non-food operators faster, placing strain on the supply chain

Fewer non-food retailers will mean fewer suppliers and prices will rise

	Suppliers	Manufacturers	Distribution	Point of Sale
Short-term impact	Food suppliers are finding it difficult to meet demand. Non-food suppliers are suffering from cancelled orders.	Food manufacturers and processors restricting ranges to meet demand. Non-food manufacturers left with unsold stock and cancelled orders will collapse.	Warehouses and distribution struggling with demand in food and online, and unsold stockpiling up as non-essential stores close.	Store closures cutting off major part of retailers' revenue. Food stores struggling to meet demand and not sufficient capacity online.
Mid-term impact	Prices will rise in food. The non-food suppliers will begin to suffer and many may have to close.	Stockpiling in food lessens and the chain starts to return to normal. Non-food manufacturers hit hard and more business failures.	As COVID-19 takes hold across populations there are fewer resources to support distribution.	Heavy discounting in non-food to raise cash, negotiations with landlords to reduce rents. Food retailers cutting promotions.
Long-term impact	Higher food prices will remain until supply returns to normal and non-food prices will rise as fewer suppliers.	Higher prices in non-food as fewer manufacturers to choose from and negotiate. Loyalty and support will be rewarded.	Businesses will step up digital and technology investment to improve online capabilities and the ability to flex demand.	Faster shakeout of weaker players in non-food – which will be beneficial to the survivors – less competition. Fewer stores, more online.

Sports COVID-19 impact assessment



Over \$100 billion in lost revenue for North American and European industry alone

That's assuming a return to production by May. No guarantees that's the cap on losses...

Revenue Predictions

- The hit to the sports market will likely be greater than in the 2007/8 financial crisis.
- Premier League stands to lose \$1.2 billion if 2019-20 season left unfinished.
- Cancellation of Indian Wells competition stands to cause regional economic losses of about \$406 million for Coachella Valley region.
- BCCI set to be hit with costs of Rs 3,869.5 Crore in the event of the cancellation of the Indian Premier League.
- Local economies for the European Championships stand to miss out. In 2016, this equated to \$1.445 billion.
- Cancellation of The Open Golf Championship will cost the competition and the local Kent economy an estimated \$185.4 million.

Unemployment

- Many athletes will be forced into early retirement or will look for other careers, especially in individual based sports such as Tennis and Boxing.
- Furloughing of staff is widespread: sponsors, teams and leagues all introducing cost-cutting solutions.

Supply Chain & Demand Disruption

- Cancellation of the Championships at Wimbledon will see sellers of 'strawberries and cream' event miss out on \$556,235.
- Bookmakers hit hard by the cancellation of horse racing events. Expected losses of \$392 million from the UK's Grand National.
- City of Nice, France, to miss out on potential \$120 million economic boost from cancellation of the Tour de Frances' Grand Depart.
- Local area of Augusta set to miss out on \$120 million boost to economy following cancellation of the Masters.

Sector-specific Stimulus Programs

- Sport England has made \$240.2 million of funding available to help the sport and physical activity sector.
- The Lawn Tennis Association (LTA) has introduced a \$24.6 million relief fund for British players and coaches.

Being A Force For Good

- Brooks Koepka donated \$100,000 to a relief fund in his hometown.
- Spanish athletes donated \$260,000 to the Red Cross of Spain.
- NBA star Zion Williamson has announced plans to cover the salaries of staff at the Smoothie King Center.

Sport COVID-19 value chain impact



Difficult to see beyond a rebasing of the entire value chain at this point: structural imbalances finally addressed

But last pandemic did give way to the 'roaring twenties'...

	Media Rights	Broadcasters	Sponsorship Sector	Event Hosting	Agencies
Short-term impact	Significant hit to revenue. Broadcasters refuse to pay right instalments. Confusion regarding length of current deals.	Substantial hit from loss of subscriptions caused by widespread live sport cancellation	Marketplace has been completely disrupted. An unessential area for brands and an easy cost to cut from budget	Huge financial drain on those committed to hosting postponed events.	Significant budget cuts.
Mid-term impact	Lower revenues as the sector struggles to attract interest in a struggling economy	Depending on the length of postponements, will continue to struggle. Greater competition for audiences upon backlog of live events	A re-evaluation expected on the value of sponsorship rights in sport. Tightened purse strings will lower expectations	Falling interest in large scale event hosting Money reallocated to other domestic areas.	Pursue opportunities in new viable areas. Increased interest in esports.
Long-term impact	High demand returns. Becomes a sellers' market, as businesses flock back for biggest rights on offer.	Demand for sports content remains high in the long-term. No qualms, proving sports continue	Sport will continue to offer prime marketing opportunities. Millions of fans will attract millions of dollars	Renewed interest in sustainability. Focus remains on legacy of an event, which is key to reinvigorate host economies	Increasingly creative development of brand impact.

