



EVERYTHING YOU NEED TO KNOW ABOUT THE CORONAVIRUS IN CHINA

March. 2020

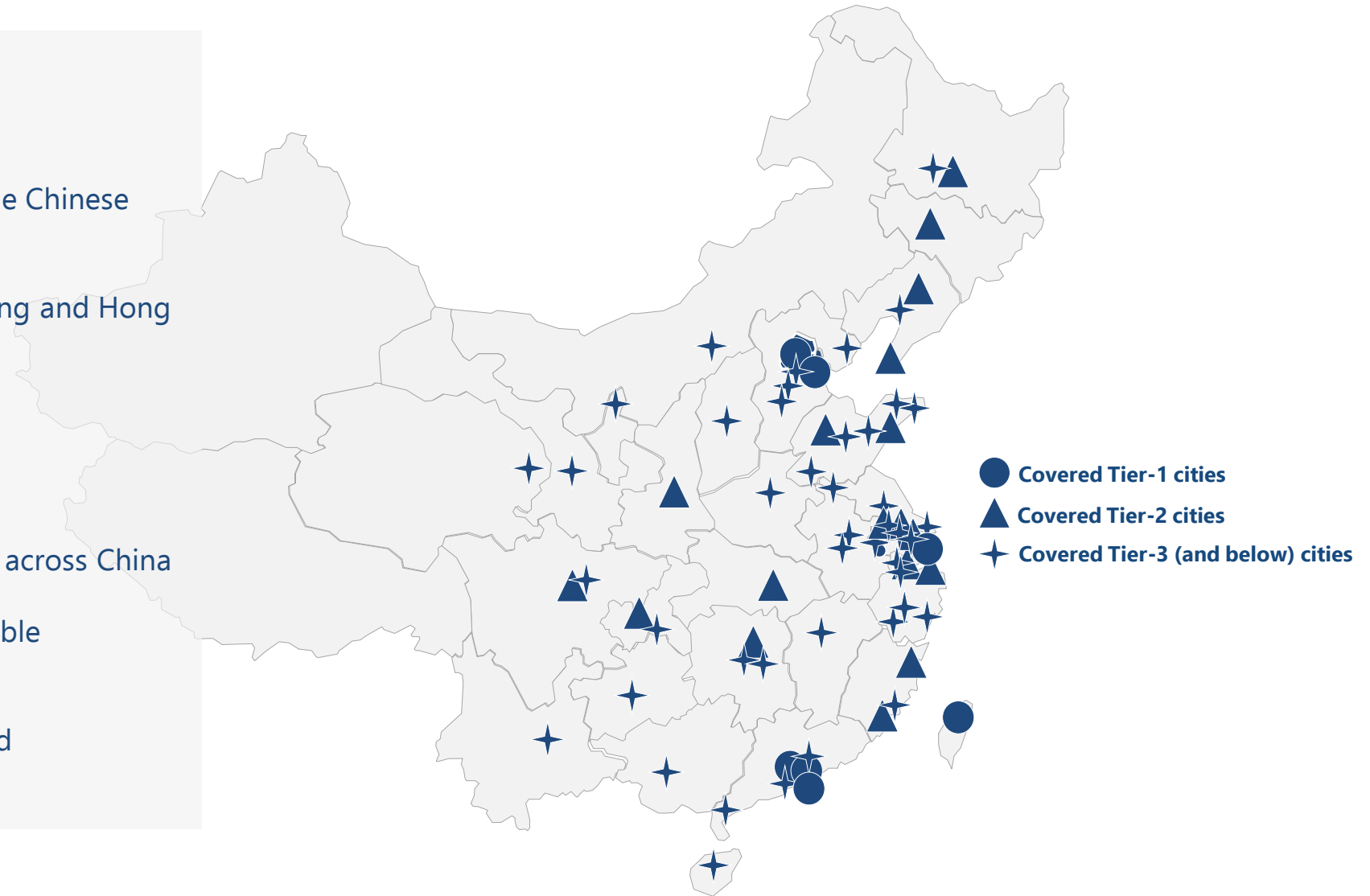
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www.daxueconsulting.com

Who we are

Your Market Research Company in China

We are **daxue consulting**:

- A market research firm specializing on the Chinese market since 2010
- With 3 offices in China: in Shanghai, Beijing and Hong Kong
- Employing 20+ full-time consultants
- Full, complete, national coverage
- Efficient and reliable fieldwork execution across China
- Using our expertise to draw precise, reliable recommendations
- With key accounts from around the world



The strengths of Daxue Consulting

6 crucial competitive advantages



1. Localized & Creative

- ✓ Working on each project making exchange and challenges, recruiting the brightest talents in **both local & international** (1:1), to ensure a **comprehensive & scientific logic thinking**.

3. All In-house Management

- ✓ Daxue Consulting **does not outsource its services**. **Deep understanding on the fieldwork** and the context within which data was collected.
- ✓ **Transparency** of sources and information

5. Innovative

- ✓ Using 50+ software
- ✓ Leveraging alternative data and open source intelligence
- ✓ Social listening

2. Responsive & Flexible

- ✓ **Result-oriented, regular reports** with our clients to make sure we align the expected objective.
- ✓ **Teams & proposal are tailor-made** depending on the project.
- ✓ **One client** = one team.

4. Actionable recommendations

- ✓ We **care about results** and design our research in order to be operational.
- ✓ We are **driven by metrics** such as customer acquisition costs, business plan KPIs, P&L optimization.

6. Professional

- ✓ **Our methodologies are rigorous and serious**, taking information from the best practice in the world of consulting and research.
- ✓ **Demanding on the results, detail-oriented, respectful towards our commitments.**
- ✓ **Corporate presentation.**

Our services

Experienced in answering to a wide variety of strategic business questions

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PERFORMANCE
EVALUATION



SOCIAL
LISTENING



DUE DILIGENCE

INSIGHTS



DECISION-MAKING
PROCESS



TARGET AUDIENCE
PROFILING



BRAND POSITIONNING

STRATEGY



BUSINESS
INTELLIGENCE



VALUE
PROPOSITION



ACTION
PLAN

INNOVATION



DIGITAL
STRATEGY



PRODUCT
LOCALIZATION



CONCEPT TESTING

350+ clients with 600+ projects for the past 7 years

Examples of references



A recognized expertise on the Chinese market

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Daxue latest quotations in recent publications

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TECHINASIA

france
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LE TEMPS

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The China Post

REUTERS

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SBS NEWS

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Le Monde

THE WALL STREET JOURNAL

LesEchos.fr

THOUGHTFUL
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TECHINASIA

FRENCHWEB.FR
Le magazine de l'innovation

LE FIGARO

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ESSEC
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The New York Times

Guanghua School of Management
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Voci Globali

JDN
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L'OBS

Wine News
THE POCKET WINE WEE SITE IN ITALY

france
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Global reach, Local touch

South China
Morning Post

TECH
INSIDER

IT NEWS AFRICA
AFRICA'S TECHNOLOGY NEWS LEADER

THE JORDAN TIMES

Jing Daily

World
Trademark
Review

FINANCIAL REVIEW

ASIA WEEKLY

Contrepoints
le nivellement par le haut

The Street

Chef
d'Entreprise

CCI FRANCE CHINE
中国法国工商会

ISRAEL HAYOM
THIS IS WHERE WE START

CHANNEL NEWSASIA

algemeiner | a

華美銀行
EAST WEST BANK

EAST WEST BANK

The Business Publication
BOF

Los Angeles Times

StartupBRICS
L'Actu Tech & Startup des Emergents

EL PAÍS



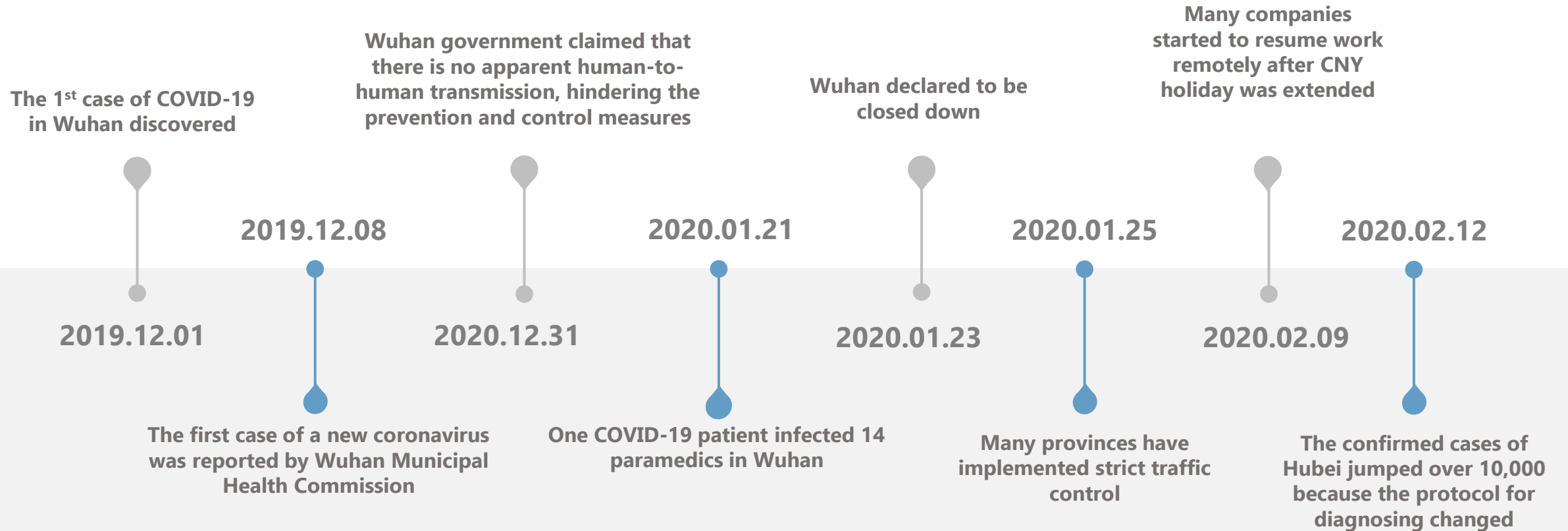
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01

Overview of COVID-19

Timeline of the COVID-19 epidemic in China



Current spread (As of Mar. 16 2020)

- Coronaviruses are common causes of respiratory infections. They have previously been implicated in viral outbreaks, including SARS-CoV and MERS-CoV, but are also responsible for some common colds.
- COVID-19 is a new coronavirus, without any known prior human infection.



Cumulative confirmed cases

81,078



Existing suspect cases

134



Cumulative deaths

3,218



Cumulative cured cases

67,863



Transmission rate

1.5-2X



Disease severity

Up to 20%



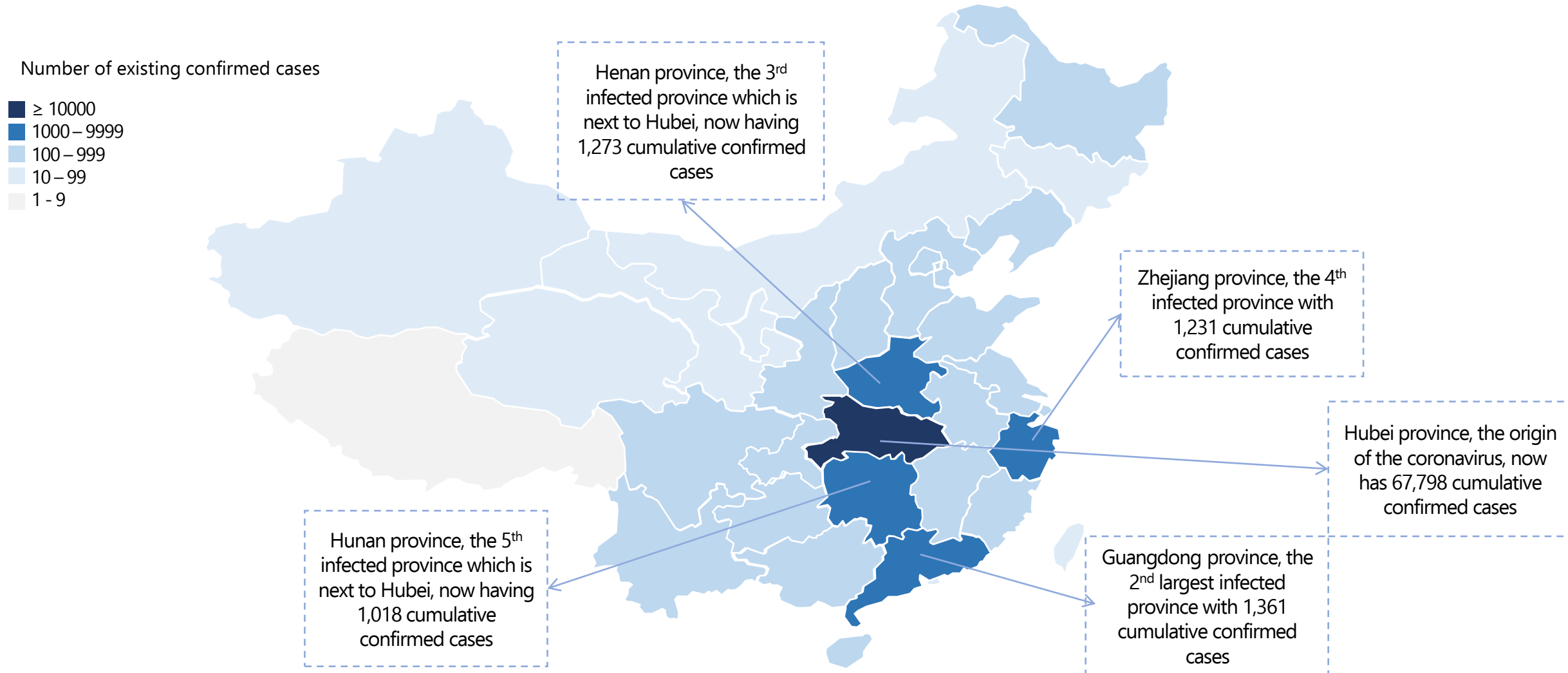
Death rate

< 1/50

Source: www.voice.baidu.com, DXY.cn

Transmission & Spread within China (As of Mar. 16 2020)

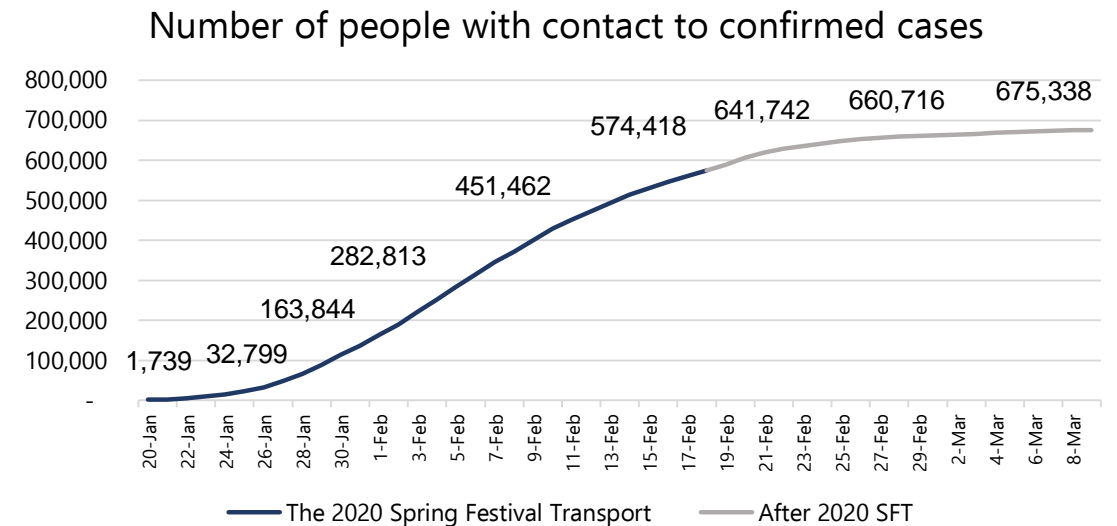
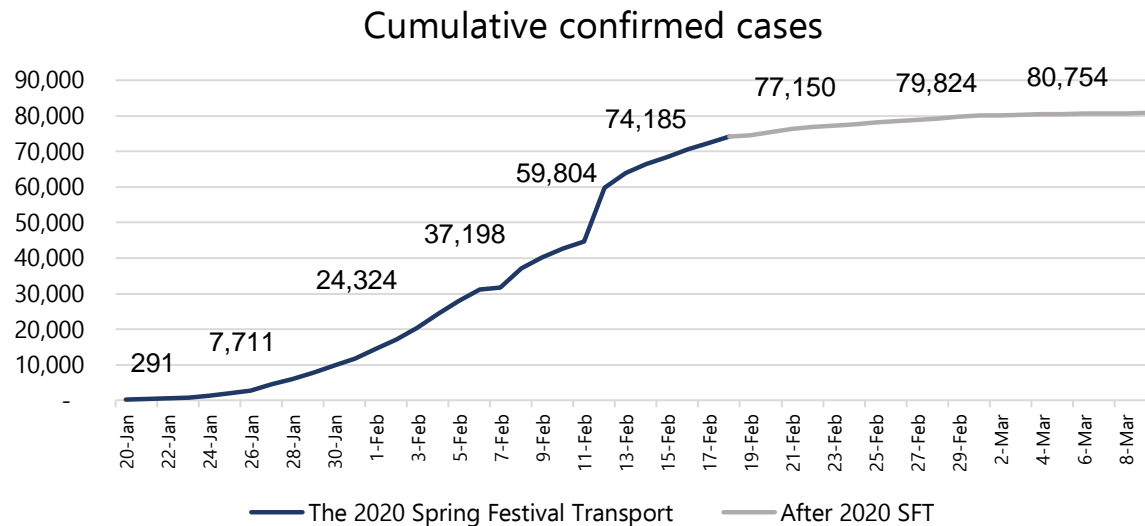
Shanghai may become the second severely affected area because its huge migrant population will return to Shanghai one after another.



