

Viral views

Consumer patterns in the wake of Covid-19

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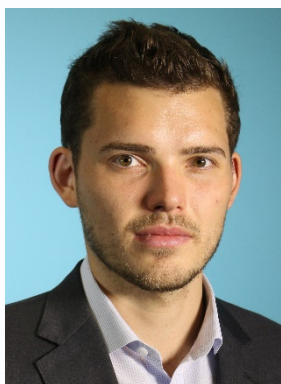
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How is Covid-19 impacting activity on the ground in China? That has been the most consistent question clients have asked us to help them with so far in 2020.

The virus began to gain transmission momentum just as the nation was preparing for its most important holiday, Chinese new year (CNY), an epidemiologist's nightmare. It was therefore no surprise that as February arrived and CNY ended, the seasonal mass return of students and workers to schools, offices and factories was delayed and public events cancelled as the nation went into lockdown to focus on containment.

The burning questions became: where has the impact been most acute and when will consumer and broader economic activity return?

And who better to answer them than *China Reality Research*, which is there to provide timely updates on important matters for which reliable data are difficult to source. There is no current issue more in need of answers from this team than decoding the unfolding impact of Covid-19 on the ground in China, which is exactly what the report seeks to do.

With many corporations running on reduced or remote staff, we were faced with the hurdle of getting nationwide, reliable data in a timely manner. Reliable SME surveys are hard to execute under such conditions. As such, we chose to go with a consumer survey that would allow us to act quickly. Drawing on an important link between consumers and companies - the jobs that pay their

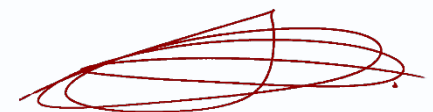
incomes - we were even able to reverse engineer some valuable enterprise insights from our consumer-oriented questionnaire.

From 14-19 February, the CRR team surveyed 1,600 people from more than 120 cities across China, representing a broad cross-section of society, not just geographically, but also along industry employment and age cohort lines. This includes direct responses from consumers living in the most heavily impacted cities. As such, it offers a rare, near real-time glimpse into how consumer behaviour has changed and how future habits are being shaped.

Aggregate activity has, of course, slowed significantly. However, there are pockets of opportunity to be found, from increased reliance on online education and healthcare platforms to the channels through which consumers purchase basic goods and services, and there were even counter-intuitive beneficiaries - such as the 18% of our respondents whose desire to buy property increased. What is most clear is that the effects have been profound and pervasive. Less clear, is where short-term disruption will morph into long-term change.

This report offers CLSA clients the best insight yet on how to assess the immediate and near-term outlook. We highly recommend you read it, hope you find it useful and look forward to your feedback on what follow-up work will ensure the CRR team and CLSA at large remain a crucial partner in your quest for successful investment in Asia.

Yours sincerely,



Shaun Cochran

Executive summary

Since Covid-19 reared its ugly head, the change in consumer consumption patterns has been palpable. Travel restrictions, work-from-home policies and safety fears have people holed up at home, forcing habits to change in the short term. Online platforms specialising in fresh-food delivery, education and healthcare have experienced an influx of new customers, some of whom are likely to stick. Meanwhile, traditional industries, such as wet markets and modern grocery retail, face unprecedented disruption due to the outbreak.

We interviewed 1,600 consumers across 120 tier-1, -2 and -3 Chinese cities to gauge the temperature on the ground and the extent of behavioural change across sectors longer term.

Looking at the data, 96% of respondents remain concerned about contracting the virus, although almost three-quarters believe the impact on their daily lives will dissipate within the next eight weeks. Transport networks have slowed dramatically, with 83% of our panel seeing restraints on bus networks, and 75% experiencing restrictions for ride-sharing apps.

At an industry level, the economic shockwaves are similarly intense, with 68% of the panel reporting the companies they work for are closed. However, 81% of workers continue to receive full salaries, which bodes well for consumer spending once the situation improves. The manufacturing sector is beginning to reopen, albeit slowly and at varying capacities, with 25% of our panel reporting that their factories would remain closed past 24 February.

Chinese tourists are also staying home, with 77% of our respondents cancelling trips. Encouragingly, 73% said they would rebook, and almost three-quarters aim to travel within three months of the government announcing a relaxation of current measures, validating rhetoric that pent-up demand will drive a rapid recovery in the sector.

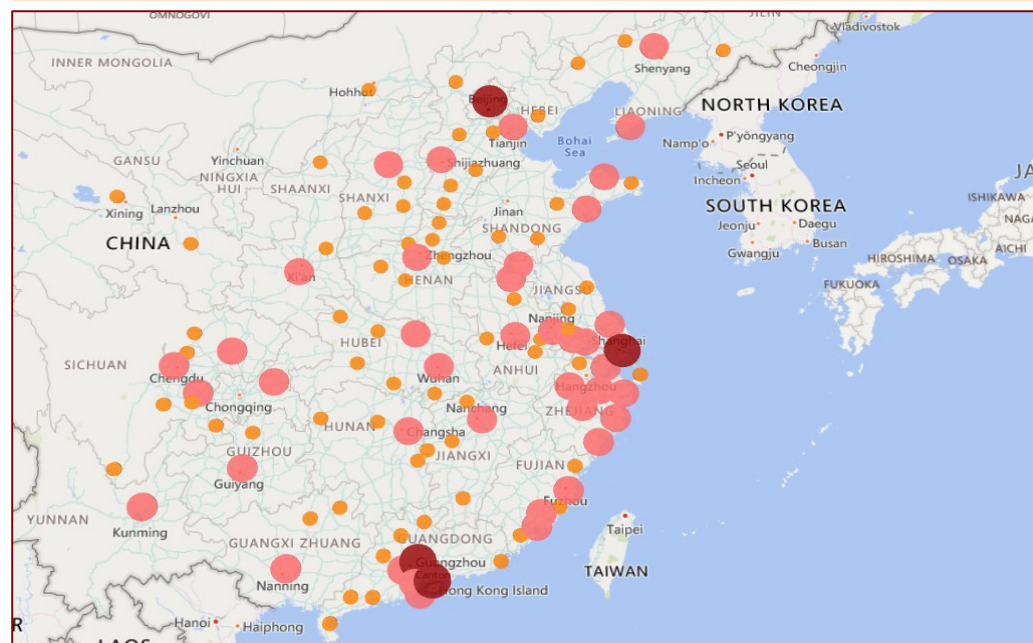
Short-term pressure on discretionary items remains intense. Luxury has taken a significant hit, with 86% of the panel delaying the purchase of suitcases and handbags, while 85% have put off buying watches and jewellery.

