



Novel Coronavirus (Covid-19) Update

Where are we now?

What's the impact?

Where do we go from here?

Banking, Capital Markets and Advisory

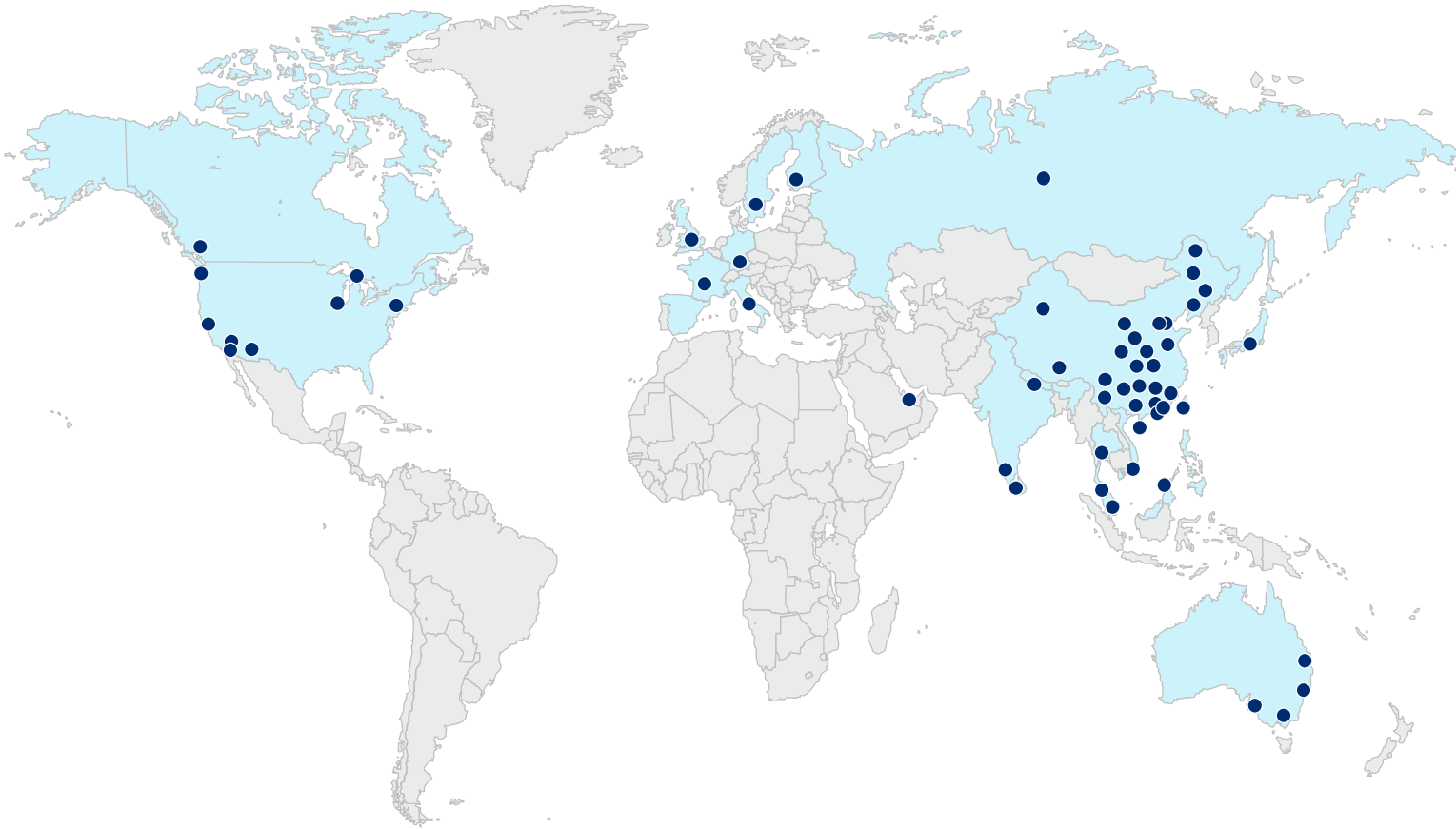
FEBRUARY 2020

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1. Where Are We Now?

Update on Novel Coronavirus (Covid-19) as of February 14, 2020



Confirmed Cases by Country/Region	
63,848	Mainland China
218	Others
58	Singapore
53	Hong Kong
33	Thailand
28	South Korea
28	Japan
19	Malaysia
18	Taiwan
16	Germany
16	Vietnam
15	Australia
15	US
11	France
10	Macau
9	UK
8	United Arab Emirates
7	Canada
3	India
3	Italy
3	Philippines
2	Russia
2	Spain
1	Nepal
1	Cambodia
1	Belgium
1	Finland
1	Sweden
1	Sri Lanka