Source: www.voice.baidu.com, DXY.cn

How starting during the Lunar new year affects spread

- The 2020 Spring Festival migration **started on January 10** and **ended on February 18**.
- The estimated number of people who have had contact with confirmed cases gradually increased at beginning of the Lunar new year and stabilized until the end of it. That's because flow of people participating in the Spring Festival Transport is very large, which makes the chance of cross-infection increase and directly lead to the peak of the epidemic.
- After Lunar new year and the government's restrictions on the flow of people, the confirmed cases have flattened since February 13.



Note: Jan. 20 was the first date for National Health Commission of China to release related data

Source: National Health Commission of the People's Republic of China

Data offered by the National Health Commission, only includes China

A comparison between COVID-19 and SARs

- Similar to SARS, COVID-19 originated in animals and migrated to humans.
- The animal to human jump of COVID-19 is still unclear. If it could transmit to cats or dogs and then back to people, the disease would be much more difficult to control than SARS.

A brief comparison of SARs and COVID-19

	SARS	COVID-19 (As of March 16 th 2020)
Origin	Foshan, Guangdong	Wuhan, Hubei
Fatality Rate	9.6%	4.07% (Wuhan), 0.84% (Outside of Wuhan)
Total Cases	8,096	81,078
Total fatalities	744	3,218
Number of HCW Affected	1,706	3,387
Period of Outbreak	November 2002-July 2003	December 2019- February 2020
Reproduction Number	2	1.4 to 4.0
Incubation Time	4-6 days	2-14 days



Based on the current data, the novel coronavirus seems to be less deadly than SARS. However, it is spreading much faster.

The 2002/2003 SARS outbreak led to a total amount of 8,094 cases over the course of 8 months; whereas, the epidemic of COVID-19 surpassed that number within a couple of weeks.

Source: WHO, RT Magazine, DXY.cn

How long will the coronavirus last?

- As long as no new infections appear during the duration of a full incubation period, then the epidemic can be considered to be officially over.
- As of early March, the number of infections in China continues to decline, with the exception of Hubei, the infection in all regions seems to be controlled.
- The rate of infection (R0) is minimized by the quarantine efforts and shutting down of workplaces and public places.

Region	Current R0	Epidemic Evaluation	Expected End of Epidemic
Wuhan city	0.83	The effect of increasing treatment has already appeared	-
Jiangsu province	0.54	The epidemic is controllable	Mar. 20th
Shanghai city	0.57	Taking the lead to resume work makes epidemic prevention in Shanghai more difficult	Mar. 8th
Sichuan province	0.53	The epidemic is controllable	Mar. 17th
Chongqing city	0.45	The epidemic is controllable	Mar. 16th
China except Hubei province	0.36	The epidemic is controllable	Mar. 21th
Hubei province except Wuhan	0.35	The epidemic is controllable	Mar. 31th
Jiangxi province	0.27	The epidemic has been well controlled	Mar. 14th
Anhui province	0.24	Poor results, risk of outbreak expanding	Mar. 21th
Hunan province	0.18	The situation is better, but still need time to verify	Mar. 14th
Zhejiang province	0.18	The epidemic has been well controlled	Mar. 5th

Source: Aliren Blockchain Alliance

Do we need to worry about the impact of coronavirus on GDP?



Source: www.baijiahao.com

- Judging from the experience of the SARS epidemic, which took China's GDP growth rate down by 2% during the two most critical months, after SARS eased, consumption and imports & exports significantly supplemented and restored growth. Therefore, once the epidemic is over, China's economic recovery is very promising.
- According to chief economist from Zhongtai Securities and Donghyun Park from Asian Development Bank, the impact on China's GDP growth in 2020 is expected to be between 1.5% and 2%, which will not change the long-term trend of China's economy. The epidemic has a large impact on the economic growth rate in the first quarter, or negatively affects the GDP growth rate of about 2% -3%.
- The biggest impact of the epidemic on economic growth comes from the service sector, especially the catering, transportation, hotel, tourism, and accommodation industries. The impact on consumption is direct.

Global Economic Impact of the Coronavirus

China is the largest exporter of intermediate manufactured goods that can be resold between industries, so its problems quickly reverberate through global supply chains.

South Korea & Vietnam

South Korea and Vietnam both benefit from Chinese tourism and embedded supply chains, may see a 0.4 percentage-point drag in near-term growth.



The United States

The US exports account for a relatively small proportion of GDP and exports to China are also limited, so the United States will not face the same risks as China. However, combined with trade war pressures, some US companies have decided to move manufacturing outside of China.



Hongkong

Hong Kong's already struggling economy faces a 1.7 percentage point downdraft in the first quarter, according to Bloomberg Economics.



Australia & Brazil

Australia and Brazil, are both commodity exporters to China, and both may see growth 0.3 percent below what it would have been without the virus.



Italy

Italy's epidemic became serious and is coupled with the country's financial center being blocked because of COVID-19. Its energy and raw materials are dependent on foreign imports, so the economy will be under greater pressure.



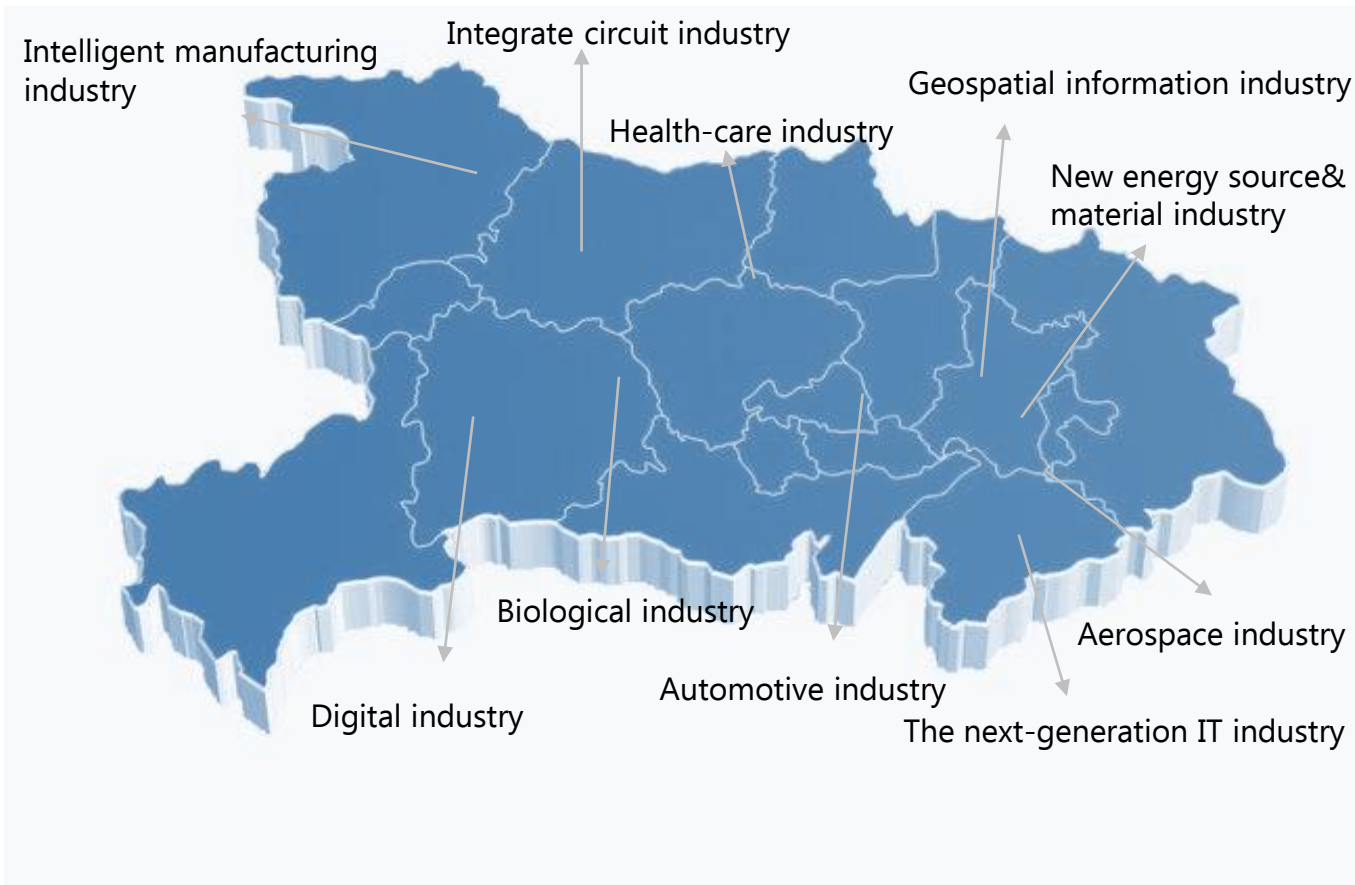
02

Up close on Wuhan & Hubei

Main industries of Hubei province

Hubei is the most developed province in the central region of China with 3.9 trillion RMB GDP in 2018. The province has a large number of industrial clusters in R&D and manufacturing, such as automobile and electronics.

Top ten main industries of Hubei province



- Hubei is rich in agriculture, forestry and hydropower resources.
- With 50 years of construction and development, the automobile industry in Hubei has established the industrial foundation with "one leading industry and two belts".
- The iron and steel industry is one of the main industrial pillars of the local economy. The most renowned company in this sector is the Wuhan Iron and Steel Corporation.
- After years of development, the biological industry has formed a manufacturing and construction system with large and middle scale enterprises as its backbone

Source: <http://www.chnci.com>

Three fortune 500 companies headquartered in Wuhan

According to government work report of Wuhan in 2019, electronic information, bio-technology and new medical and medical appliance, and the Automobile industry are the three pillars of the manufacturing industry.

Xiaomi

(world ranking: 468)

Xiaomi, a mobile Internet company focusing on the R&D of intelligent hardware and electronic products opened its second headquarters in Wuhan in 2017, hometown of founder Lei Jun, as it doubles down on R&D in artificial intelligence.



Source: scmp.com, crib.cin.cn, weforum.org

Dongfeng Motor Co., Ltd

(world ranking: 82)

Dongfeng Motor Company Limited was established on June 9, 2003, in Wuhan. It is a large-scale automobile enterprise jointly launched by Dongfeng Motor Corporation and Nissan Motor Co., Ltd.



China Baowu Steel Group Co., Ltd

(world ranking: 149)

China Baowu Steel Group, established by the consolidation and restructuring of the former Baosteel Group and Wuhan Iron & Steel (Group) on December 1st 2016, is headquartered in Wuhan and Shanghai



Local company responses to the Coronavirus

Xiaomi prepared to resume operations

Due to COVID-19, most staff of **Xiaomi** started working **remote from home**, some executives have begun to discuss work arrangements in the office. Through Weibo, Lei Jun said when entering enterprise, Xiaomi employees must wear masks and have their temperature routinely checked. Additionally, the **elevators** are all disinfected and equipped with paper towels to press the buttons.



(This picture was taken by Leijun on Weibo, Feb, 2020)

Source:: Weibo, 10jqka.com

Dongfeng protected users' rights and interests

- **Set up special love fund**

From February 21st to May 31st, for every purchase of Dongfeng light trucks, Dongfeng Motor Co., Ltd will donate RMB500 to help patients with coronavirus pneumonia disease.

- **Promote online sales service**

In order to service consumers who need to buy vehicles during the epidemic, Dongfeng Motor Co., Ltd promoted its online sales platform (its WeChat account) and offers the service of delivering vehicles to buyers' home, so that they can easily complete the purchase without leaving home.

- **Three service promises**

1. Free rescue services to medical material transport vehicles.
2. Customers of Dongfeng light vehicles whose maintenance and repair are due in the first quarter can be postponed for 3 months.
3. All Dongfeng light vehicle customers can get free medical masks and other items or reimburse them.

Automotive industry of Hubei in the global supply chain

General motors, Nissan, Renault, Honda and PSA (which owns Peugeot) have large factories in Hubei province.



About **700,000** cars were produced by Honda in Wuhan per year



About **1.5 million** cars were produced by Nissan in Wuhan per year

Source: Press reports, S&P Global Ratings, IHS, Chinese Association of Automobile manufacturers

- Chinese automotive components are a major part of the global auto supply chain, including 8 components factories for Toyota, and 24 plants making cars or parts in China for 40% of Volkswagen production.
- Hubei province accounts for 9% of total Chinese auto production. German engineering firm Bosch is the world's largest auto component manufacturer, the brand has dozens of factories in China 2 of them are in Wuhan.

Electronics industry of Hubei in the global supply chain

Wuhan plays a significant role in the global supply chain of critical electronics components due to a long list of key component manufacturers that reside in the Wuhan area.

Wuhan can be said to be a major city for the development of science and technology

For example, BOE, Huaxing Optoelectronics, and Tianma (the two largest panel manufacturers in the mainland) have settled in the Wuhan region.

BOE



TIANMA

Continental memory companies such as Wuhan Changjiang Storage, Wuhan Xinxin, and Zhaoyi Innovation are important local companies.



Hubei Province is the production base of Taiwan's **PCB** factories, including Taiwan Optoelectronics, Xinxing, Jianding, Nanzi Electric, and Dingying.

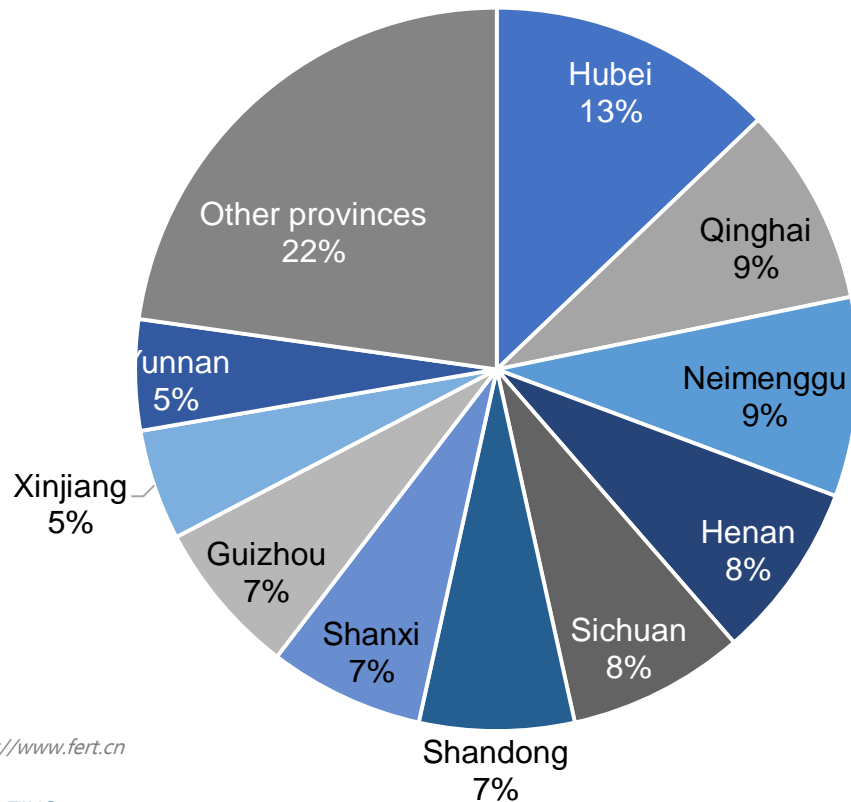
Industry insiders pointed out that PCB is the “**mother of the electronics industry**” and is an indispensable key component of all electronic products. It is responsible for fixing electronic parts and providing current connections to parts, which directly affects the reliability and performance of electronic products. **If the PCB factory in Taiwan and the Hubei factory are obstructed, it will affect the global electronics industry.**

Source: <https://www.silverdoctors.com/>

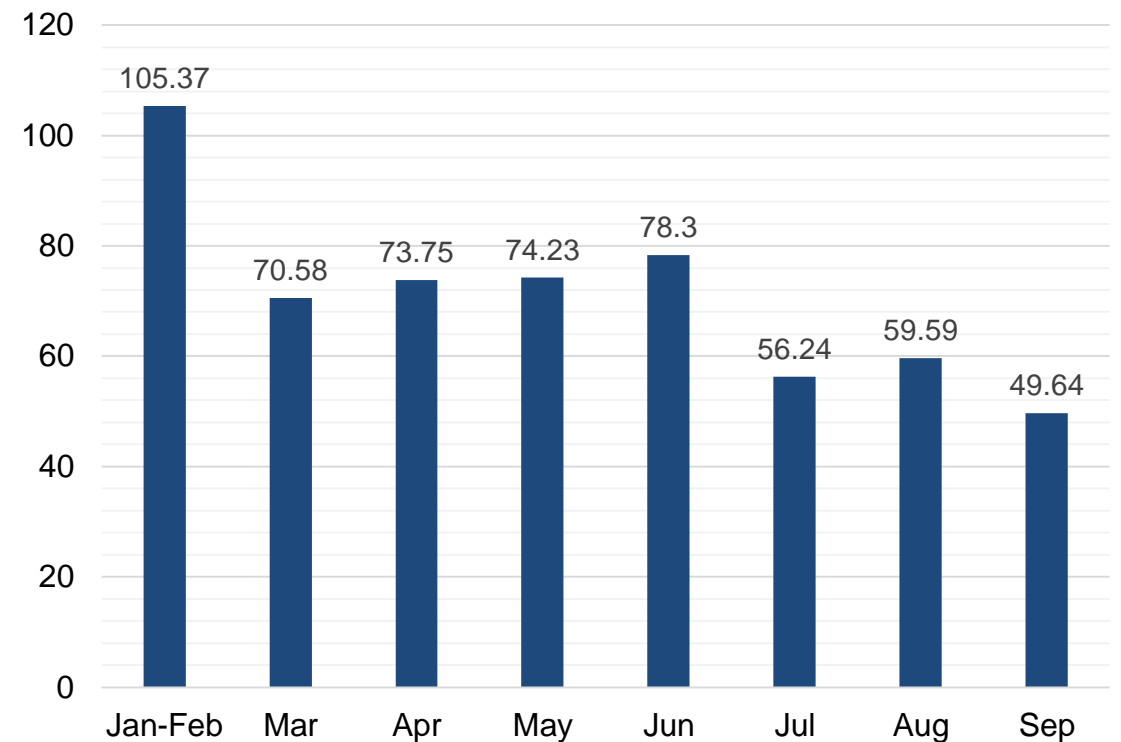
Hubei contributes much to the progress of the chemical industry

- Hubei is the largest province of chemical fertilizer in China, its output has reached to 596.56 tons in the first three quarters of 2019, which increased 19% compared to last year.
- The revenue and the number of enterprises in the chemical industry in Hubei accounts for about 4% of China. Hubei has a high production capacity of sub industries including the phosphorus chemical industry, pesticide industry, and the vitamin industry.