Travel & Tourism COVID-19 impact assessment



Airlines industry hit hardest, IATA forecasts \$314bn in lost revenues in 2020

That's assuming that governments intervene and provide stimulus packages. With people not traveling, the lodging and intermediaries industries are also deeply impacted.

Revenue Predictions

- The disruption caused by COVID-19 is becoming more quantifiable. United announced a Q1 pre-tax loss of \$2.1bn and a 17% year-on-year fall in revenue. This was mirrored in Delta's Q1 results announcement. Revenues plunged 18% to \$8.6bn and CEO, Ed Bastian, said Q2 revenue would likely fall 90% from the same period of 2019 – a stark warning about the airline's short-term prospects. The company's net loss for the period was \$534m and it admitted to burning through \$100m of cash per day, a rate it hopes to halve by the end of June.
- Accor's Q1 results paint a similar picture. Consolidated revenue totalled €768m (US\$829.3m), which was down 17% as reported and 15.8% like-for-like. Revenue per available room fell 25.4%.
- GlobalData predicts international travel to China to fall by 38% in 2020, and France, the most-visited country in the world, will fall by 41%. These projections are not exceptions: similar falls in visitation are forecast in many countries.

Unemployment

- Widespread furloughing of staff in the lodging and airline industries.

Demand Disruption

- Travel restrictions significantly disrupt worldwide demand, both in terms of domestic and international travel.
- Even where people can travel, airlines and hotels report low occupancy as consumer confidence tanks. This has led to the voluntary suspension of operations in some cases.
- Early signs of recovery are emerging in China, where restrictions are slowly being lifted. Hotels are reporting increased occupancy rates and some domestic flights are seeing load factors as high as 60%.

Sector-specific Stimulus Programs

- The US has been the most proactive nation, offering much-needed support for aviation and lodging. The use of loans, however, could check airlines' recovery due to the added costs they will create.
- The first high profile case of aid for a European airline has now been announced as Air France-KLM has secured at least €9bn (\$9.7bn) from the Dutch and French government through a combination of loans and state-guaranteed funds.

Being A Force For Good

- Some hotels and cruise ships have been used as healthcare facilities or to house essential workers.

Travel & Tourism COVID-19 value chain impact



Demand for travel will return, but likely to be in stages as governments ease restrictions at different times

Consolidation may prove to be a positive in the long term as it will reduce price competition. Airlines the most likely to benefit from this.

	Planning & Booking	Transport	Lodging	Excursions
Short-term impact	Devastating. Depend on people booking travel in large numbers and that is not occurring at present.	Demand has plummeted. Immediate focus is on survival.	A plunge in transport demand has severely weakened demand for lodging.	Failures likely as many small businesses populate this stage of the chain.
Mid-term impact	Uncertainty over the length of travel restrictions but an immediate easing looks unlikely.	Demand will return in waves as restrictions are lifted at different times in different markets.	Demand will return in waves as restrictions are lifted at different times in different markets. Maintaining price discipline will be crucial.	Once leisure travel resumes, demand will return. May be used by tour operators to entice people to book but a return to 'normal' levels will take some time.
Long-term impact	Travel will return. Intermediaries are seen by many as a necessary aid when booking so demand will return.	Those who survive will benefit from consolidation and pent up demand. Consolidation reduces price competition.	Consolidation reduces price competition. Accommodation sharing sites will suffer due to loss of hosts and increased hygiene concerns.	Some demand will return but much hinges on economic situation. Excursions are something travelers can forgo.

Telecom & Technology COVID-19 impact assessment



The hyper-digital imperative of COVID-19 has put the spotlight on the telecom and tech sectors

The response of the industry has been swift and largely effective, but the sector will not be immune from longer-term economic impact

Revenue impact

- Telecom operators are holding up well or growing.
- Telecom infrastructure is holding up well or growing.
- Some operators are bringing forward CapEx for critical upgrades.
- Collaboration and other cloud services are growing exponentially.
- But many other IT infrastructure and services projects are stalled.

Unemployment

- Telecom operators are not yet reporting job cuts or furloughs.
- Similarly, technology companies are not yet reporting job cuts.
- Cisco and other leading tech companies are, conversely, proactively stating a no job-cut policy, and advocating that position.
- But many IT services projects are on hold, which will likely impact the industry.
- Less well-funded start-ups are reporting job losses.