Total Confirmed
64,429

Total Deaths
1,383

Total Recovered
7,080

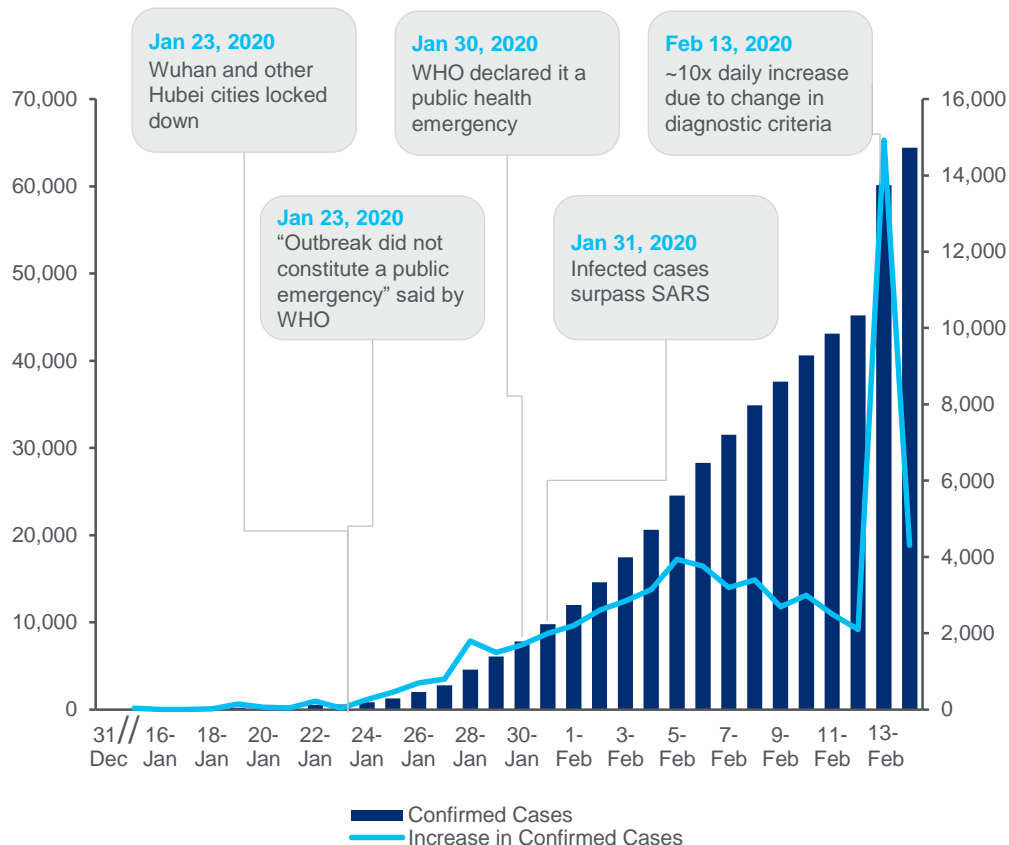
Source: Coronavirus Covid-19 Global Cases by Johns Hopkins CSSE.

Update on Novel Coronavirus (Covid-19) as of February 14, 2020 (Cont'd)

It took >3 weeks for the Coronavirus to cross 1,000 infected people since late December 2019

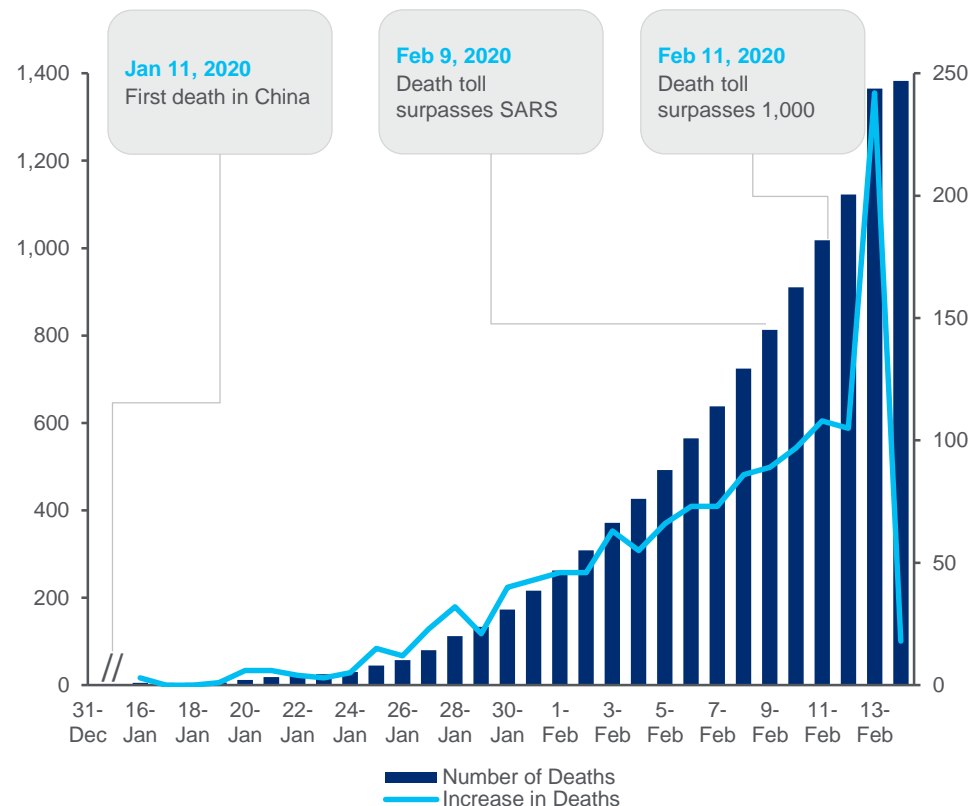
Number of Confirmed Cases and Daily Increase

(No. of Person)



Number of Deaths and Daily Increase

(No. of Person)

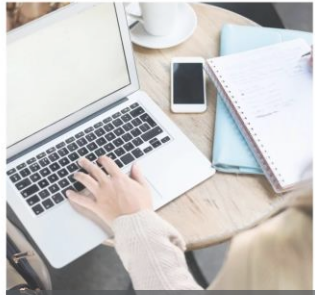


Peak estimated to be in **March⁽¹⁾–April 2020⁽²⁾**

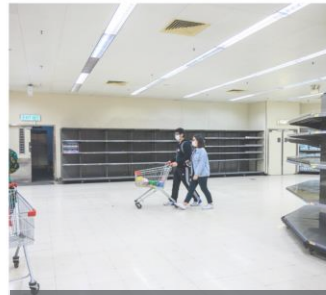
Source: News release, Coronavirus Covid-19 Global Cases by Johns Hopkins CSSE, The Lancet, Gavekal Research.

Note: (1) Estimated by investment firm Gavekal Research Ltd on Feb 5, 2020. (2) Researchers from University of Hong Kong, Prof Joseph T Wu, PhD Kathy Leung, PhD, Prof Gabriel M Leung, MD, estimate the disease will peak in April in a paper published on *The Lancet* on January 31, 2020.