Output distribution of chemical fertilizer in China (2019 Jan to Sep)



Output of NPK fertilizer in Hubei (10,000 ton, 2019 Jan to Sep)



Source: <http://www.fert.cn>

COVID-19 affects industries in Hubei

Harm to the Automotive industry



Slumping sales

China **auto sales fell 2.8% in 2019** amidst global trade tensions, the first decline in nearly two decades, which also affect Hubei auto sales because Hubei province account for 9% of total Chinese auto production. Global automakers forecasted **further sales declines in 2020**, prior to knowledge of the coronavirus outbreak.



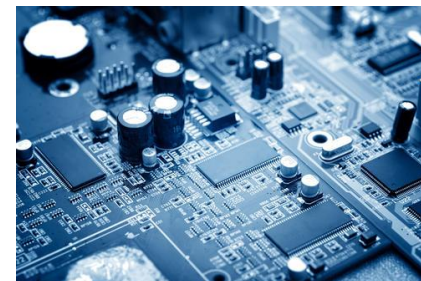
Suspended operations

Nissan, GM and Honda suspended operations in China through at least February 9, 2020, and these automobile manufacturers anticipate re-opening factories in the coming days to week.

Source: Press reports, S&P Global Ratings, IHS, Chinese Association of Automobile manufacturers

Electronic industry

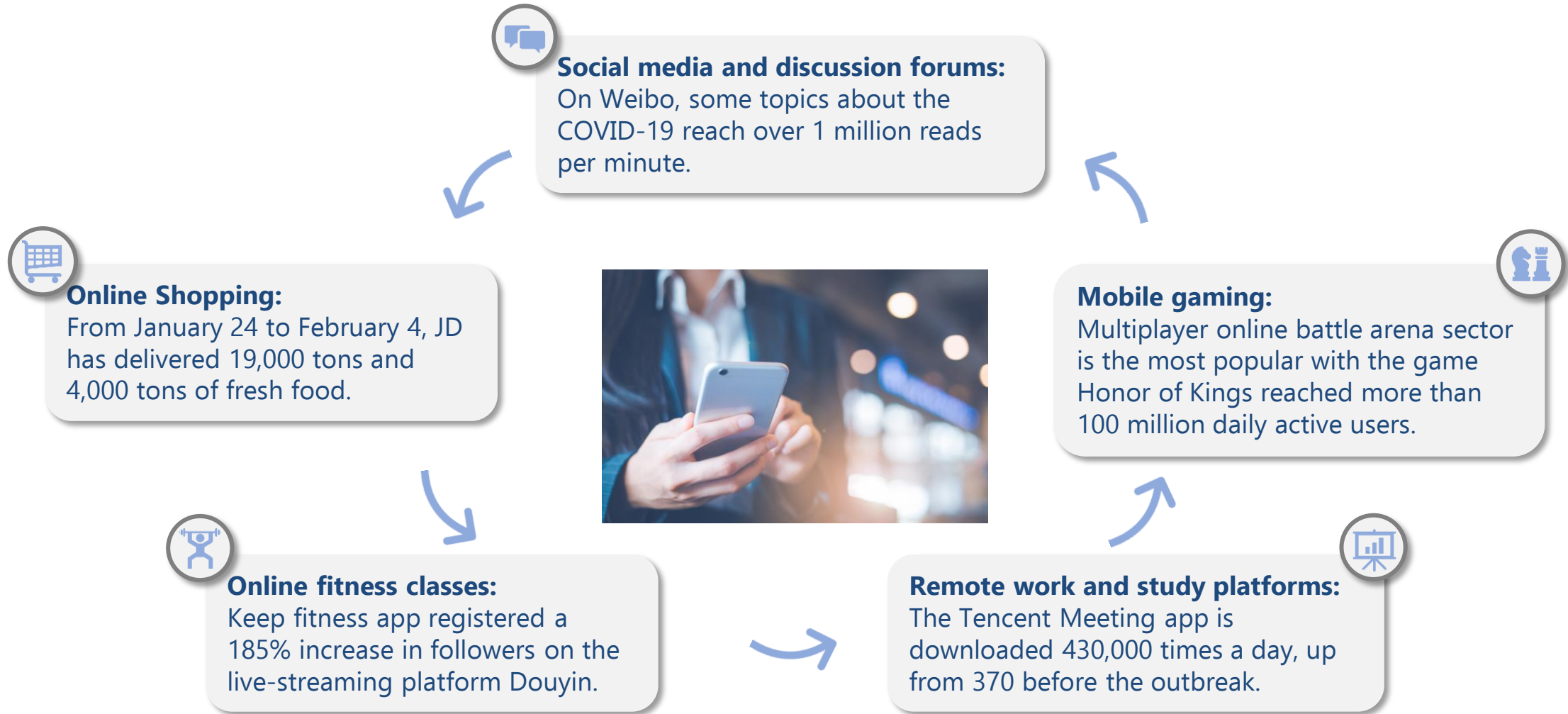
- After Wuhan postponed production of electronics, China's supply chain of critical electronics components is facing a catastrophic disruption, because Wuhan a major city for the development of science & technology.
- About 70% of the world's smartphones has been affected. According to Strategy Analytics, overall shipments of phones will reduce by 2% in 2020, some consultants believe that COVID-19 will cause demand side decrease.
- Besides, the first quarter is normally off-season of China's semiconductor industry, COVID-19 may further dampen the sales of semiconductors.



03

What industries are growing

Chinese daily life goes online during the coronavirus



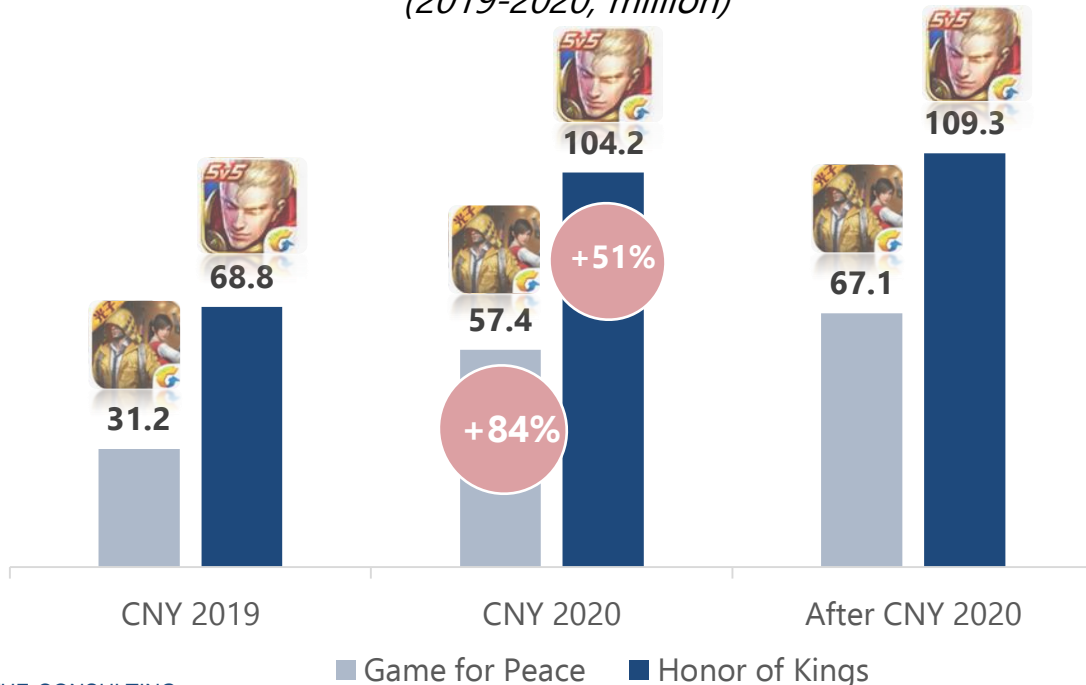
Source: daxueconsulting.com, Qimai

A blessing for the Gaming Industry

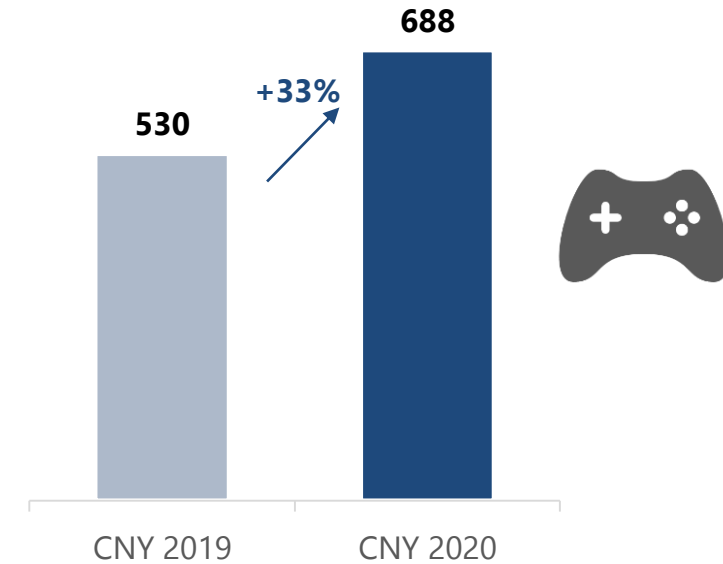
Mobile Gaming: multiplayer online battle arena sector is the most popular. Plague Inc. rose ahead until removed from APP stores

- While the Chinese mobile gaming industry is stimulated by the coronavirus, the development of 5G is expected to accentuate the trend and support the growth of the industry.
- During the outbreak, Honor of Kings and Game for Peace are the most popular mobile games among Chinese people. During the Chinese New Year 2020, the two games reached a record in the number of daily active users, up to 100 million for Honor of Kings. Plague Inc. is ranked #1 in the paid game sector of the apple store since January 19.

DAU of Honor of Kings and Game for Peace (2019-2020, million)



Change in revenue of the Chinese mobile gaming sector during CNY 2020 (\$ million)



Source: Sina, Capitalwatch

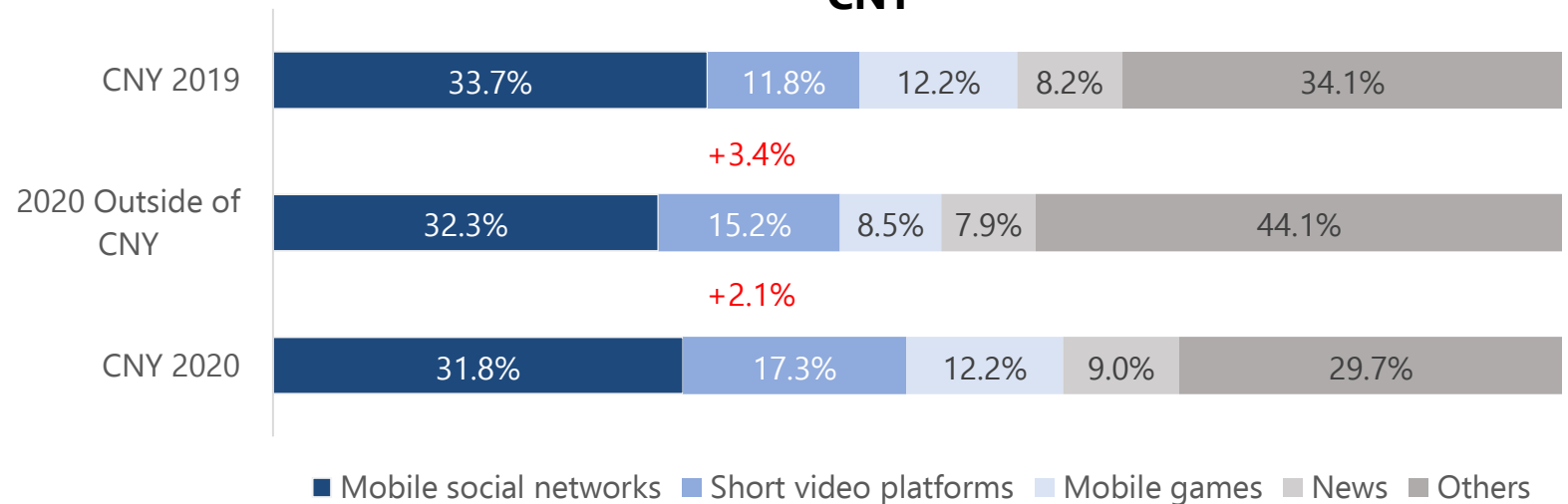
The coronavirus drives traffic to short videos platforms

- Chinese are also extensively using video platforms to stay informed and share their feelings during the epidemic. Between January 20 and February 2, 574 accounts on the short video platforms Douyin and Kuaishou each gained between 100k-500k new followers.
- The Coronavirus is accelerating the shift towards live-streaming, which already exploded in 2018, with a 745% growth year on year, thanks to improved connectivity and video maturity. The short video sector recorded 569 million daily active users in the post-holiday period, far exceeding 492 million on a regular daily basis.

Virtual clubbing entertaining millions

- A five-hour live-streaming set at OneThird, a nightclub of Beijing, earned the club \$285,000 in tips donated by the viewers on Douyin.
- Banking on the trend, Douyin's rival Kuaishou is now making deals with clubs across China to stream their shows.

Proportion of the used time of mobile apps during the 2020 CNY



Source: QuestMobile, Abacus

E-commerce's sales of health products and daily necessities skyrocket

- Since Chinese people are not suggested to go out, they do even more shopping online. During the Chinese New Year in 2020, people were likely to purchase medical products (medicine and masks), hygiene products (hand wash and disinfectant) and food.
- To support the new growing online demand, more than 35,000 jobs were created across China from the following online retailers: Hema, Suning Xiaodian, Meicai, JD Logistics, JD daojia, and Dada.
- Due to the shortage of medical products like masks on Chinese e-commerce platforms, consumers have turned to cross border e-commerce. During the Chinese New Year, two cross-border apps, Omall and Haitun, have seen an evident rise in engagement and skyrocketed to the top of the App Store.

During the 2020 CNY



Online sales of facemasks **increased 58.41 times**



Online sales of disinfectant **increased 34.72 times**



Sales of fresh food materials on JD.com **increased 154%**



Online sales of instant noodles **increased 133.34%**



Source: Fanli.com, JDbigdata, cnn, App Annie

Fitness Industry: from offline to online - Keep App

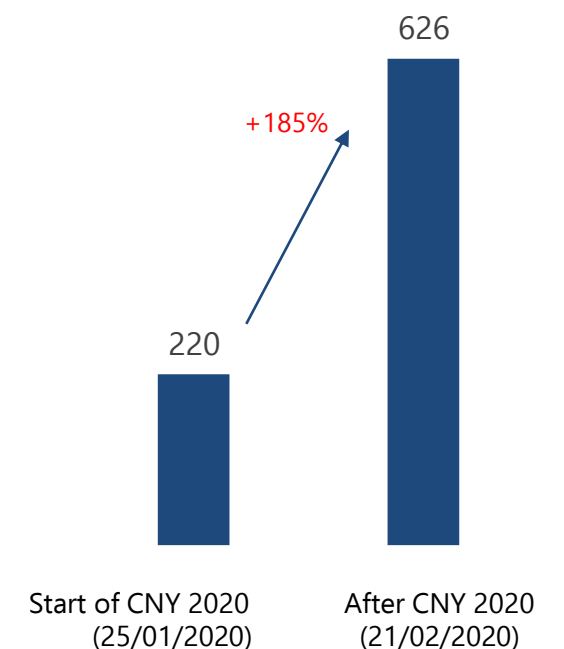
- While local authorities closed gyms across the country, Chinese are looking for ways to stay in shape. Mobile fitness apps are gaining traction, as they can make people do exercise at home.
- Although all the offline gyms of Keep are closed until further notice, Keep smartly used the Douyin live streaming feature to move the classes online. With the live-streaming campaigns, Keep boosted its followers by 185% from the start of the Chinese New Year. The Keep app is downloaded eight times more than at the start of the Chinese New Year, reaching more than 100,000 downloads on February 19.