Supply chain & demand disruption

- Apple, Samsung and others have confirmed supply chain disruption.
- This will impact near and mid-term 5G device launch plans.
- Enterprise IT saw a very rapid and intense demand spike for certain networking and capacity services.
- Other, less critical projects are on hold indefinitely.
- There has been minimal impact on the infrastructure supply chain.

Being a force for good

- The tech sector has been at the forefront of humanitarian efforts.
- Telecom operators are adjusting contract terms and pricing to help alleviate pressure on consumers.
- Operators and tech companies are providing network connectivity to areas with no access.
- IT companies—normally keen competitors--are working together with governments by providing AI, compute and other resources.
- Cloud service providers are prioritizing capacity for healthcare, emergency and education requirements.

Telecom & Technology COVID-19 value chain impact



In many ways the telecom and technology sector is built for the demands of COVID-19

Mid-term and long-term outlooks will depend on how well businesses learn lessons and put them to work for the future opportunity

	Component Supply Chain	Product Development	Sales & Marketing	Customer Demand	Customer Experience
Short-term impact	Painful slowdown as consumer market stalls. Biosensors are a bright spot.	Digital innovation now more important than ever and can be done remotely.	Tech industry well-equipped for remote working, but demand will be low.	Short-term demand spikes offset by delivery and engineering issues; IT services will be hardest hit.	Customer service personnel shortfalls offset by cloud and other digital capabilities.
Mid-term impact	Challenging market for rest of 2020 and into 2021.	Telecom and tech companies are learning lessons fast about customer requirements.	Modest bounce-back can be expected as project on hold begin to restart.	Assuming some economic bounce back, on-hold projects should resume and customers will be digitally enlightened.	Customer engagement will return to full service but enhanced by better digital awareness.
Long-term impact	Will bounce back when consumer confidence returns. Biosensors up to 10% of sensor market by 2025.	Broader acceptance of advanced technologies such as AI and analytics will drive innovation.	The industry and customers will be digitally transformed, including both internal and partner sales.	Customers will have an even greater appreciation of technology and will be more digitally engaged.	Those caught flat-footed with poor digital customer experience arrangements will be transformed.

Wealth management COVID-19 impact assessment



Wealth managers are adapting to remote working while managing clients at a key moment of truth: portfolio losses

Though profits will be down across the board, wealth management will fare better than other banking sectors

Revenue predictions

- Execution-only revenue will increase as clients reposition portfolios out of equities benefiting those with large brokerage operations.
- AUM levels will be down massively leading to a short-term reduction in recurring stable revenue.
- Past experience with the GFC suggests the second half of 2020 will be more challenging than the immediate crisis period.
- Revenue is expected to decline, though no wealth manager should be sent into a loss as commissions and bonuses similarly fall.
- On average, we expect a 15% reduction in revenue over the course of 2020 compared to the strong results of 2019.

Unemployment

- Wealth managers and banks are pledging not to reduce headcount, adding to running costs during crisis.
- Hiring of new advisers, the key method for expansion in private wealth will be disrupted, negatively impacting net inflows.
- Retail investors are likely to run down savings as unemployment bites into cash flow.

Supply chain & demand disruption

- Markets, after their initial drops, have proven volatile with wild swings that make timing investments difficult.
- Advisers formerly dependent on face-to-face meetings must adapt to home working and managing concerned clients remotely. TD Ameritrade has launched a series of webinars to help its advisors adapt.
- Adviser efficiency, previously rising, will decline. Training in newly rolled-out digital tools like BNP Paribas Wealth Management's new Client Experience program is key to mitigating this decline.

Sector-specific stimulus programs

- Quantitative easing will boost asset prices long term as per the global financial crisis.
- The flood of 0% or near 0% cash is forcing a rethink of leverage.
- Emergency early withdrawals from pension/superannuation are draining assets from the sector at bad valuations.

Being a force for good

- Sector helping high profile donations, notably Jack Dorsey's \$1bn gift.
- Independent financial advisers and major brands like Raymond James are at the forefront of local fundraising for hospitals and community services.