Material Impact to Everyday Life



Disruption to Business / Work / School



Supply Shortages



Travel Ban / Border Control



School Closures

- Schools in Shanghai and Tianjin closed until further notice
- Schools in Hong Kong closed until March 2



Remote Working

- Work-from-Home policies implemented for office workers in finance, logistics, insurance, law and other white-collar jobs



Business Closures

- Henan municipal government ordered all business operations to shut
- Businesses that have shut operations in China include Disneyland, Uniqlo, Starbucks, Ralph Lauren, Nike, McDonald's, H&M and Levi Strauss



Travel Ban and Border Closures

Travel ban imposed by various countries

- North Korea and Russia closed borders with China
- Italy suspended all incoming flights from China, Hong Kong, Macau and Taiwan
- Israel halted flights from China and barred entry to anyone who has visited China in last 14 days
- Singapore barred entry of tourists who travelled to China in last 14 days

Flights cancelled by various airlines

- British Airways, American, Delta and United cancelled flights to China
- Virgin Australia cancelled HK routes
- Airlines in other countries, from New Zealand to Finland to the UAE, scaled back China service

Summary of Actions Taken / Responses to Date



Actions by China Government



- Locked down **16 cities** in China
- **Extended** CNY holidays and **cancelled** celebrations



- Announced a **ban on all the wild animal trade**



- Built a **1,000-beds hospital** in Wuhan in **10 days**



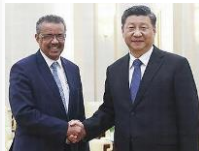
- Deployed **450 medical staff** from the military to Wuhan and deployed **1,400 medical personnel** to the new hospital in Wuhan



- Government **liquidity measures** to strengthen financial support



Global Support



- WHO announced a **US\$675m** preparedness and response plan; **deployed a team of international experts** in China to assist with containment



- Japan donated masks, goggles and protective gear and lit up the Tokyo Skytree and observation tower for prayers



- U.S. sent medical experts from the CDC



- Major tech companies, earmarked hundreds of millions of RMB intended for research, control coordination and donations



Vaccine Development



- **Gilead** formed a partnership with China-Japan Friendship Hospital to test an antiviral drug, **Remdesivir**, in patients in Wuhan



- Scientists at **Moderna Inc. and CureVac AG**, are working on a **mRNA vaccine**, aiming to run clinical trials by April



- **CEPI⁽¹⁾** announced funding for 4 efforts to develop a vaccine



- **U.K. and EU** announced **funding** for research and development of a vaccine

Coronavirus vs. Other Major Viruses

Coronavirus has already surpassed the 3 major virus outbreaks (SARS, Avian Flu, MERS) over the past 20 years in terms of number of deaths and infected cases

No. of Infected Cases



No. of Deaths and Fatality Rate (%)



No. of Countries Affected⁽¹⁾



Source: WHO, Johns Hopkins University;
 Note: (1) Countries and overseas territories or communities. (2) As of February 14, 2020. (3) WHO. (4) As of November 30, 2019.

Coronavirus (2019) vs. SARS (2003): Potentially A Greater Impact




The Global Cost of the Outbreak

c.\$43 Billion
Estimated Global Economic Loss⁽¹⁾

\$40 Billion
The Global Cost of SARS Outbreak⁽²⁾


GDP Impact

0.25%
Estimated Global Real GDP Loss for 2020⁽¹⁾

0.1%
Nominal Gross Domestic Product Lost Due to SARS Globally⁽²⁾


Recovery Time

Potentially Longer
As 1/3 of China Economic Growth Comes from Consumer Spending

5 Months
Time Taken for Chinese Stocks to Recover from SARS⁽³⁾


Hotel Occupancy

85%
Decline in Hotel Occupancy Rates in Mainland China⁽⁴⁾

82%
Decline in Hotel Occupancy Rates in Beijing⁽⁵⁾


Travel Disruption

c.70%
Decline in Passenger Transportation by Road, Rail and Air between China and Infected Areas⁽⁶⁾

Up to 70%
Decline in International Travel to Areas Affected by SARS⁽⁶⁾


No. of Deaths

1,383
Death as of February 14, 2020

774
Total Death



Source: Oxford Economics, Broker consensus, STR, Factset Market Data, *Estimating The Global Economic Costs of SARS, The Economic Impact of SARS in Beijing, China.*

Note: (1) Oxford Economics. (2) Sourced from *Estimating The Global Economic Costs of SARS* by Jong-Wha Lee and Warwick J. McKibbin (3) Factset Market Data. (4) According to data from STR, hotel occupancy between February 3 and 10, 2020 in Mainland China dropped by 85%. (5) The largest YoY decrease in Hotel Occupancy Rate in Beijing in 2003 is May, decline by 81.5%, sourced from Philippe Beutels Na Jia Qing-Yi Zhou Richard Smith Wu-Chun Cao Sake J. De Vlas in *The economic impact of SARS in Beijing, China.* (6) Broker consensus.