Source: Qimai, Douyin

- The fitness company Keep announces live streaming schedule via WeChat groups. 3 classes per day.
- The Keep instructor leads the class from his home via livestreaming on Douyin platform.
- The instructor starts a competition with another KOL and encourages users to comment and follow.

Change in the number of followers of Keep on Douyin (thousand)



Healthtech Services boosted by Chinese AI

Naturally, one of the positively impacted segments is online health services. While the telemedicine services from Ping'an, JD, and Alibaba have seen a peak in usage, WeChat and Baidu's health section were viewed nearly 2.5 billion and 3.5 billion times respectively.



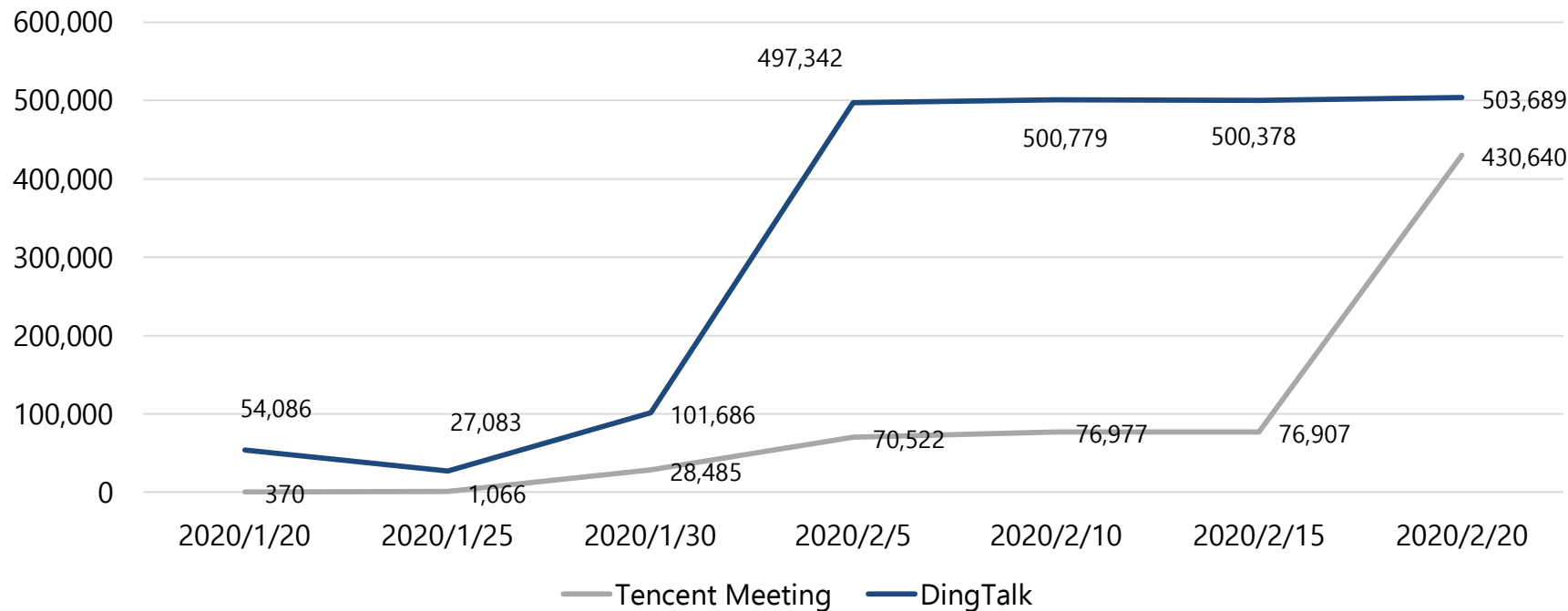
- The 'Health' section of the Chinese tech giant Baidu, includes the ability to track in real-time the epidemic data of every district in every province. Among other, an AI feature analyze one's diagnostic probabilities.
- Whereas it was previously estimated that the market size of China's healthcare big data industry will exceed 80 billion yuan (\$11.4 billion) by 2020, the very wide adoption during the epidemic by millions of people of online medicine services will accelerate this growth.

Source: daxueconsulting, technode

Online co-working platforms are booming

- Most companies have set-up remote work policies to avoid contamination at work. Hence, Enterprise Collaboration Apps facilitated remote working for 200 million Chinese workers after the Chinese New Year.
- Alibaba's Ding Talk skyrocketed to the very top of the App Store in a few days while Tencent Meeting and WeChat Work are in the second and fifth position, respectively.

Downloads of Dingtalk and Tencent Meeting apps on the Appstore during the outbreak



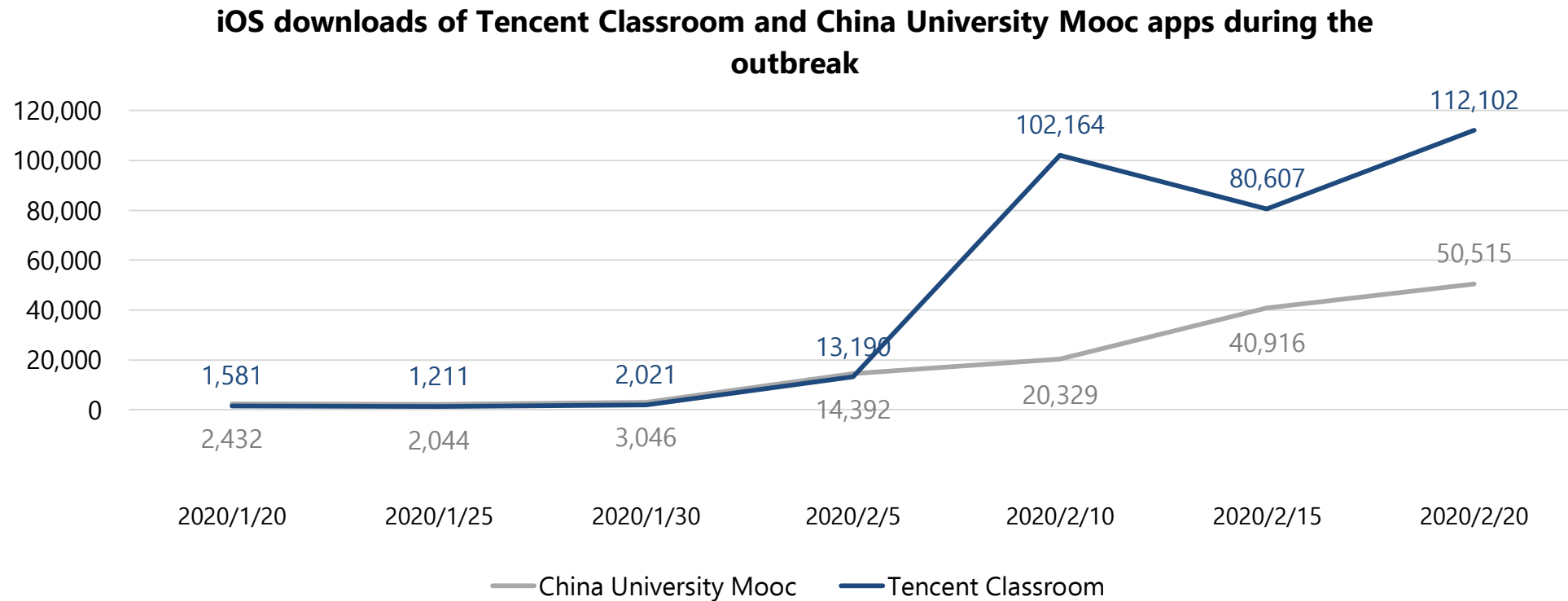
Source: Forward-The Economist, App Annie, Qimai

#	Free
1	 DingTalk  DingTalk
2	 腾讯会议  Tencent
3	 剪映 - 轻而易剪  Miantan
4	 旅行世界  song chen
5	 WeChat Work  Tencent

Source: App Annie

Chinese students study online through the Coronavirus outbreak

- The Coronavirus outbreak does not stop Chinese students from studying. The downloads of some education apps such as Tencent Classroom, and China University Mooc experience a significant increase.
- Universities across the country organize online lectures to ensure the safety of their students. They rely on QQ, a tencent streaming platform to carry out online teaching. Unlike fitness and co-working apps, the online education peak during the coronavirus may not last after the epidemic, with the return of students back to school.



Source: Qimai

04

Tourism: The most immediate impact

COVID-19 hits the Chinese tourism industry (1/2)

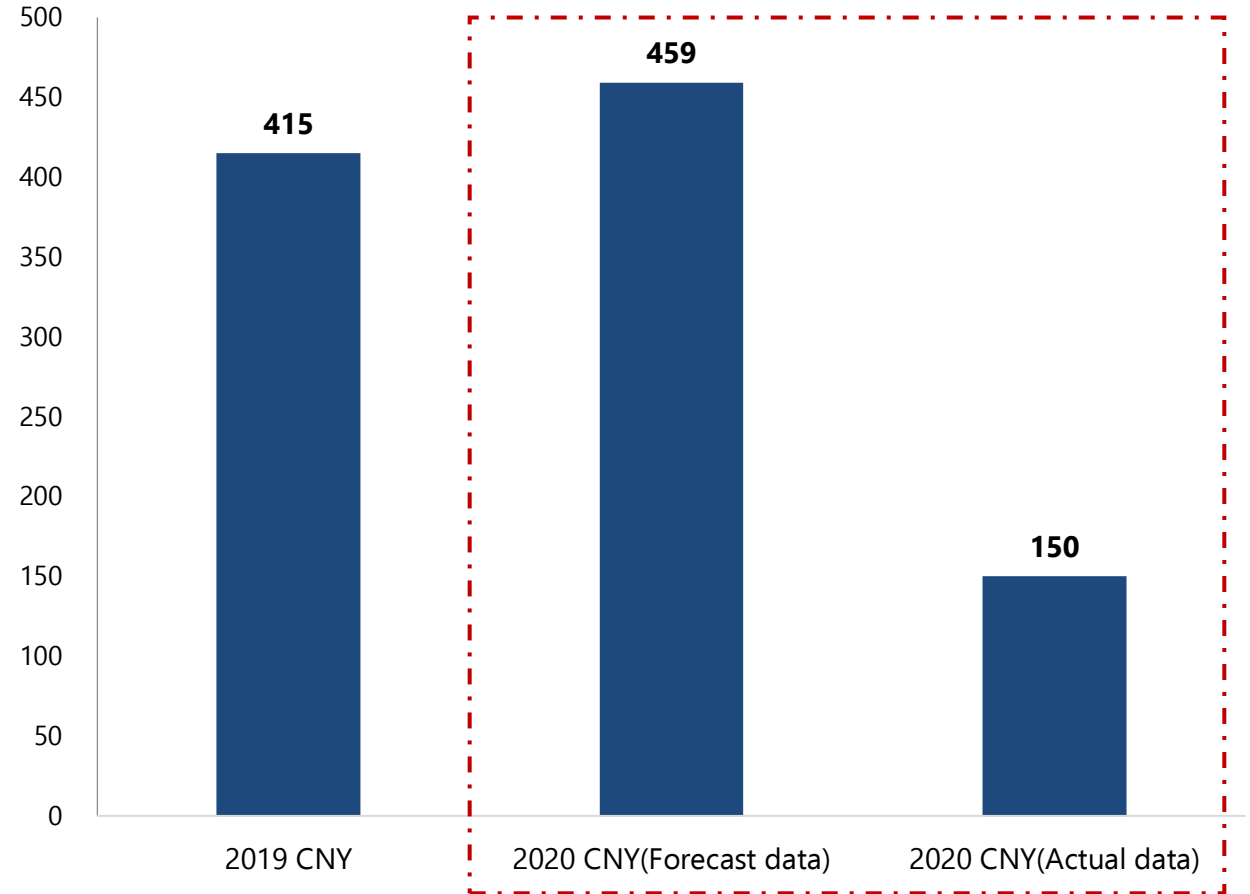
The Chinese New Year period is the annual travel peak because most people have work off and either travel to see family or go on vacation.

But since the coronavirus outbreak started in Wuhan, tourist and hospitality industries have been hit hard in China.

The damage to the Chinese tourism industry is equivalent to a loss of 1 trillion RMB GDP.

Many travel enterprises estimated the ongoing shutdown costs the industry about ¥ 17.8 billion every day.

Number of Chinese domestic trips
(million, 2019 and 2020 Chinese New Year)



Source: Tai Media APP
Sina Finance

COVID-19 hits the Chinese tourism industry (2/2)

- As recent research shows, COVID-19 shares 80% of its genome with SARS. Although, COVID-19 might be less deadly than SARS, the cost of coronavirus could be higher than SARS. Compared to SARS, it spreads more easily and is hard to be detective. Unlike SARS, patients with COVID-19 might not experience fevers and headaches, which makes it difficult to diagnose and control.
- Hard work is needed to fix the tourism crisis to help the hard-hit tourism industry and tourism driven industries. Travel cancellations flared up after the Coronavirus outbreak. The cash flow of airlines, agents, hotels and online travel platforms are deteriorating.

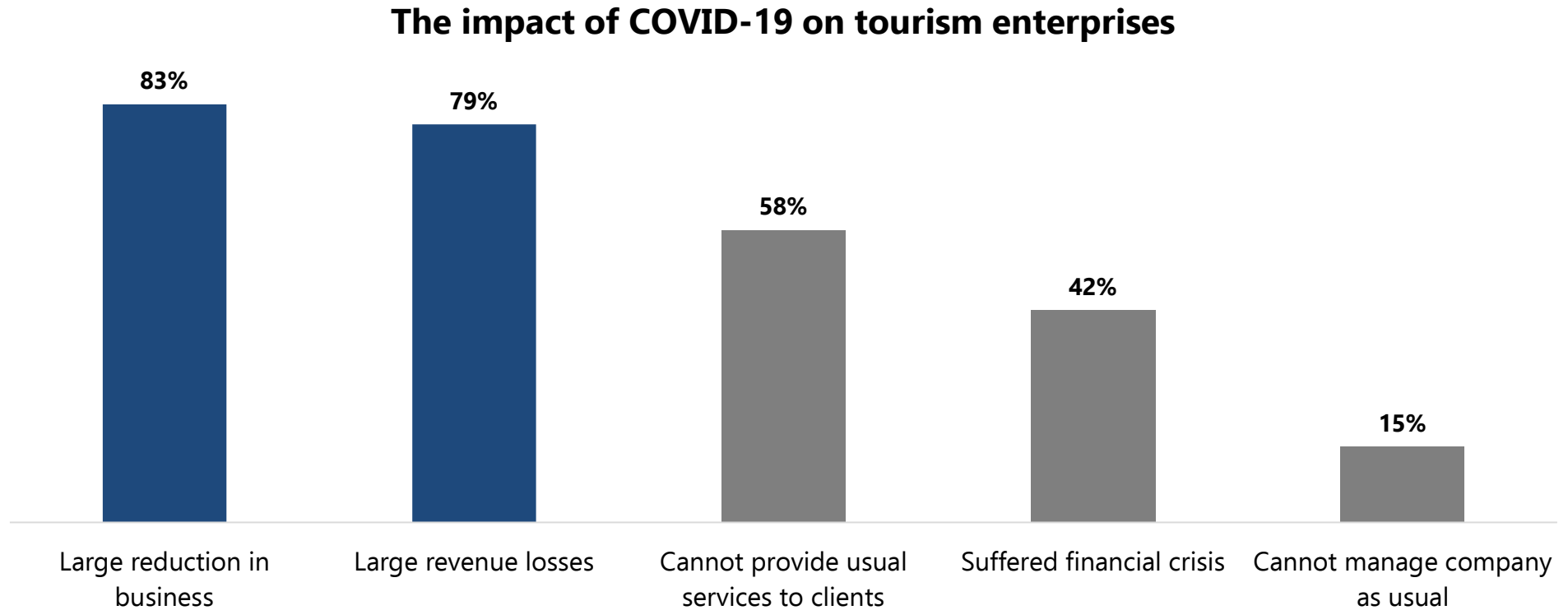
Forecasting of Chinese domestic and inbound tourism core indicators (2019-2020)

Indicators	Predictors	2019	2020	Decreased trips and revenue	Coronavirus cost
Number of Chinese domestic trips (billion)		6,015	4.5-4.8	1.2-1.5	1.7-2.6
Chinese domestic tourism revenue (trillion RMB)		5.69	4.67-4.84	0.85-1	1.3-1.5
Number of inbound overseas tourists (million)		144	90-100	43-50	40-50
Inbound tourism revenue (billion dollar)		130	91-97.5	32.5-39	35-40
Total domestic and inbound tourism revenue (trillion RMB)		6.6	5.43-5.65	0.9-1.2	1.6-1.8

Source: Sohu Finance
Business Insider Australia

The impact of COVID-19 on tourism related enterprises

- After the COVID-19 outbreak, only 2% Chinese tourism related companies felt that they had not been significantly affected. The impact on tourism companies directly affects revenue, however companies management is still under control.
- Natural and scenic destinations have low maintenance costs and therefore suffer less of an impact. On the contrary, travel agents, hotels, and retailers (related to tourism) badly need sales revenue during the epidemic.