Wealth management COVID-19 value chain impact



Churn in the portfolio will benefit those earning off of investor buying and selling in the short term

Longer term investors will transition to providers with better digital offerings

	Brokerages/ custodians	Asset managers	Private banks (HNW segment)	Financial Advisors (retail segment)	Robo-advisers
Short-term impact	Higher volatility increases trading income though asset values will be down	AUM/NAV declines will result in revenue hit	AUM decline will hit revenue as net inflows decline	AUM decline will hit revenue as net inflows decline	Net inflows as investors take up low cost options, flat-rate fees unaffected by market losses
Mid-term impact	Depending on the length and severity of the recession, trading volume could drop significantly	Uncertainty and recession will push clients into low fee earning products	Global recession will negatively impact wealth creation, on-boarding will be a challenge for remote working	Financial stress will reduce capacity for saving and investing by target	Fee-conscious investors will turn to low cost digital options such as robo-advisers
Long-term impact	Financial markets are leading indicators and once recovery takes hold prices will rise	Rising markets will boost AUM/NAV boosting revenue	Recovery will see a return to previous volumes	Recovery will see a return to previous volumes	Use of digital wealth managers will be extended



GlobalData Analyst View

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The impact on the industry is beginning to emerge, with over 14.6% set to be wiped off operator sales worldwide.

"

Sector Impact: Foodservice [1/2]

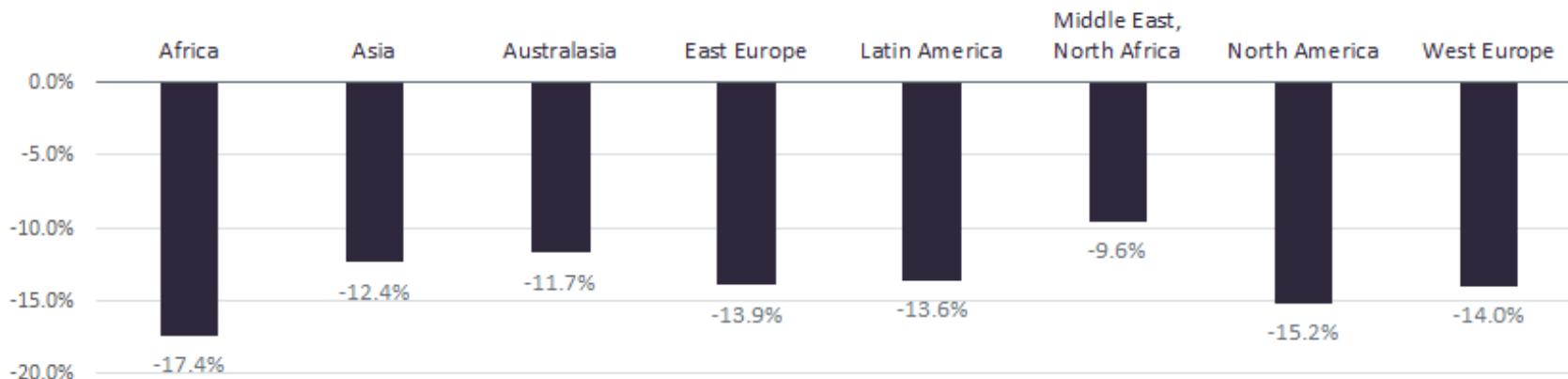
COVID-19 Impact Assessment

as of 24th April, 2020

- Many countries are in lockdown. Pubs, clubs, bars and restaurants have closed, and consumers have massively reduced their out-of-home socializing. As a result, the foodservice channel has effectively either closed or prioritized delivery and online ordering.
- Coca-Cola claimed that the closure of movie theatres, restaurants and stadiums is hurting its business, with its global volumes down 25% in April.
- Multiple foodservice brands have returned millions of dollars in the Paycheck Protection Program due to a change in the US Treasury's rules. Public companies may also be barred from accessing the latest round of small business funding.
- GlobalData's latest forecasts (which are currently updated weekly), show a decline of 13.5% in profit sector operator sales for 2020 relative to 2019, equivalent to \$490 billion in lost revenue.

2020 Decline % in profit sector Operator Sales compared to 2019 as a result of COVID-19

(Forecasts latest as of 24th April, 2020)



Source: GlobalData Analysis; Client & Subject Matter Expert Interviews; Press Articles; Company Announcements; GlobalData consumer surveys



GlobalData Analyst View

“

Even online food delivery players are also suffering problems...as highlighted by the UK Competition & Markets Authority provisionally agreeing to Amazon's investment in Deliveroo to help support the business.