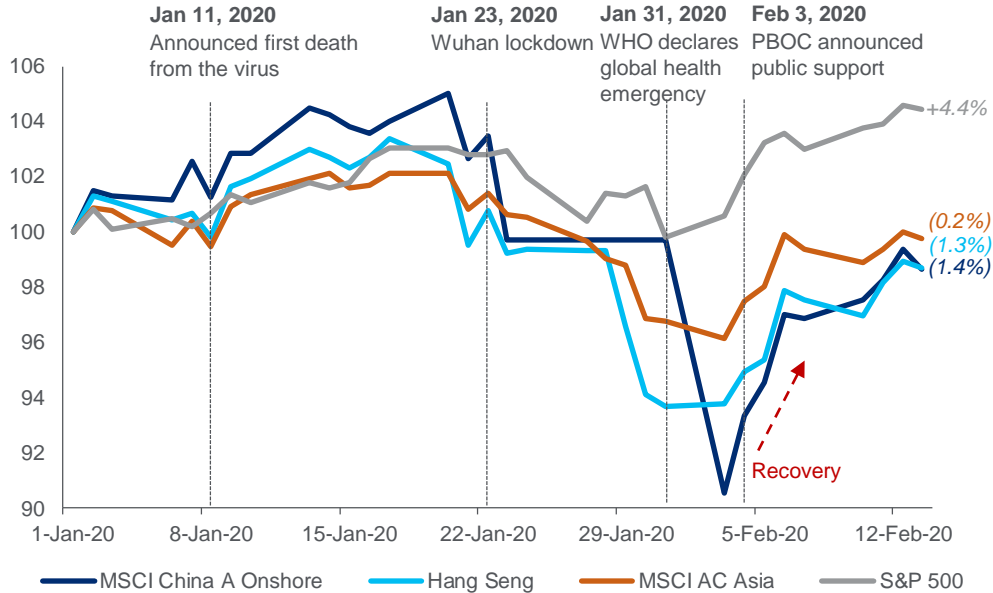
2. What's The Impact?

Impact on the Global Public Markets

Market took a short-term hit but it is now recovering towards pre-outbreak levels

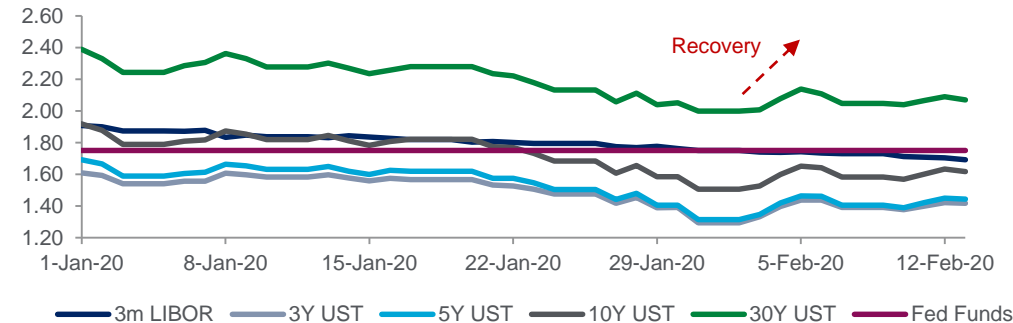
Performance of Global Indices

(Rebased to 100)



U.S. Treasury Yields

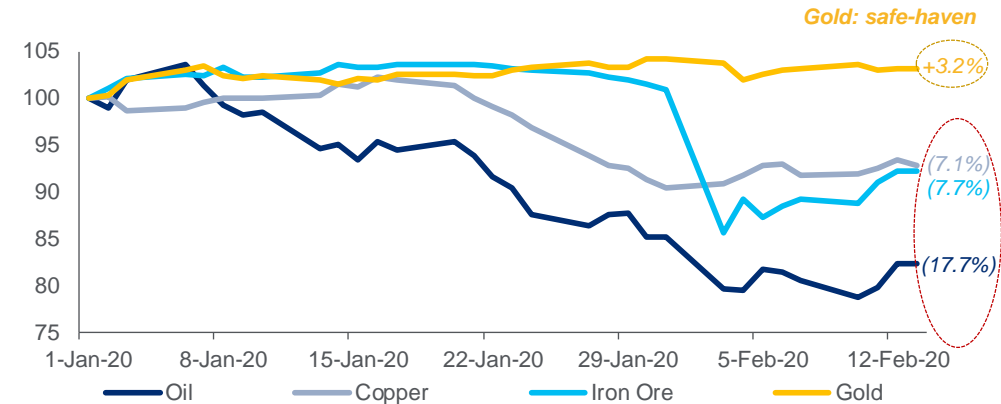
(%)



Commodity prices in general have declined though gold prices have increased given demand for safe haven

Performance of Commodity Prices

(Rebased to 100)



Oil

- Short-term oil price sell-off could continue in 2Q20 due to coronavirus
- Demand by China has declined by 3 million barrels a day (20% of total consumption)⁽¹⁾

Copper

- Sharp decline in copper price due to outbreak, and restricted movement of people is disrupting the end-use copper demand; the recovery could take at least 1-2 months
- China accounts for nearly half of global copper demand and hence market projects a lower copper price for 2020

Iron Ore

- The end-user markets, especially the construction sector, will continue to be delayed until the situation improves

Gold

- Gold prices have risen as the outbreak has stirred demand for safe haven

Source: FactSet, Bloomberg, news release. Market data as of Feb 13, 2020.

Note: (1) Bloomberg.

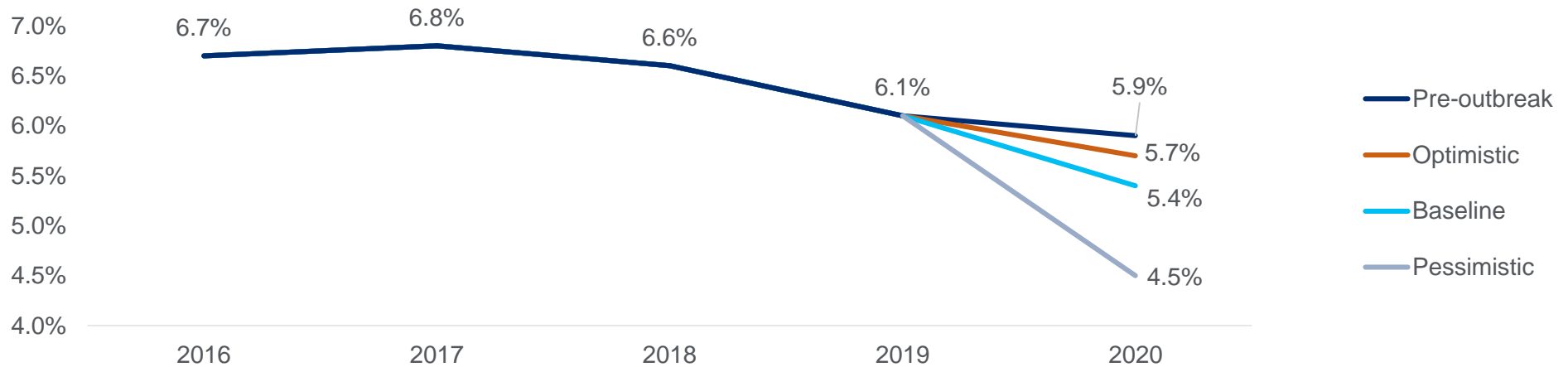
Economic Impact on China

2020 real GDP growth is forecasted to be less than 4.5% in the worst case scenario