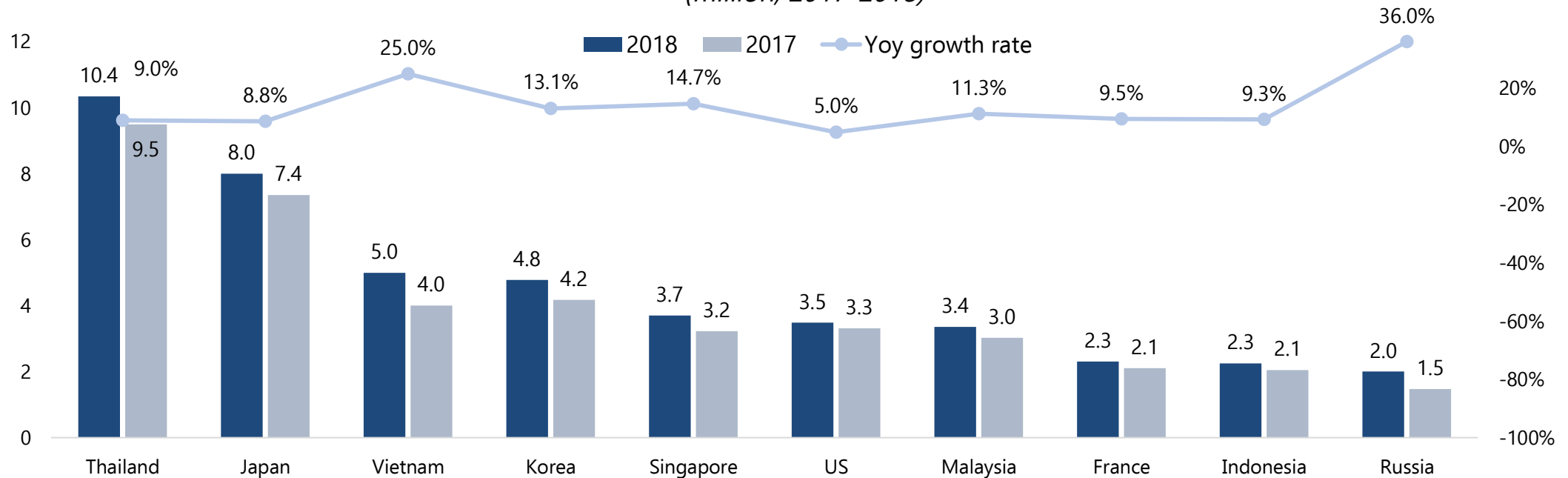


Source: TravelDaily, China's travel industry and epidemic survey

The top international destinations of Chinese outbound tourism

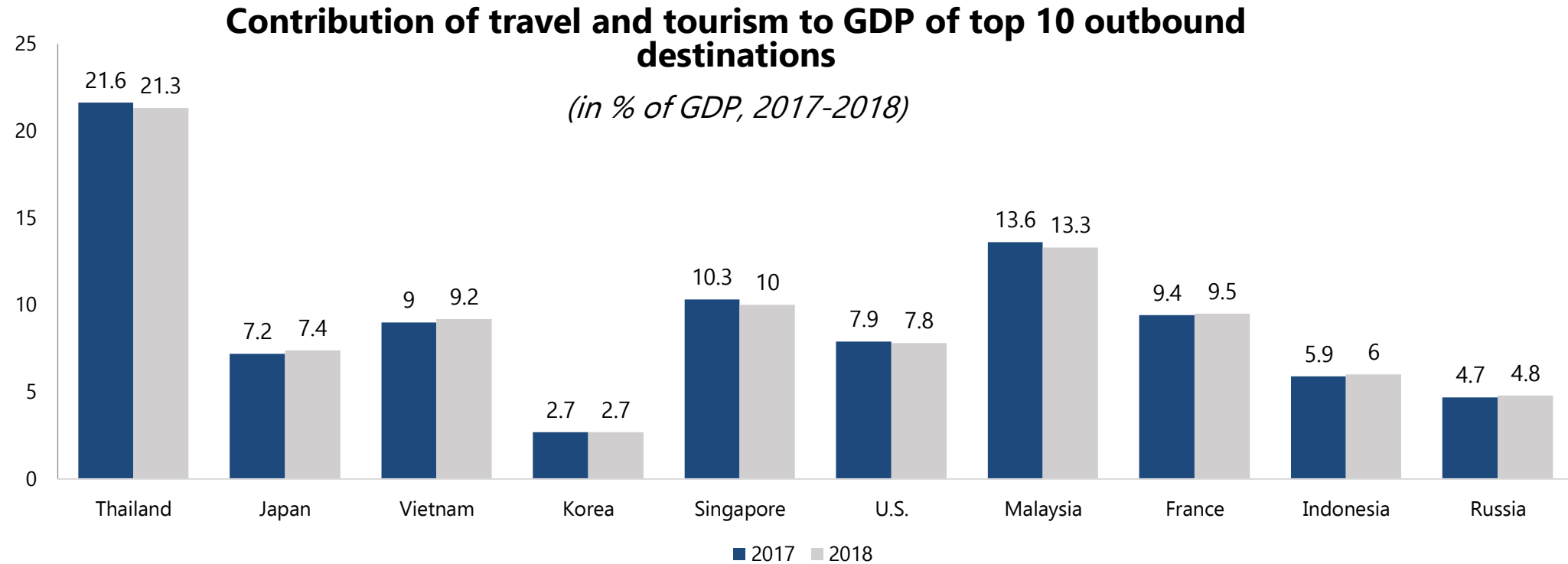
- In 2018, Chinese tourists represent more than 70% total tourism in Hong Kong and Macao, similarly, more than 25% total tourism in Thailand, Japan, Vietnam and Korea.
- Chinese tourists prefer to visiting APAC regions rather than the Americas and Europe, only 4%-5% total tourism in US and Italy are Chinese.

Number of Chinese tourists in Top 10 outbound destination
(million, 2017-2018)



Source: Analysys & National Tourism Administration in different countries
Press reports; McKinsey Global Institute

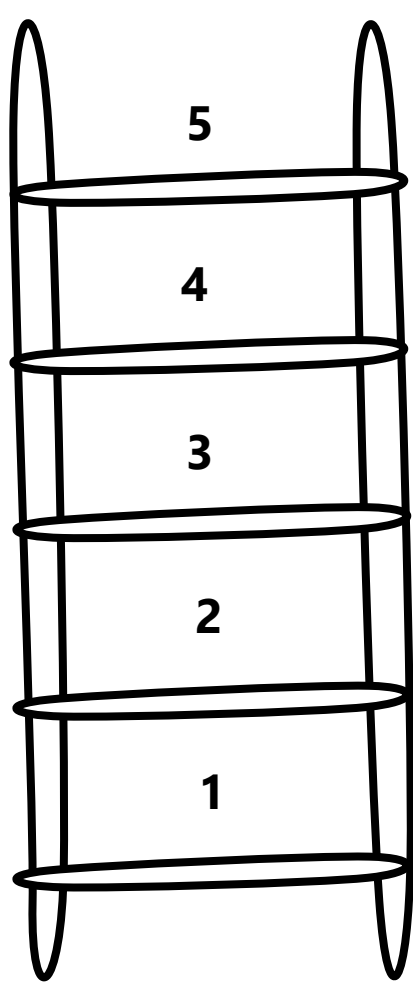
Top 10 outbound destinations: contribution of tourism to GDP



- The countries that are most exposed to the Chinese travel market will be catastrophic for the economies if the Coronavirus lasts for three to six months.
- As an example, today, Chinese visitors account for 30% of total tourists in Thailand, spending \$18 billion in 2019.

Source: Time
Knoema, World Data Atlas

Top 10 outbound destinations: travel restrictions to Chinese



Strictness Level



Vietnam, Singapore, U.S., Russia:

banned all foreign nationals from entering who had been in China



Malaysia:

imposed travel restrictions for Chinese visitors from Hubei, Zhejiang and Jiangsu provinces



Japan: banned foreign nationals who have visited Hubei and Zhejiang Provinces within 14 days of arrival in Japan, or who have a Chinese passport issued by these provinces, except under special circumstances for the time being



Indonesia: suspended visa-free and visa-on-arrival provisions for Chinese citizens and has imposed a requirement for flight crews to undergo a medical inspection upon arrival



Thailand, Korea, France:

increased thermal health screening at their international airports

By February 2, 2020, 71 countries issued travel restriction to Chinese visitors.

Source: <http://m.hao123.com/news/shoubaiDetail/9179820677607795666>

COVID-19 poses challenges to top tourism destinations

Stands to lose **\$3.4 billion** in tourism revenue if the virus outbreak lasts to summer

Thailand



Estimates to lose **\$1.29 billion** revenue for tourism in the first quarter of 2020

Japan



Tourists arrival estimated to **fall by up to 30%** in 2020

Singapore



75% decrease in mainland tourists for the first four days of the Chinese Lunar New Year

Macau



Expects a 30% drop in tourist arrivals which leads to a **\$540 million** in loss of revenue for hotels

Maldives



Popular outbound countries for Chinese tourists have seen 30% - 75% drop in arrivals since the COVID-19 outbreak.

*Source: Press reports; McKinsey Global Institute
Pengpai News*

Is live-stream a solution for tourism?

During the COVID-19 outbreak, many scenic ares and museums used live-stream to increase exposure and attract tourists, which attracted a lot of traffic. This may be a major expansion of the virtual tourism market in China.



The live-stream of Gansu (甘肃) Province Museum on 23rd February 2020

900K Views **500K** Likes

- The number of views was over 50% the number of museum's visitors in 2019.
- The live-stream effectively increased exposure and the sales of cultural products during the epidemic.



The live-stream of Potala Palace on 1st March 2020

1 million+ Views

- Because of the COVID-19 outbreak, most Chinese people have stayed in their home for a month, but many still desire to travel. Live-stream made by scenic spots and live-stream platforms is an important way of entertainment in home.
- Even after the epidemic, the live-stream still can be watched by elderly and people with disabilities, it also can be used as a preview before travel.

Summary of COVID-19 impact on tourism



The short-term impact

- o The impact of tourism companies is more on **business and revenue**, rather than management.
- o At present, the operating activities of China's tourism industry have basically stagnated, which will have a great impact on the tourism industry in the short term, including sudden decline of business and a significant drop in revenue.



The long-term impact

- o China's tourism industry has reached a critical point of transformation, which means that **finding new business & growth points** will become a strategic priority.
- o Secondly, reducing the cost of enterprise management and adjusting the product / market strategy are also issues that enterprises must focus on.



Expected recovery in tourism consumer demand

- o After the COVID-19 epidemic, the long-term travel demand that has been suppressed may have a retaliatory rebound.
- o However, the haze brought by the epidemic has not completely subsided even when it's gone, people will consciously reduce aggregative activity, which will make for a longer recovery period.



Recovery cycle lengthened from global spread of epidemic

- o Recently, the epidemic has spread globally and will further **curb people's desire to leave the country**.
- o The outbound tourism market **recovery cycle will be extended again**. When the epidemic is under global control, some Asian countries will remain the top destination for the Chinese outbound travel.

Source: TravelDaily

05

F&B: Heavy losses and relying on delivery



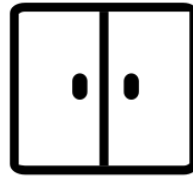
A heavy loss during the 2020 Chinese New Year

- The Chinese New Year is usually a hot season for the F&B industry, the total revenue of Chinese restaurants in 2019 CNY has reached 724.1 billion RMB (occupied 15.5% of the whole revenue in 2019).
- But, due to the Coronavirus outbreak during the 2020 Chinese New Year, most of the Chinese restaurants had to close their business, some local governments also issued an emergency notice to prohibit all restaurants from opening.



Around 78%

The Chinese restaurant industry lost 78% revenue during the 2020 CNY



More than 90%

Chinese restaurants temporarily closed all or part of stores during the 2020 CNY



Only 7%

Chinese restaurants continued their operations during the 2020 CNY

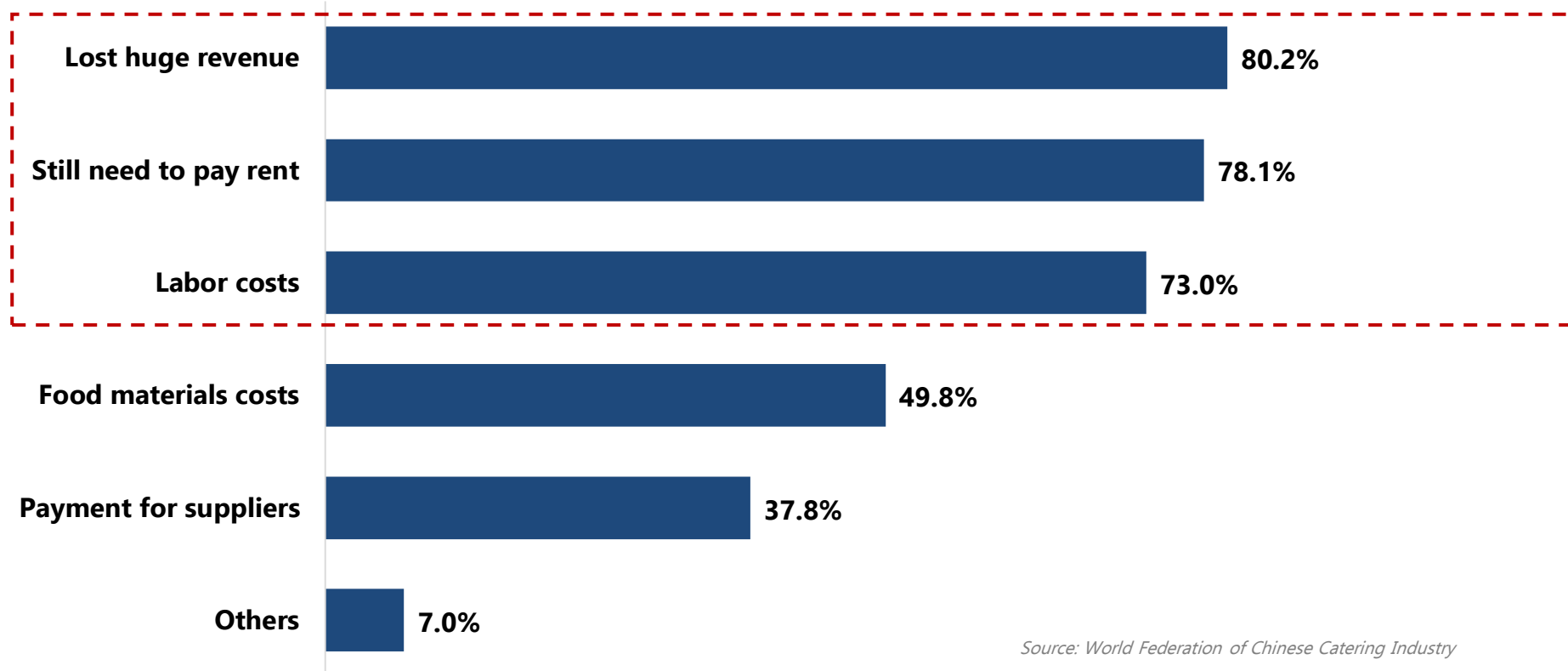
- Because of the Coronavirus outbreak, large catering brands have to reduce expense to balance their finance, such as permanently shut down some offline stores and redundancies.
- Many small restaurants are facing with the risk of bankrupt, since they have very fragile anti-risk capability.

Source: China Cuisine Association

Huge difficulties caused financial pressure

- The large revenue loss is the source to many more problems. Restaurants didn't have any revenue during the Coronavirus outbreak , but still need pay high rent and salary, thus they are facing **financial pressure**.
- At the same, many Chinese restaurants (around 62%) could not get rent reduction and they still need purchase epidemic prevention products, such as facemasks and thermometers.

The main difficulties of Chinese restaurants during the Coronavirus outbreak
(2020 February)



Source: World Federation of Chinese Catering Industry

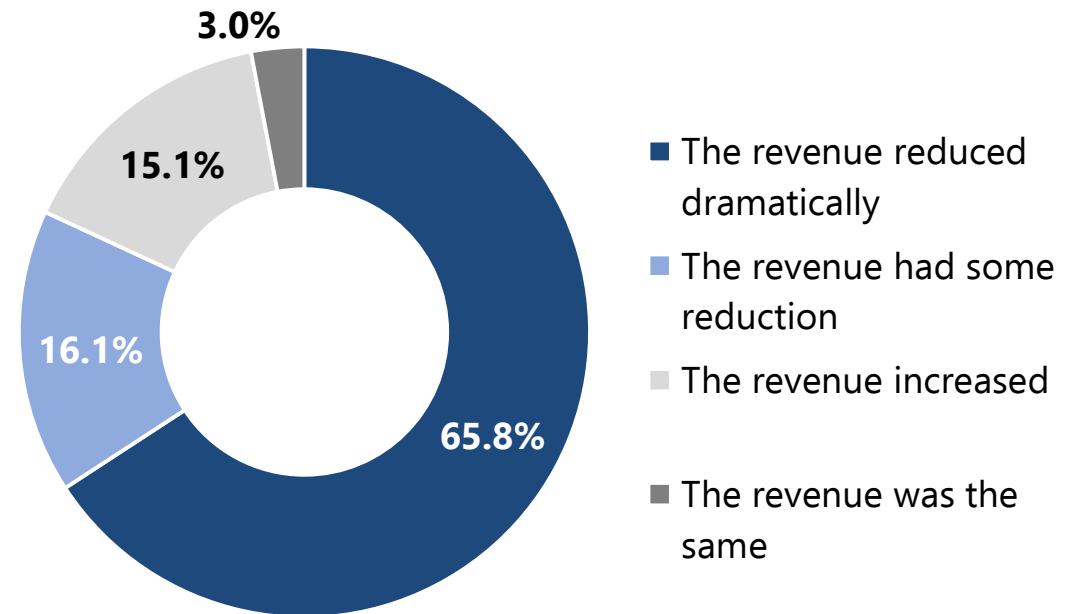
Delivery cannot save the F&B industry

Many resaturants tried to focus on delivery to get some profits, but the actually revenue of restaurants' order-out business is much less their normal business.