”

Sector Impact: Foodservice [2/2]

COVID-19 Impact Assessment

as of 24th April, 2020

- The ONS reported that the accommodation and foodservice sector in the UK had the second-highest closure of all sectors, with 82% of respondents claiming that they had temporarily closed. Almost 87% of the accommodation and foodservice businesses that remained open reported “substantially lower than normal” turnovers, suggesting that it will be a long road back to normality after COVID-19.
- Foodservice operators and third-party delivery companies are adopting ethical and community-focused business models. A majority of consumers say that products’ social responsibility inform their choices. It’s likely that brand-associated GoFundMe pages and pay-it-forward donations of food to medical workers and vulnerable people will help.
- Operators and their suppliers should make maximum use of the new ways consumers are socializing. Online applications such as House Party offer a way to at least re-connect with consumers. With companies like Chipotle teaming up with Zoom to create a virtual lunchtime hangout, other restaurants, in particular smaller operators, would benefit from seizing such online opportunities.
- The future will likely involve greater uptake of takeaway and delivery services and building supplementary retail operators for some. As far as possible, building capabilities in these areas, from packaging know-how through to online ordering, delivery (or using third parties), and “contactless” operations will be key.
- The first signs of weakness in major company business models are appearing, even within food delivery. In the UK, the Competition & Markets Authority has given provisional agreement to Amazon’s investment in Deliveroo, with the potential failure of the business being cited as a key reason.
- Drone delivery innovation gathers pace. Foodservice outlets seek alternative means of business, coinciding with the potential acceleration of 5G connectivity. Irish start-up, Manna, has adapted drones for food delivery, highlighting the significance of access to essential items in an era of social distancing.



Industry Leader View

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We are also anticipating an increased demand for food and beverage packaging products with schools and universities closing and shifting demand towards supermarkets.

Jean-Marc Galvez

President of Berry Consumer Packaging International

7th April, PackagingNews.co.uk

”

Sector Impact: Packaging [1/2]

COVID-19 Impact Assessment

as of 27th April, 2020

- COVID-19 has impacted consumer habits around the world, with many shoppers now having to deal with food shortages and delivery bottlenecks in order to feed themselves and their families. At the forefront of COVID-19 food habits is the reliance on shelf-stable food products. In the early days of the pandemic, panic buying saw many consumers stockpile items such as beans, soups and other canned foods.
- As consumers are keeping in-store shopping visits to a minimum, they frequently try to buy large amounts to last longer. This clearly opens a space for bulk packaging that comes with useful functional features to support consumers in these difficult times.
- Packaging companies continue to innovate and update their services in light of the epidemic and altering demand patterns. For instance, companies like Macpac continue to update their operations to produce safety visors at cost price for medical workers. Another example is Smurfit Kappa's "Design for Help" ranges of corrugated solutions, such as workplace dividers.
- Recyclers in the UK reported strong increases in the amount of recycling, with the Environment Exchange (t2e) reporting an increase of 48% of aluminium packaging in Q1 (35,232 tonnes) compared to the same period in 2019, but this will not necessarily result in a lowering of aluminium prices due to COVID-related market uncertainty.
- New Amcor research suggests that consumers are still focused on sustainability, with 65% of consumers claiming that it was their primary packaging requirement. Furthermore, 13% of online shoppers cited a lack of packaging information available online, highlighting an opportunity for e-retailers to add sustainability information.



Industry Leader View

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The COVID-19 outbreak highlights plastic's sterilization benefits over more recyclable alternatives. rPET offers a potential compromise of sustainability to industries in need of aseptic processing.

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Sector Impact: Packaging [2/2]

COVID-19 Impact Assessment

as of 27th April 2020

- Updated governmental actions are playing a role in how packaging companies operate at present – helping to ease pressures. From enabling “green lanes” for distribution of these products in Europe, to relaxation of the limits on high-density polyethylene (HDPE) / polypropylene (PP) bags in India, these can help the industry maintain essential supplies to companies and consumers.
- Supply chain disruption and higher demand in many areas are resulting in companies re-evaluating their own supply chains and operations. With international disruption, there is a focus on more national or local level supply. As part of this, there is evidence that contract manufacturing and co-packaging enquiries are on the rise and specific food and beverage solutions are also in high demand.
- The need for sterile containers showcases rPET as a useful material in essential items like hand sanitizer bottles. It can then be recycled and used in other consumer packaging. Investment into rPET will continue further and demonstrate its usefulness as a superior sustainable option to virgin plastics.
- Packaging manufacturers are seeking ways to clarify safety issues relating to specific packaging types – for instance, plastics and packaging manufacturer, Swiss Pack, has highlighted that differences between cardboard (which is then often lined with ink and plastic film) and plastics might not be as great as some reports suggest.
- The use of single-use plastics is again rising in the COVID-19 era, contradicting the recent trend towards protecting the environment. While multinationals like Nestle and Mondelez have signed the European Plastics Pact to make 100% of packaging recyclable or reusable, reducing the use of virgin plastic by one third by 2025, the immediate threat of the pandemic is forcing short-term forgiveness. “Eco” driven innovation in single use plastics will be key in addressing these concerns.

Contact Us

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