Scenario	Date by when the Covid-19 outbreak is under control	Probability	GDP Growth
Optimistic	End-Feb	25%	5.7%
Baseline	End-Mar	50%	5.4%
Pessimistic	End-Jun	20%	4.5%
Nightmare	Not contained in 2020	5%	<4.5%

Scenario analysis of China real GDP growth (% change, yoy)



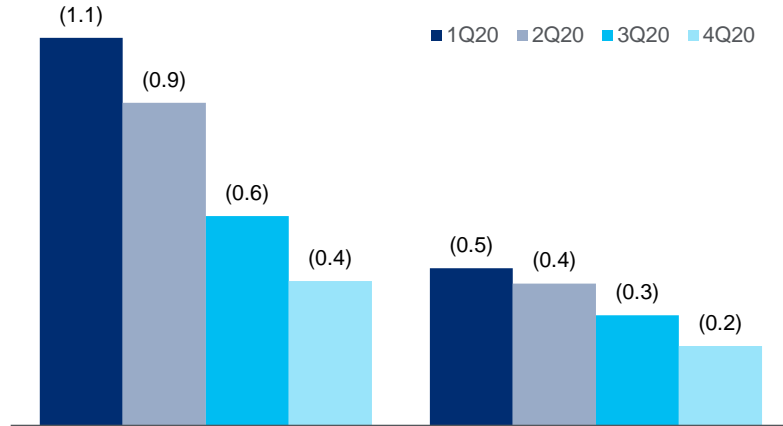
Source: EIU.

Economic Impact on the Rest of the World

Market expects global GDP growth to decline¹...

Impact of Coronavirus Outbreak on GDP

(GDP Level, Cumulative % from Baseline)



Asia

(0.4)%

Impact on
2020 GDP
Growth (%)



WORLD

World

(0.25)%

Why is China so important to the global economy...

The Largest Manufacturing Economy²

The Second Largest Importer of Goods⁴

The Largest Exporter of Goods³

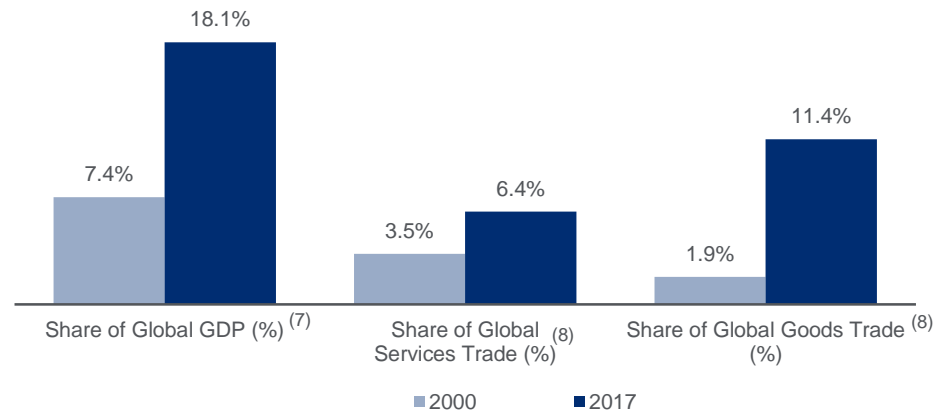
The Largest Trading Nation⁵

The Fastest Growing Consumer Market²

The Largest Labor Force⁶

China's Contribution to Global Activity: Then and Now

(%)



Source: News release, Oxford Economics.

Note: (1) Oxford Economics. (2) The New York Times. (3) Financial Times (4) CNBC. (5) Forbes. By market capitalization and trade volume. (6) World Bank. (7) IMF (GDP based on PPP, share of world).

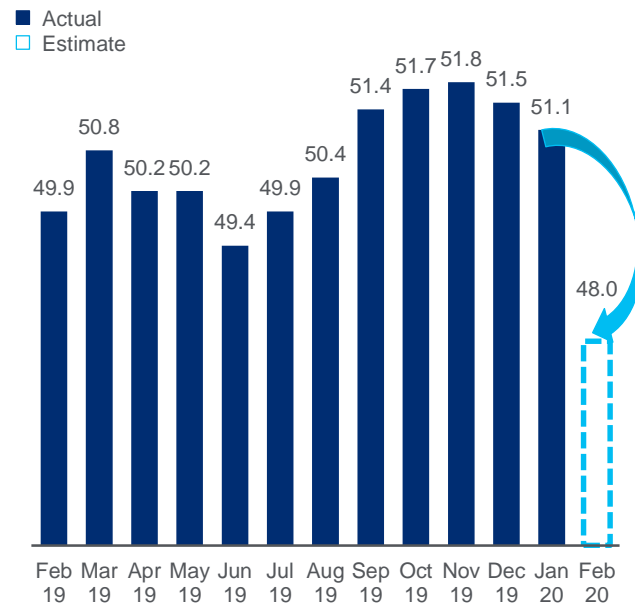
(8) McKinsey Global Institute analysis.

Disruption to Global Manufacturing and Supply Chain

The Coronavirus is disrupting the global manufacturing and supply chain, threatening the availability of TVs, personal computers, mobile phones, automation, auto and other technology products.