Why delivery cannot take companies out of the negative

- 1 Online orders decreased**
Because of the Coronavirus outbreak, many Chinese consumers prefer to cook by themselves since it can guarantee the safety.
- 2 Hard to deliver**
In order to reduce the risk of infection, many communities don't allow outsiders enter their gates and many cities started traffic restrictions, which made food delivery much harder.
- 3 Extra expense for delivery platforms**
Restaurants still need to pay commission to those take-out platforms, some platforms even increased the commission.

The revenue of Chinese restaurants' take-out business (2020 CNY compared with 2019 CNY)



Source: World Federation of Chinese Catering Industry

How Chinese restaurants manage the losses

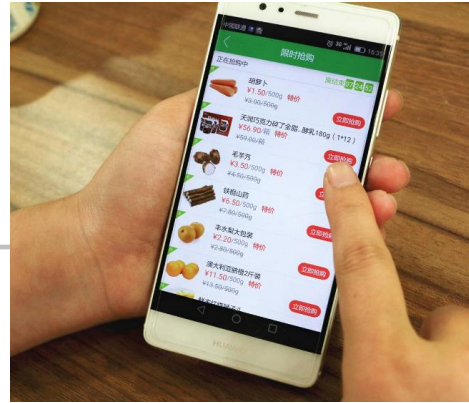
Destocking



- In order to reduce inventory, some restaurants sold food materials to consumers and communities at low price, such as QUANJUDE (全聚德).
- Some restaurants provide free food to medical staff and government units in epidemic areas.

Source: China Cuisine Association

Cooperation



- From 1st February, many restaurants temporarily lend employees to Hema (盒马鲜生) which relieved their labor costs.
- At the same time, KFC launched a contactless delivery service on food ordering platforms, such as Meituan (美团).

Finance



- Because of a lack of funds, some restaurants tried to seek investments and loans. For instance, Pudong bank offered 120 million RMB loans to Xibei (西贝) restaurant.
- The large food ordering platform Meituan (美团) worked with banks to finance some restaurants.

The impact of Coronavirus on restaurant chains | Yum China case study

2020 Q1 Yum China Revenue and Expenses Hypothesis (Million USD)

Revenue	2019 Q1	2020 Q1	
		Pessimistic Hypothesis	Optimistic Hypothesis
Sales	2089	731	1,096
Franchise fees	39	39	39
Rev. from transactions with franchisees and affiliates	170	119	170
Other	6	6	6
Total revenue	2304	946	1,311
Expenses	2019 Q1	Pessimistic Hypothesis	Optimistic Hypothesis
Food and paper	638	223	332
Employee payroll	466	420	396
Occupancy	599	599	450
Admin & other	298	298	298
Total expenses	2001	1540	1,476
Operating Profit	303	-594	-165

Variables in Yum China's profit

- Stores Closed**
 Yum China has reported **closing 30% of stores**, and the remaining stores are making **50% the revenue** as the same time last year.
- Employee pay**
 Managers will **negotiate with employees** to take unpaid leave. However, due to China's **strict layoff laws** and the likely **need for more administration**, payroll expenses **will not decrease in proportion to sales**. We estimate 10-15%.
- Negotiating rent**
 Some malls and **landlords may forgive February's rent**. Stores may also negotiate with landlords. At best, we estimate half of stores were **rent-free in Feb.** and **will have discounts** in March.
- Speed of recovery**
 When sales recover depends on the length of the outbreak. Our **optimistic estimate** is sales start to recover **mid-March**.

The impact of Coronavirus on restaurant chains | Yum China case study

Variables in Yum China's profit from Q2 – Q4

1

Employee pay

Most of Yum China's expenses go to payroll and employee benefits. Chinese layoff laws are strict and the government is discouraging layoffs during the outbreak, putting pressure on expenses.

2

Franchises closing

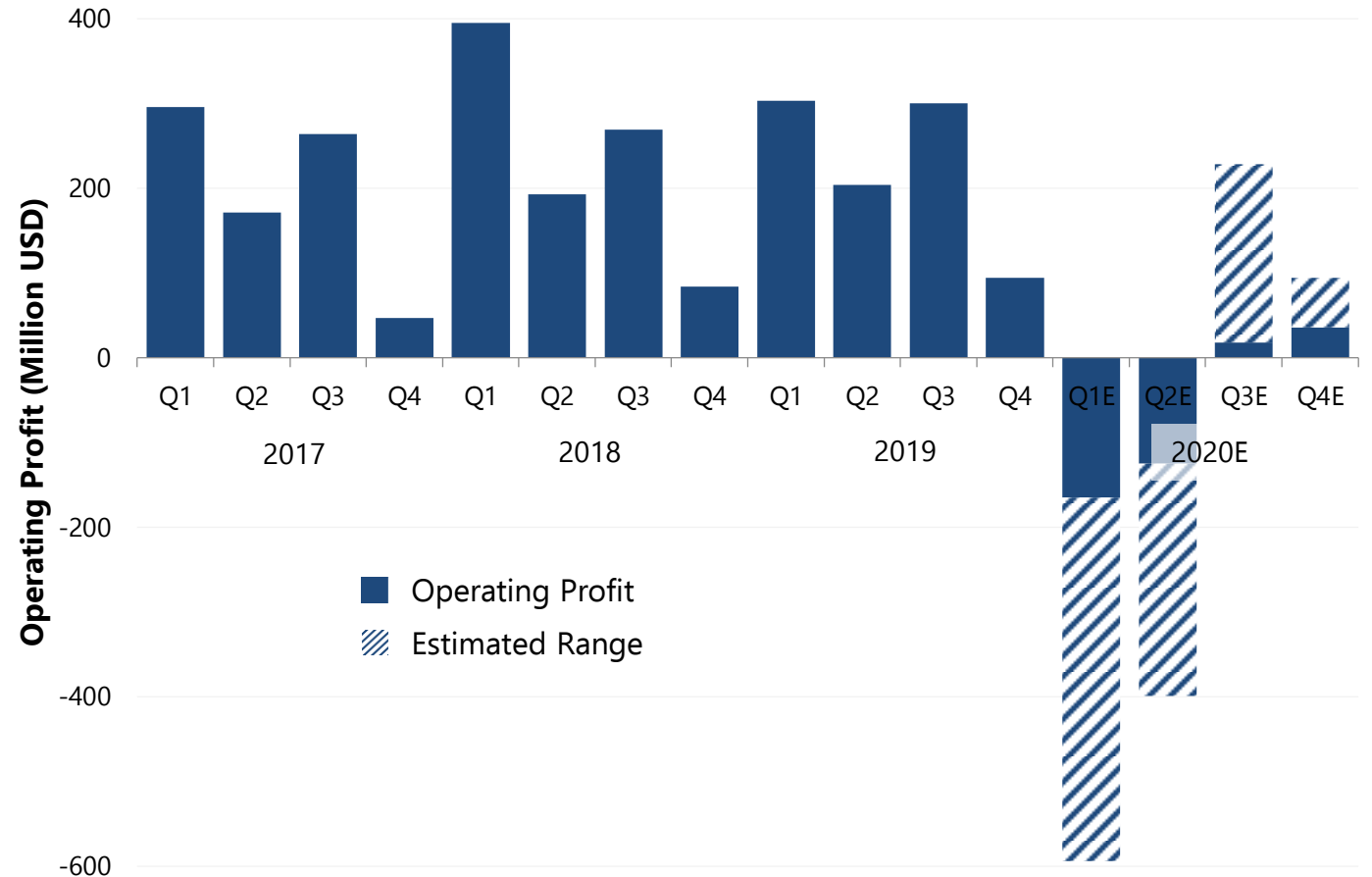
Certain restaurants may be making even less than others, causing them to close down after first quarter.

3

Administrative costs

Administrative costs are unlikely to decrease during and after the outbreak, due to the need for crisis management.

Yum China operating profit estimations



Data Source: Yum China quarterly reports and daxue consulting's calculations
Tax changes and investments have not been included in calculations

The impact of Coronavirus on coffee chains | Starbucks case study

Variables in Starbuck's profit

2020 Q1 Yum China Revenue and Expenses Hypothesis (Million USD)

Revenue	2019 Q1	2020 Q1	
		Pessimistic Hypothesis	Optimistic Hypothesis
Total Revenue	703	296.6	336.6
Expenses	2019 Q1	Pessimistic Hypothesis	Optimistic Hypothesis
Cost of Sales	298	197.4	194.7
Store Operating Expenses	201	123.3	80.9
Other Operating Expenses	3	1.7	1.9
Depreciation Expenses	66	66.2	66.2
Administrative Expenses	32	32.5	32.5
Total Expenses	600	421.2	376.1
Operating Profit	103	-124.6	-39.5

1

Stores Closed

Starbucks has reported closing **more than 50%** of stores during the outbreak. A report from Fisheye coffee has claimed that the remained open stores are making 50% of the normal sales. Perishable materials like milk and cream purchased before the outbreak have gone to waste.

2

Employee pay

Managers will **negotiate with employees** to take unpaid leave. However, due to China's **strict layoff laws** and the likely **need for more administration**, payroll expenses **will not decrease in proportion to sales**. We estimate 10-15%.

3

Negotiating rent

Rent accounts for **25% of operating expenses**. Many locations may get subsidies or have February rent forgiven. Starbucks may also negotiate rent with landlords.

4

Speed of recovery

When sales recover depends on the length of the outbreak. Our **optimistic estimate** is sales start to recover **mid-March**.

The impact of Coronavirus on coffee chains | Starbucks case study

Variables in Starbuck's profit from Q2 – Q4

1

Losing share to delivery competition

Because Starbucks is not on top of mind for coffee delivery, it is likely that during the Coronavirus outbreak customers ordered delivery from competition, which could influence consumption habits in the long term.

2

New Store Development

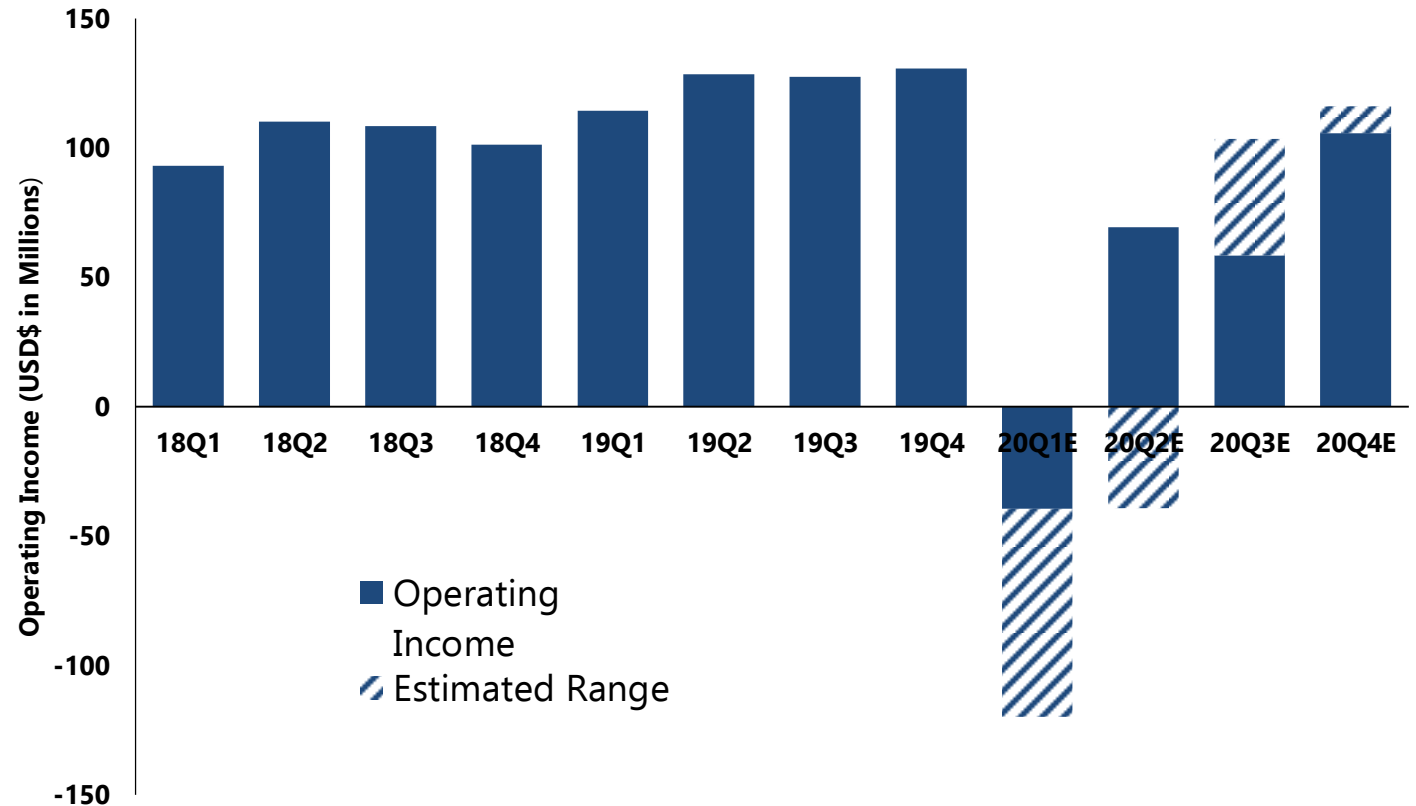
New store opening is an important factor contributing to Starbucks' revenue. The decrease of sales in Q1 will slow down new-store development in the long term.

3

Administrative Expenses

Administrative expenses are unlikely to decrease during the outbreak. Starbucks need to invest money to manage the crisis and to take preventive measures against epidemic.

Starbucks Quarterly Operating Income Estimation (China)



Data Source: Starbucks quarterly reports and daxue consulting's calculations
Tax changes and investments have not been included in calculations

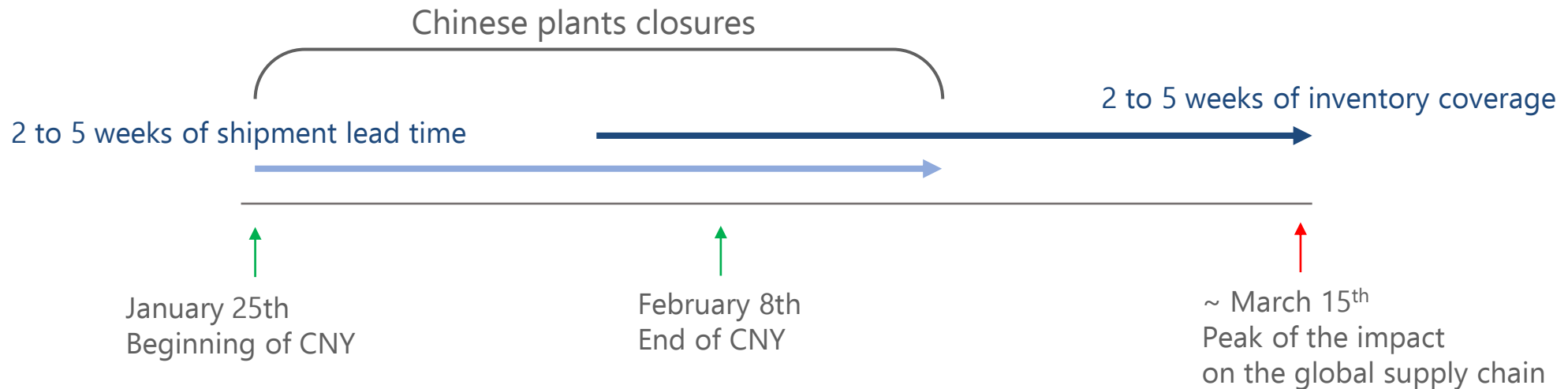
06

Supply Chain: What should businesses know about the COVID-19 impact



How Coronavirus will impact the Global Supply Chain by Mid-March

- Most Chinese manufacturing slowly started resuming operations at the end of February, but the delays could have a devastating impact on the global supply chain.
- For most companies, the inventory in stock will be enough to keep up with demand for two to five weeks. Shipping by sea to either the U.S. or Europe can take around 30 days. This implies that if Chinese plants stopped manufacturing prior to the beginning of the Chinese holiday on January 25, the last of their shipments arrived the last week of February.
- If lead time from China is shorter than 30 days, the disruption occurs earlier. This is already the case with Hyundai which announced on February 14th the suspension of its production lines from its plants in Korea.



Source: Harvard Business Review


Assessing the impact on electronics supply chains 1/2

Consider the following criteria to assess the level of disruption

- If most operations are in/near affected areas
- If products are highly customized, requires skilled talent, and/or specialized equipment/infrastructure
- If industry is already under stress
- If China serves a major role in the global supply chain
- If the industry tends to keep a higher level of component inventory

Most impacted sectors and their integration in the global supply chain

	Chinese share of global exports	Chinese share of gross output
Computer, electronic, optical products	30%	49%
Electrical equipment	28%	59%
Other machinering and equipment	28%	47%
Motor vehicles and trailers	5%	33%

Supply chain integration
 Low  High

Source: McKinsey report

Computer, electronic, optical/ electrical equipment/ other machinery:

- Operations are concentrated near the affected areas (~290 of about 800 plants named in Apple's global supplier list are located in regions that have delayed returning to work).
- Components are often heavily customized, making it challenging for factories to relocate outside of China in the short term.
- Intermediate products are deeply integrated in the global technology supply chain.

Assessing the impact on electronics supply chains 2/2

Manufacturers expect a five week delay from their electronics suppliers, and some companies expect delays longer than nine weeks. Overall, 84% are concerned about delays related to the outbreak.

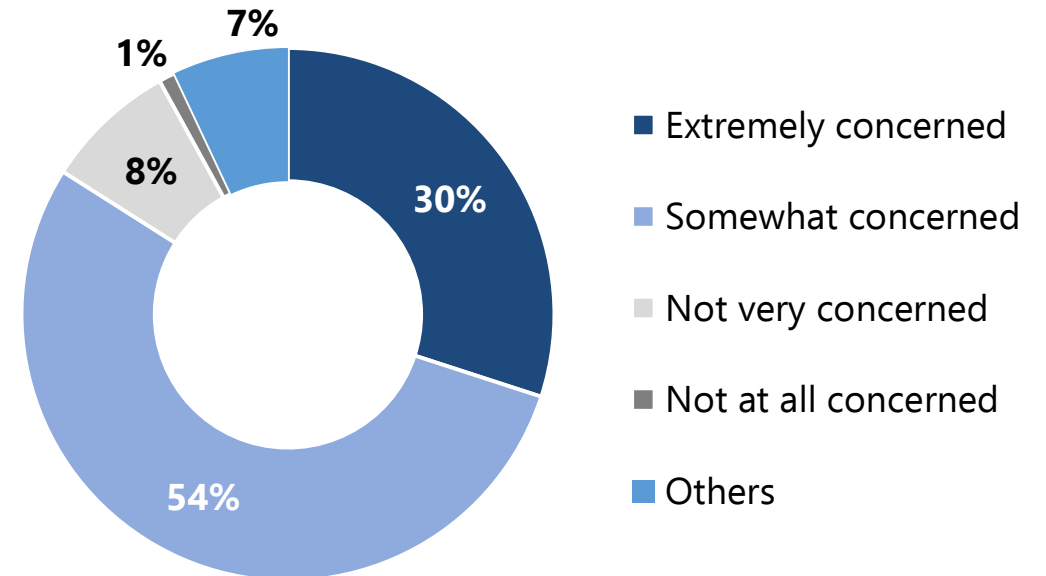
Major electronics companies warn that supply of finished products will be constrained by the coronavirus

- Apple warned that it would miss its estimate for March quarter revenue due to constrained supply of its products, which are largely manufactured in China.
- HP, the second largest PC maker, also cut its earnings guidance.
- Lenovo' COO Gianfranco Lanci said that "the entire industry will not have enough supply".

Source: IPC report, Apple, HP, Lenovo

Electronics Manufacturers and Suppliers worldwide are Concerned about the Impact of COVID-19

(Survey between February 11 and February 16*)



*responses provided by 150 electronics manufacturing companies and suppliers



07

Manufacturing: Lessons from the crisis

Manufacturing activities have been disrupted

Factories have been disrupted

As Chinese government shut down Wuhan and delayed the returning to work, many factories have to face the huge losses, limited supply chain and insufficient raw materials.

Labor-intensive manufacturers (such as textile, clothing and plastic products) are significantly impacted, small and medium-size factories are worst-hit areas.

Health industry avoided negative impact

However, health and medicine related products have a huge demand during the COVID-19 outbreak, such as facemasks and medical equipment.

Consumers' attention to health care and health industry will be greatly enhanced even after the epidemic.

Impact on China's production growth

Estimated annual GDP growth rates under three possible scenarios

Possible Scenarios	Q1 2020	H1 2020	H2 2020	Full Year
COVID-19 peaks in Feb/Mar with quick recovery outside Hubei	5.3%	5.6%	6.2%	5.9%
COVID-19 peaks in Feb/Mar with gradual recovery outside Hubei	4.2%	5.0%	6.3%	5.7%
COVID-19 peaks in April with disruption into March	3.5%	4.6%	6.5%	5.6%

According to Morgan Stanley's report in mid-February, Chinese production had only reached 30% to 50% percent of the usual levels.



Since China is the major part of the global manufacturing network, the unrecovered production line will hurt other markets' capable of producing.

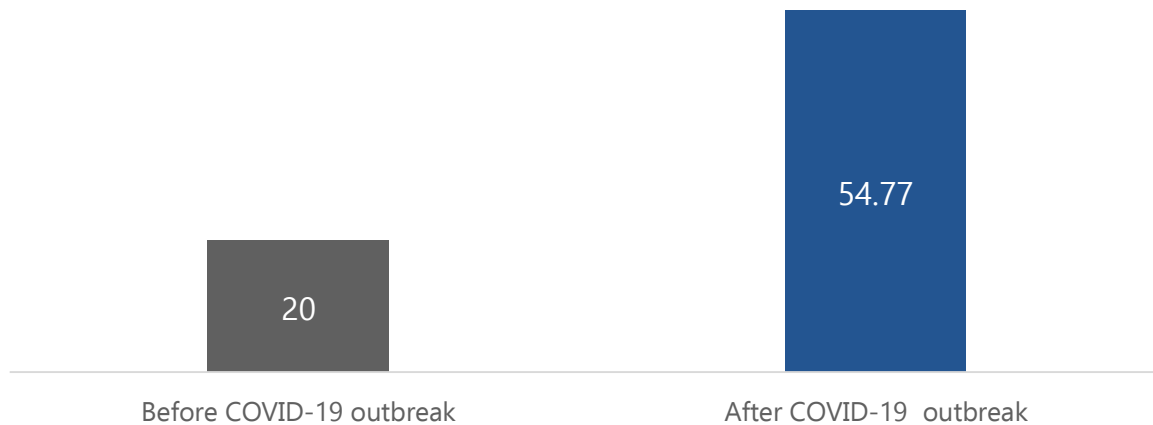
Source: NBS, Morgan Stanley Research

Mask manufacturing demand

- The COVID-19 outbreak caused a large shortage in protective masks. Although many companies have started cross-border production, the shortage of raw materials could not be resolved in the short term. Along with the resumption of work and the ongoing outbreak overseas, short-term global mask shortages will continue.
- China contributes 50% of global mask production. After the COVID-19 outbreak, the demand of masks has risen rapidly. The production capacity of masks has increased, and price has risen. Mask related manufacturers will benefit during the period.
- While most believe that masks are a short-term demand. Expanding production would result in oversupply after the outbreak recession. Manufacturers without medical production qualification would be eliminated after the outbreak.

Daily output of masks production in China

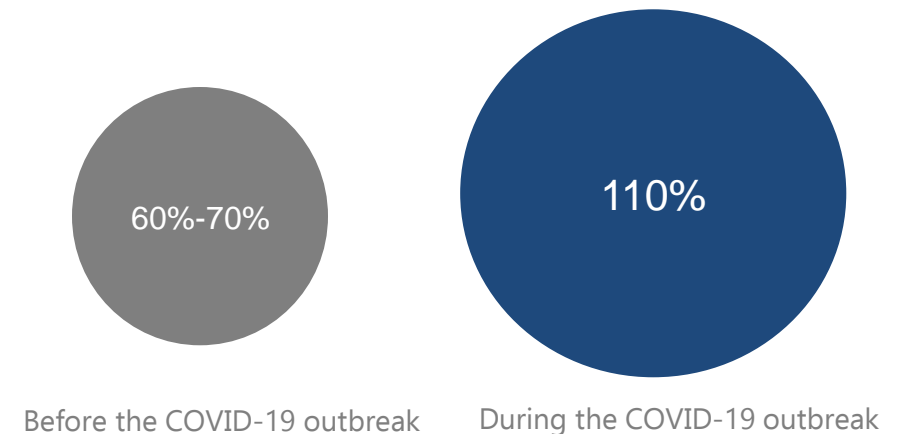
million, data provided on February 24, 2020



Source: Dazhong Bond Newspaper, Sina Finance

Industrial-capacity utilization of masks

Data provided on February 24, 2020



China is getting back to work

Ratio of industrial enterprises resuming operations by province
(Enterprises of at least 20 million revenue per year)

As of February 23, 2020



- The epidemic prevention and control situation in Zhejiang has stabilized and improved. The diagnosis has been single digits since February 14th, laying the foundation for resumption of work and production.
- Zhejiang government has offered substantial rewards—giving employees cash rewards to encourage rework.
- Therefore, Zhejiang reached 98.6% ratio of returning to work in industrial enterprises above designated size.



The week after 9th February is the time for migrant workers to return to work, small and medium-sized enterprises need to resume production to boost cash flow.



Considering that small and medium-sized enterprises are the main force to absorb the employment of migrant workers, it is important for local governments to strengthen policy guidance and financial support.



Source: People.cn

Source: Sina Finance

Manufacturing learning points from COVID-19 (1/3)

Although COVID-19 is a black swan event in the manufacturing industry, it is likely to instill positive changes in the long-term

More focus on health, safety and environment management

If there is cross-infection between employees, it could be a disaster for the enterprise. Therefore, the COVID-19 outbreak will promote manufacturing enterprises to strengthen the management of employees' health, safety and environment, and to improve infection early warning mechanisms.

Promote smart manufacturing, employ more high-tech workers

In the long run, the leaders of manufacturing companies should inevitably pay more attention to intelligent manufacturing and use less manual work with more flexible production. Also, they should hire more highly-skilled and multi-skilled workers which can better respond to labor fluctuations.



Pictures are from Sohu.com

Manufacturing learning points from COVID-19 (2/3)



Embrace digital workplaces

Many companies chose to work online after the Chinese New Year holiday. Therefore manufacturing enterprises will demand software such as task management, project management, and workflow management for remote collaboration. In this digital transition, enterprises will pay more attention to practical applications of technology such as business intelligence, big data analysis and AI.



Promote remote intelligence service

When unexpected events such as virus outbreaks, earthquakes, and typhoons occur, maintenance services cannot easily reach factories or offices. Therefore, there is a need for remote intelligent services and early warning monitoring systems.



Pictures are from Sohu.com

Manufacturing learning points from COVID-19 (3/3)



Further development of the life science industry

Through this crisis, China will pay more attention to the development of drugs and reagents for the detection, suppression and treatment of viruses. Influenza vaccines will also be more widespread. Therefore, more pharmaceutical companies will research and develop innovative drugs and medical devices.



Update the concept of smart city, home and transportation

After the outbreak, more automotive companies will promote technology related to the health management of drivers and advancing smart car solutions.

The COVID-19 outbreak will not only have a profound impact on customer service industry and production service industry in China, but also a huge impact on the development of the manufacturing industry.



Pictures are from Sohu.com

Manufacturing case: Foxconn

- Foxconn had intended to resume production at Longhua on February 10th, but authorities requested to postpone resuming.
- Following the local government regulations, companies must: set up infrared thermometers and have a two-week supply of surgical masks and disinfectant before resuming operations.
- It would take them at least one to two months to return to normal capacity. Furthermore, only local staff were able to return to work at first, but many production line workers are migrant workers and may encounter barriers to returning to their work location.
- Therefore, many clients of Foxconn are also suffered from its unrecovered production capacity. For example, the iPhone 9 release date will be postponed.

Source: CNBC, NIKKEI Asian Review



Foxconn: The world's largest electronics contract manufacturer

The impact of Coronavirus on Manufacturing | Foxconn case study

Variables in Foxconn's profit

2020 Q1 Foxconn Revenue and Expenses Hypothesis (Million USD)

Revenue	2019 Q1	2020 Q1	
		Pessimistic Hypothesis	Optimistic Hypothesis
Total Revenue	33738	21,939.6	27,766
2019 Q1 Expenses (million USD)		Pessimistic Hypothesis	Optimistic Hypothesis
Operating Costs	31872	21,194.6	26,526.9
Selling Expenses	217	132.3	162.2
Administrative Expenses	562	593.8	582.6
R&D Expenses	572	571.9	571.9
Total Expenses	3322	22,492.6	27,843.5
Operating Profit	516	-553	-77.6

1

Revenue breakdown by product

In 2019, Foxconn produced consumer products (43% of Q1 production), corporate products (27%), computing products (24%), and components (6%). Corporate products, including server and networks, are less likely to be influenced by the outbreak due to the increase of remote work.

2

Employee turnover

Foxconn already has a high employee turnover rate and normally has a recruiting season after the Chinese New Year. This year, they have reported having trouble finding workers after the outbreak. Expenses to recruiting firms will rise along with expenses for overtime and monetary rewards to attract workers.

3

Administrative expenses

The Administrative Expenses will increase due to anti-epidemic measures and crisis management, including checking the health status of workers everyday.

4

Recovery of productivity level

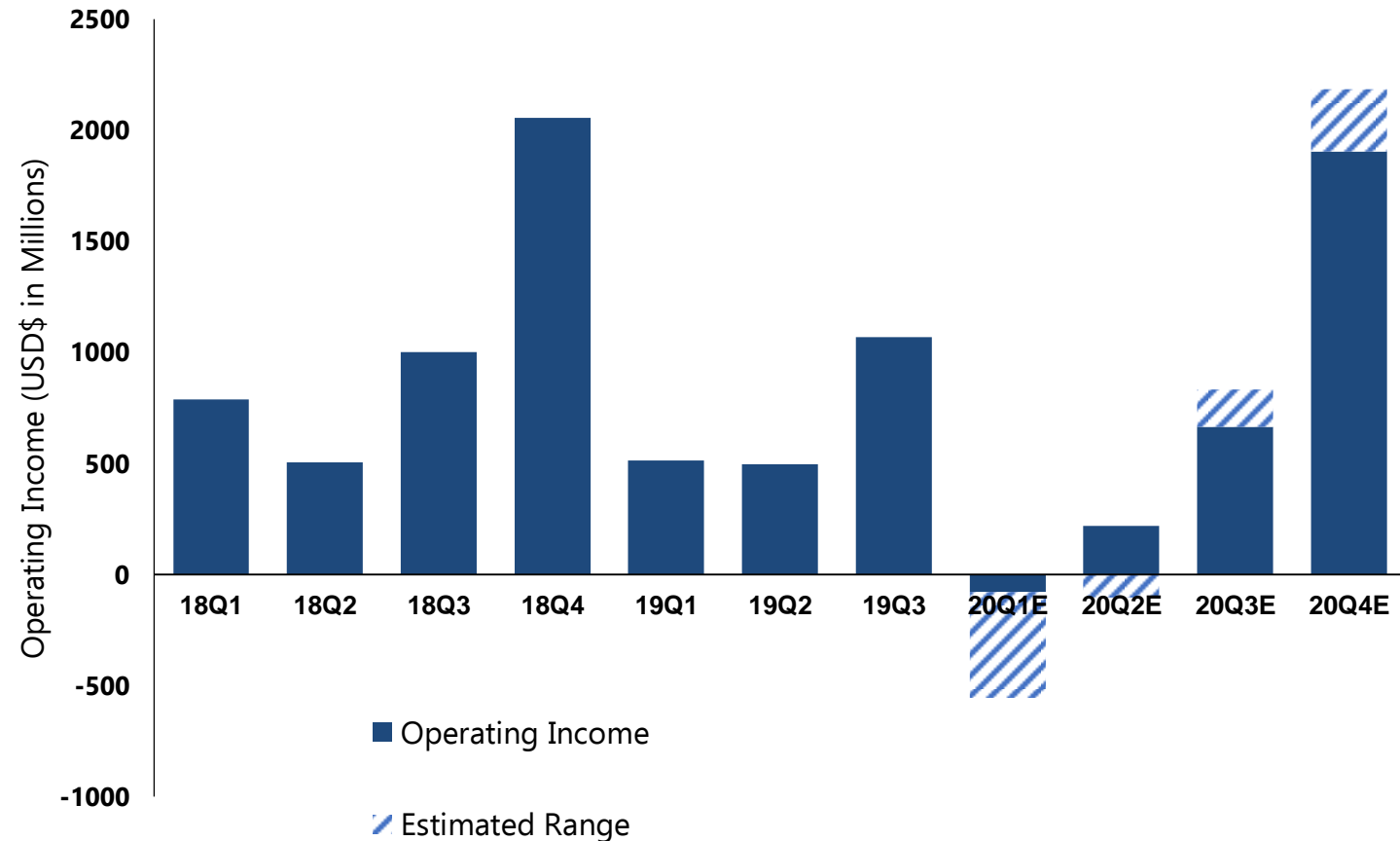
Although all factories re-opened between Feb 10-17th, the productivity of the factories is unlikely to be at full capacity due to the ability of workstaff to come to work, and barriers in the supply chain and logistics. The earliest we estimate factories will be at full productivity is Q2.