China PMI estimated to drop below 48⁽¹⁾

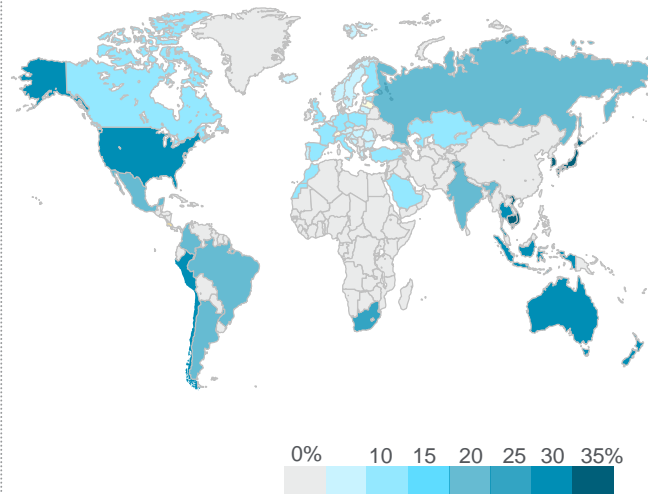
China Caixin General Manufacturing PMI Performance



Labor shortages and plants shutdowns are impacting the production and supply of raw materials, which in turn is adversely affecting both B2C and B2B sectors

Impact is amplified by China's importance to the global supply chain⁽²⁾⁽³⁾

Share of All Imports of Intermediate Coming From China



- 75% of total value of components used in TVs and ~85% in smartphones come from China
- All critical components like mobile displays, open cell TV panels, LED chips are imported from China
- 28.2% share of manufacturing output¹

Different levels of supply chain impact on various sectors

Pharma & Biotech	<ul style="list-style-type: none"> • c.15% of world API facilities based in China⁽⁴⁾ • c.85% of medicines in US Strategic National stock pile use some component from China⁽⁴⁾ 	
Components	<ul style="list-style-type: none"> • YMTC and XMC, China's leading NAND Flash memory producer have operations in Wuhan • Total capacity utilization for all LCD fabs in China could fall as much as 20% in Feb⁽⁵⁾ 	
Auto	<ul style="list-style-type: none"> • Volkswagen has 24 plants in China accounting for 40% of production⁽⁶⁾ • Korea's car sector sources 29% of its parts from China⁽⁶⁾ • Deliveries of Tesla Model 3 sedans made in China will be delayed 	
Smartphone	<ul style="list-style-type: none"> • Smartphone shipments in China could decrease by 40%-50% in Q1⁽⁴⁾ • ~3-5 million iPhones, and AirPods production are forecasted to be pushed to Q2 2020⁽⁷⁾ 	

Lowest Impact Highest Impact

Source: News release. Broker consensus, IHS Markit, Canlys Research.

Note: (1) Trading Economics (2) Economic Times. (3) 1businessworld.com. (4) Broker consensus. (5) IHS Markit. (6) CNN. (7) Canlys Research.

Summary Impact on Select Industries

Immediate Impact



Auto and Logistics

Disruption to supply chain affecting production and ability to complete orders



Travel / Tourism and Gaming

Travel bans and fear crippling the industries especially those dependent on China



Consumer Discretionary

Highly impacted due to reduced consumption and low sentiment

Protracted Impact



Financial Institutions

(1) Insurance purchases remain robust (2) Banking operations adversely impacted (3) Current situation presents opportunities for Fintech (4) Potential heightened credit risk



Real Estate and Construction

Reduced sales and delayed construction schedules due to preventive measures



Oil and Gas

Negative impact of potential China slowdown on global oil and gas market



Consumer Staples

F&B seeing reduced demand while take-home essentials are faring well

Positive Impact



Pharmaceuticals and Healthcare

Increasing demand for vaccines / antibiotics and medical services



Online Entertainment and Education

Consumers spending on internet services expected to spike for entertainment and education



E-commerce

Consumers avoiding bricks-and-mortar stores for fear of infection

Impact on Select Industries – Immediate

Auto and Logistics

- Companies in this sector have been affected from both **production and demand** side
- Further, most auto OEMs have been impacted locally in China as well as overseas operations which **depend on supply of parts / components from China**

China set to lose out on production of **800,000⁽¹⁾** units

Projected decline in Chinese 2020 auto demand: **3%-5%⁽¹⁾**



Suspended production at one of its car plants



Suspended production at all **7⁽¹⁾** factories in Korea

Travel/ Tourism and Gaming

- Travel bans and paranoia** have adversely impacted the industry at least in the short-to-mid term
- Casino operators most exposed to Greater China** are **most impacted** with Macau operators shutting operations
- Airlines' and airports' fundamental data** are expected to continue its **decline** over the next quarter



~70⁽²⁾ airlines canceled flights to China



7+⁽³⁾ global hotel chains waived cancellation fees



500+⁽⁴⁾ trains were impacted



8/10⁽⁵⁾ hotel rooms vacant



Macau ordered **all** casinos to close for 2 weeks



80⁽⁵⁾ cities globally with partial lockdown measures in place

Consumer Discretionary

- Reduced consumption level** coupled with **low sentiment** have adversely impacted the space
- Further **prolonged decline** expected for **jewelry, duty-free, cosmetics** and **sportswear** sectors
- Fashion retailing** and **luxury goods** sector is significantly more exposed to Asian and Chinese consumption today v SARS period



Source: FactSet, news release, Market data as of February 13, 2020.

Note: (1) Nbcnews. (2) Gatechecked.com (3) From South China Morning Post, include 5-star hotel group The Peninsula Hotels, Shangri-La Hotels and Resorts, French hospitality group Accor, Hilton, Marriott International, InterContinental Hotels & Resorts and Rosewood Hotels and Resorts. (4) China.Caixin.com. (5) South China Morning Post.

Impact on Select Industries – *Protracted*

Financial Institution

Insurance: Purchases remain robust

- More broadly **life and health** insurance sales are expected to be robust across the region
- This is driven largely **by purchases in Hong Kong** from locals; while cross border may decrease it is expected to recover quickly due to rising insurance awareness similar to during SARS

Hong Kong life insurance industry
new premium growth rate over next 4 quarters after SARS

20% - 60%
yoy⁽¹⁾

Banking Operations: Currently adversely impacted

- Greater challenges expected with **declining volumes in trade, FX and payments**
- **Lending to tourism, lodging, restaurant and physical retail waning** while **higher unemployment will weigh**
- Regional banks with **greater economic exposure are getting more severe impacts**
- A **swift recovery is likely** when outbreak is fully contained

Chinese banks' FY20E NIM: **-0.1bps to -1.2bps⁽¹⁾**

Chinese banks' FY20E earnings: **-0.5 to -1.0%⁽¹⁾**

Fintech: Potential opportunity to expand

- **Expected to see increased traffic/volume** given more payments will be made virtually due to restricted brick & mortar shopping and declining cash purchases
- Major Fintech players are viewing the outbreak as an opportunity for **expanding market share and presence**



Set up a service channel **exclusively** for customers in Hubei, with **expedited** services

陆金所
Lufax.com



Ensure online assistant service are **7 x 24** and product provided are **sufficient**



Offers a **series of online courses** on wealth management in different channels

Credit risk: A potential crisis?

- The longer the situation lasts, the **greater the risk given erosion of financial cushion**
- Rapid growth of consumer and SME lending by banks and Fintech players could be impacted as most of the growth has been targeting underbanked populations
- **Remains too early** to fully assess given defaults tend to occur and be recognized on a few months lag

Potential NPL size at Chinese banks
(worst case estimates by Bloomberg)



3x

c.US\$800bn

Impact on Select Industries – Protracted (Cont'd)

Real Estate and Construction

- **Sluggish sales** alongside **delays in construction**
- China: **Potential for strong 2Q rebound** given sales are typically skewed to 2Q, housing purchases are simply delayed and policy relaxations are expected
 - **Property management** companies may benefit following increased trust to managers during the outbreak
- HK: Property market expected to **continue to decline** following impacts from trade war and protest



Suspension of property sales offices across **60+** cities in China⁽¹⁾

China office rental market **stagnated** due to quarantine

Hong Kong property transactions fell to a **13-month** low⁽¹⁾

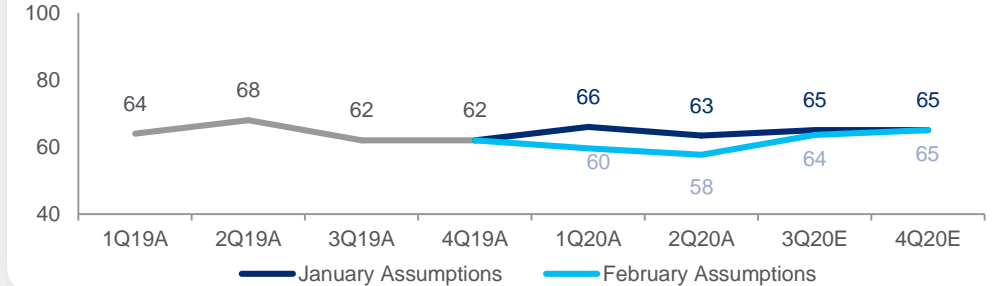
Value of all Hong Kong properties changing hands in January **declined 17%** to HK\$29 billion⁽¹⁾

Oil and Gas

- The EIA's Brent spot average forecast for 2020 is now **\$61.25 per barrel**, dropping from \$64.83 per barrel in its January forecast
- With passenger transportation dropped for some weeks, followed by a slow recovery, this could be a **temporary but large curtailment** of China's oil demand
- Outbreak have a **relatively limited impacts on gas** as oversupply dominates fundamentals

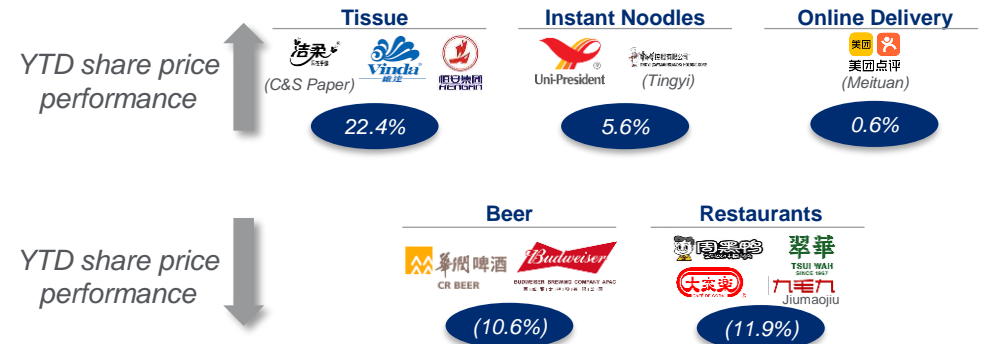
EIA's Quarterly Brent Spot Average Forecast

(US\$/bbl)



Consumer Staples

- **Food and beverage, especially restaurants**, have been impacted by low demand
- **Orders for food delivery has increased** though lockdowns have impacted delivery itself
- **Widespread panic-buying of take-home essentials** is faring well for tissues and instant noodles companies



Source: FactSet, Bloomberg, broker consensus and news release. Market data as of February 13, 2020.

Note: (1) South China Morning Post.