The impact of Coronavirus on Manufacturing | Foxconn case study

Variables in Foxconn's China profit from Q2 – Q4

- 1 Moving manufacturing out of country**
Customers and Foxconn itself may be incentivized to move operations outside of mainland China
- 2 Lower demand from customers**
Foxconn is a supplier for companies like Apple whose revenue will also decline due to the slow pace of production during the outbreak and a possible drop in demand globally.
- 3 COVID-19 impact on suppliers**
As a part of a complicated, global supply chain, Foxconn may encounter issues with their suppliers as the outbreak moves outside of China and affects the global supply chain.

Foxconn Quarterly Operating Income Estimation



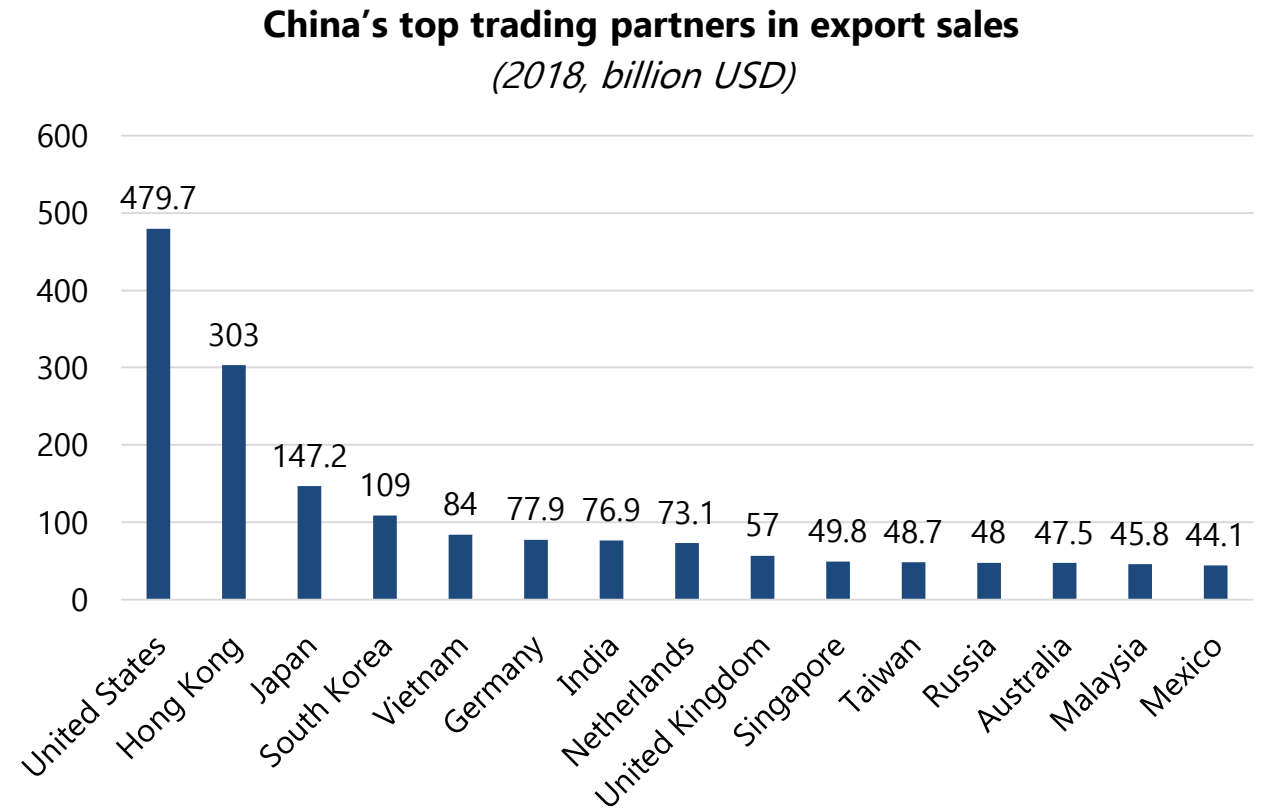
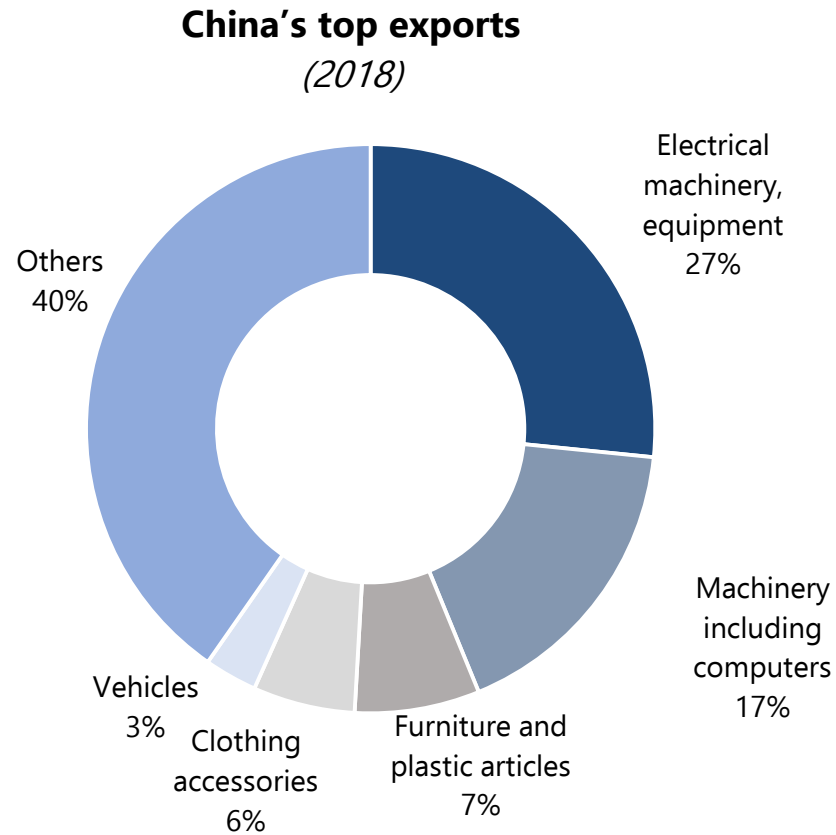
Data Source: Hon Hai quarterly reports and daxue consulting's calculations
Tax changes and investments have not been included in calculations

08

What should exporters to China know

COVID-19 to impact China's trading partners

- After a slowdown in 2016, China's imports and exports grew despite the trade war. Due to manufacturing and supply chain shortages during the epidemic, this growth rate is expected to slow down. A rebound in export activities may take place in April, while import activities would slow down until July.
- China's top trading partners will suffer from the impact of the coronavirus on the main Chinese export products such as computers, broadcasting equipment, integrated circuits, and smartphones.



Source: World top exports, Trading economics

Congested Transport Routes impact Imports and Exports

- The recovery of the supply chain is taken aback by the work resumption ratio, which climbed to 80% for Chinese factories. Staff shortages and provinces level restriction slow shipments across the country, making transport routes congested.
- While there are no restrictions policies about Chinese exported goods in other countries, imports to China are suffering from very limited air freight capacity and congested Chinese hovers.



Overall trucking supply resumed operation at around 60% and is a bit higher in the Southern areas of China.



Overall intercontinental rail capacity has recovered to 60%. Some corridors are fully booked for the coming two weeks.



Ningbo, Shanghai, and Tianjin hovers report maximum capacity in their terminals of refrigerated and dangerous products. Sea freight companies recommend avoiding congested ports for transit time-sensitive, perishable commodities.



Most commercial airlines that make about 5 to 10% of their revenue from hauling freight remain suspended until mid-April. The capacity situation is becoming critical, especially between the Northern areas of China and North America.

Source: Bansard International, Maersk

How to improve supply chain during the epidemic

Understand exposure

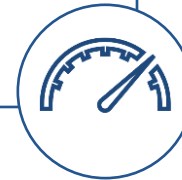
- Identify origin of supply to identify severity of risk.
- Enhance communication to employees on infection risk concerns.
- Determine impacted demand to determine required supply.



Source: McKinsey

Anticipate shortages

- Determine available inventory and consider transport alternatives.
- Pre-book air freight/rail capacity and try to avoid congested routes.



Find alternative options

Review alternatives such as moving supply to non-China countries if multi-sourced, or developing new supplies.



09

How the Chinese government is reducing the burden on enterprises

Policy support from the Chinese government (1/2)

During the COVID-19 outbreak, stop production, isolation of staff and transportation restriction caused enormous economic losses for enterprises. Policy support and costs reduction are desperately needs. The Chinese local governments released some polices to relieve this situation.

Financial support

- Shenzhen: Banking institutions are encouraged to lower lending rates and exempt or reduce commission charge at an appropriate level, and strive to cut the comprehensive financing costs of newly issued inclusive loans made to small and micro businesses by 0.5 percentage point compared with that of 2019.

Keep employees in their jobs

- Shanghai: 50% of the total amount of unemployment insurance paid by companies and employees in the previous year shall be returned if the enterprises do not lay off employees.
- Beijing: the government implemented flexible employment policies that allow enterprises to arrange annual vacation rationally. Additionally, managers can negotiate with employees to adjust salary during the COVID-19 outbreak or reduce working hours.

Social Insurance

- Suzhou: After the approval of government, the pension insurance, unemployment insurance and work-related injury insurance can be postponed for up to 6 months. Enterprises can have more time to reduce funding pressure.

Source: Local government, Human Resource and Social Security Bureau

Policy support from the Chinese government (2/2)

Rent subsidy

- Shenzhen: For non-state-owned enterprises, scientific research institutions, medical institutions and individual industrial and commercial households that rent property (including factory buildings, innovative industrial houses, office buildings) held by municipal and district governments and municipal and District State-owned enterprises, 2-month rent shall be exempted.
-

Tax concessions

- Suzhou: If the coronavirus causes enterprises to suffer major losses, meaning their normal production and operation activities are greatly affected, or they have difficulty paying taxes, then the enterprise can apply for relief.
-

Other subsidies

- Shanghai: For enterprises affected by the coronavirus, if they organize employees to participate in online training during the shutdown period, the training shall be included in the scope of enterprise training and subsidized by local education additional special funds in each district, and they can enjoy 95% subsidy. E-commerce and new enterprises also can receive online training subsidies.

Sources: Local Government, Human Resource and Social Security Bureau

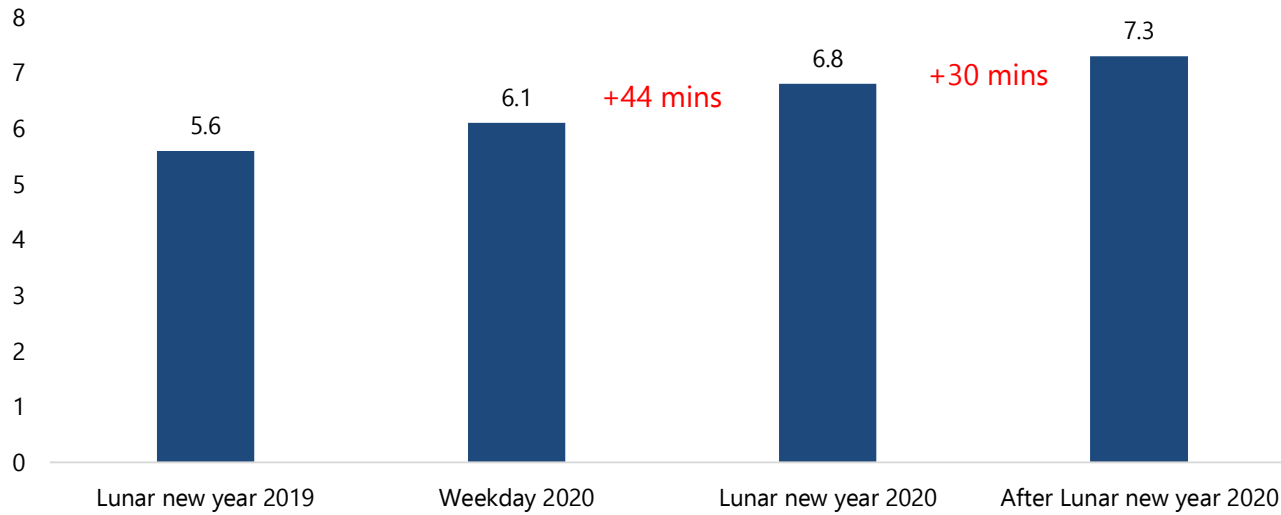
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Long-term impact

The epidemic further boosted digitalization

- The mobile Internet traffic growth was stabilizing in 2019, however, the COVID-19 outbreak pushed it to reach a new high. During the epidemic, both the number of users and the time spent online had a dramatic increase. mobile social networking, news and information, medical services, short videos, mobile games, fresh e-commerce and other sectors have achieved considerable development.
- In the mean time, some traditionally offline industries have turned to e-commerce to relieve losses. This may help digital industries discover new users who were introduced to the digital world because of the outbreak.

Average daily internet use per capita
(2019-2020, hours)



Source: QuestMobile

2.72
million
Terabytes

The total mobile Internet traffic during the 2020 CNY, which increased 36.4% compared with 2019 CNY.

During the 2020 CNY, the total used time of all mobile apps increased 26% compared with 2019 CNY

337
million

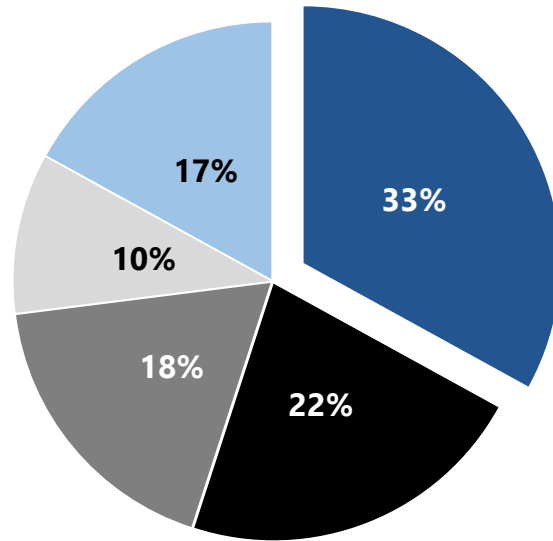
The number of daily active mobile shoppers during the 2020 CNY, which increased 14.6% compared with 2019 CNY.

Lowered consumer confidence could affect the luxury market

- Chinese consumers make up more than 50% of global growth in luxury goods spending between 2012 to 2018.
- In 2018, Chinese consumers spent \$115 billion on luxury items, accounting for more than 30% of the global luxury market.

Global power of the luxury market in 2018

■ Chinese ■ American ■ Europeans ■ Japanese ■ Others



Source: Press reports; McKinsey Global Institute
Barrons, Shanghai Jiao Tong University

- COVID-19 is a downturn to the global luxury market. In Shanghai, Beijing, Shenzhen, Guangzhou and Wuhan, the passenger flow in large shopping malls and luxury brands stores declined more than 80% during the 2020 CNY.



- Also, due to the COVID-19, most Chinese consumers are more focus on healthy and rational consumption, many luxury products buyers plan to spend less on luxury goods, more on medical products.
- When COVID-19 get controlled, this trend may still continue for a while.

Big data innovation driven by the COVID-19

The epidemic promoted China's big data technology

In the past, the government and big data platforms were like data islands, and they don't share info with each other. However, this situation changed by the epidemic.

For example, more than 20 provinces' governments worked with technology companies to build "epidemic prevention system" to report related data, epidemic feedback, quickly find and isolate suspected cases, etc.

The cooperation between government and big data platforms is promoting the practical application of big data in public crisis management and driving more technology innovation.



Chinese citizens started to learn and use big data platforms during the epidemic

Big data technology is frequently used in China's business activities. But, many common citizens were not familiar with big data. The epidemic promoted the public awareness of big data.

During the epidemic, people can view real-time data reports created by big data firms about the epidemic to understand the local and national situation.

Along with the development of the epidemic, more Chinese people are getting used to using big data tools in their daily lives, which speed up the process of digital life.

AI developments during the COVID-19 outbreak

The epidemic promoted the actual use of artificial intelligence products in medical and public safety areas.

Helping with the diagnosis



- In order to improve the efficiency of the diagnosis for COVID-19, Beijing Haidian hospital is using an AI assisted diagnosis system that can process 300 chest X-ray in 10 seconds.
- The Zhejiang disease control center used an AI genomic testing and analysis platform that greatly reduced the time of suspected cases analysis.

Delivery



- Many consumers fear the coronavirus cast a shadow over the food delivery industry, several companies have announced robot delivery-related services.
- JD launched autonomous delivery robots to reduce human-to-human contact during the Coronavirus outbreak.

Helping control the spread of the epidemic



- AI medical robots have started to work in Wuhan's hospitals, they help doctors and nurses with disinfection, cleaning and delivering medicine to reduce cross infection.
- The AI temperature detection system is used in body temperature detection stations to reduce the risk of virus transmission.

Financial assets may surpass fixed assets

The crisis offered time and space to financial assets purchasing

Due to the COVID-19 outbreak, most Chinese people have to stay at home, real estate transactions are almost completely frozen. However, financial assets are not limited by places, the bond market has been very active since the Chinese New Year. The Chinese people have more time to invest bank financing products and bonds.

More savings of residents is beneficial to financial assets

In the past several years, the Chinese urban residents borrowed heavily to purchase real estate. But the COVID-19 lowered many people's earnings estimates, their pressure on debt repayment rose sharply. Thus, borrowing will be reduced and net savings of China's urban citizens may rise. Growing savings may increase the demand for investments with stable income, such as bank financing and bond funds.



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