Impact on Select Industries – Positive

Pharmaceuticals and Healthcare

- **Key beneficiaries** include manufacturers of medical supplies, internet healthcare companies, diagnostic companies and manufactures of anti-viral therapeutics
- **Global biopharma** companies have announced vaccine or drug development initiatives
- Overall **China pharma sector** expected to be resilient

Announcement of vaccine or drug development initiatives



YTD share price performance



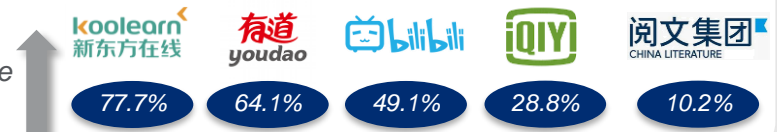
Online Entertainment and Education

- Consumers spending on internet services expected to spike for **online games and media streaming**
- Schools **exploring online education options** as authorities postpone the new semester until early March

ByteDance 字节跳动 **+77%** in weekly downloads of Xigua video app⁽¹⁾

bilibili **Surging traffic** for news and entertainment content

YTD share price performance



E-commerce

- Consumers **shun bricks-and-mortar stores** for fear of infection and switch to online e-commerce channels
- Demand for **food and beverage, health supplements, masks and sanitary products** have seen a drastic YoY increase
- However, an extended outbreak **could potentially result in constrained logistics abilities** for e-commerce companies with the lock-down of cities



YTD share price performance

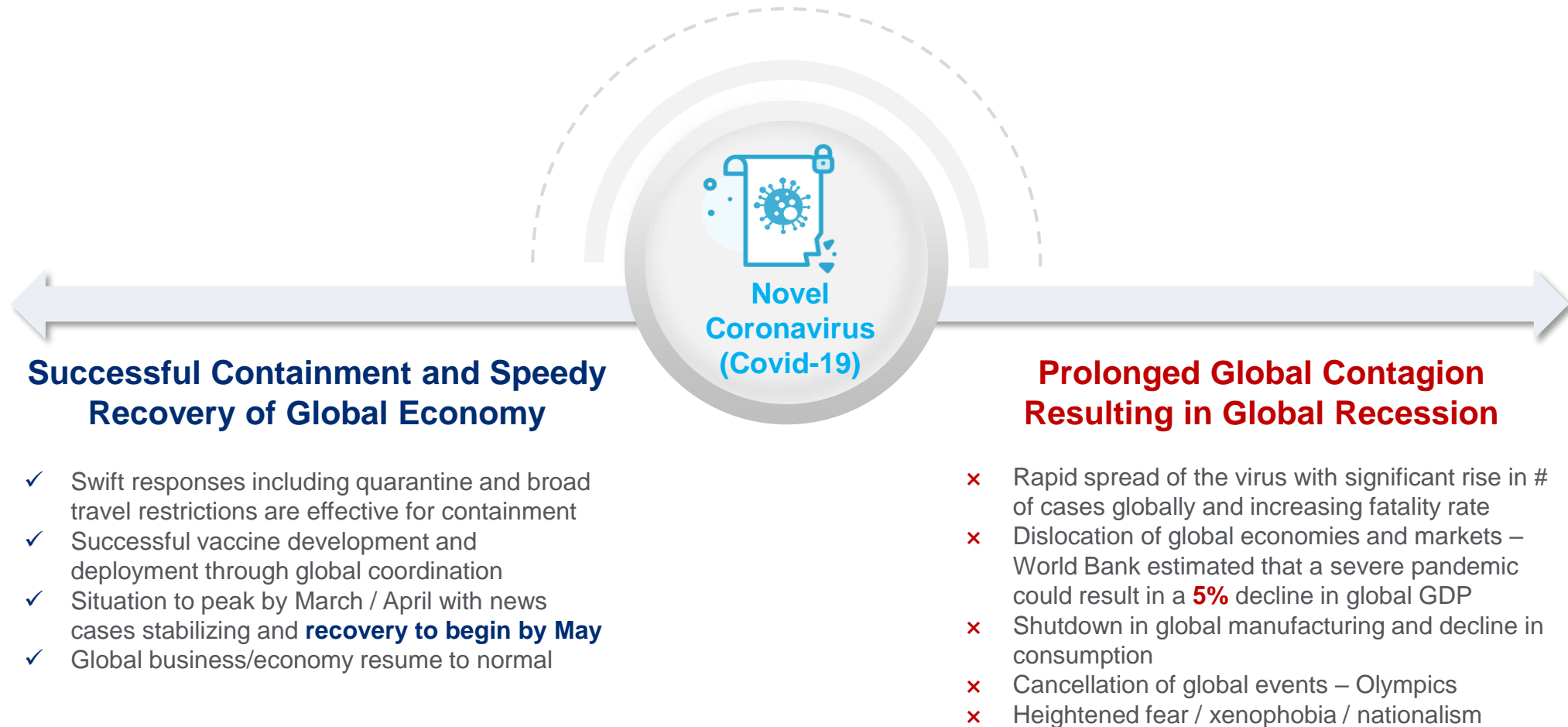


Source: News release, Factset. Market data as of Feb 13, 2020.

Note: (1) Reuters as of week of Jan 20-26, 2020.

3. Where Do We Go From Here?

Spectrum of Potential Outcomes / Views on the Epidemic



It remains too early for the full implication to be assessed and above represents the spectrum of extreme contrarian views on the potential outcome. Given the level of uncertainty, governments and corporates around the world are planning ahead in terms of risk management / contingency measures

Potential Structural Implications on China and the World

The global spread of the Coronavirus has adversely impacted economies, business operations and our everyday lives. Going forward, this epidemic has the potential for more far-reaching structural implications.

1

Impact on China's Geopolitical Affairs and Policies

Outbreak may potentially impact China's various political affairs and regional strategic initiatives



Improving quality of life / standard of living



- Investments in healthcare
- Policy reforms and public awareness

2

Reevaluation of Supply Chain Strategies and Globalization Model

Ongoing spread of a new coronavirus has resulted in the shutting down of major business hubs in China



Many global MNCs such as Apple has still maintained substantial reliance on China primarily due to costs

Outbreak may potentially increase the diversification of manufacturing base to regional countries / onshore



3

Global Accelerated Advancement of Technology/Digitization/Healthcare



Increasing dependence of non-traditional methods of consumption

AI analytics built to identify outbreaks



Robotics deployed to ensure containment

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