We see less impact on the property segment, although 51% of potential homebuyers say they will delay their purchases to 2021. However, demand for real-estate investment remains firm, with 73% of respondents maintaining or increasing their interest.

Changing eating habits are clearly amplified as Chinese consumers avoid venturing out, with 83% of respondents eating more home-cooked meals. Half of our surveyed group indicate an increase in using online-grocery stores, versus less than 10% who say online was their preferred fresh-food shopping channel prior to the outbreak. Only 7% of our panel have increased the number of times they eat out, while 52% have reduced food deliveries.

Most pertinent, forced and rapid adoption of new-economy technologies and services is creating lasting opportunities. Some 77% of our panel believe online healthcare platforms could meet some or all of their basic needs beyond the immediate crisis. At the same time, 55% of respondents have signed up to online-tutoring classes, and a sticky 83% indicate they will continue these courses after things return to normal.

CRR survey covered more than 120 cities



Key findings

- 89% Measuring the impact**
The vast majority of our panel reported that the outbreak is still causing a moderate to significant impact to their daily lives.
- 73% How long will it last?**
Almost three-quarters predicted the outbreak's disruption to their daily lives to will dissipate over the next eight weeks.
- 83% Transit restrictions**
Most of our respondents reported restrictions on bus services (83%) and more than half reported restrictions on private automobiles.
- 25% Getting back to work**
Only 25% of respondents working in the manufacturing sector said their companies would remain closed past 24 February, versus the 66% that were still closed on 3 February.
- 81% Still getting paid**
Encouragingly for consumer spending, 81% of the 68% of our panel that was not able to go back to work after the CNY holiday were still being paid their full salaries.
- 73% Back in the air**
Of the 77% of our panel that were forced to cancel trips as a result of the outbreak, 73% said they would be rescheduling once the government announced it is safe to travel.
- 61% Retail is under extreme pressure**
Roughly 45-60% of our panel has cut spending on clothing (61%), footwear (56%), cosmetics (50%), wine (50%) and baijiu (48%) since the start of the outbreak.
- 44% CNY spending disruption**
Our panel's CNY spending for gifts was cut by more than half, on average respondents spent only (44%) Rmb3,275 of the Rmb7,385 planned before the outbreak.

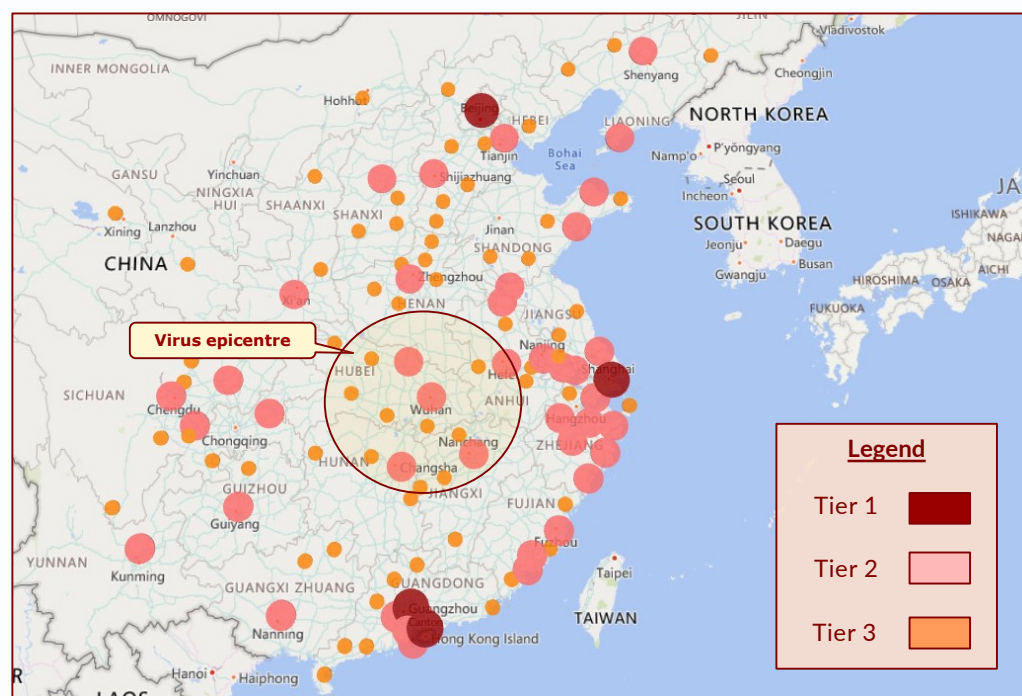
- 85% Luxury hit hard**
Of our panel that planned to buy luxury handbags, suitcases, jewellery or watches over the next three months, more than 85% have now delayed those purchases.
- 53% Purchases delayed, but sentiment ok**
More than half of those who had plans to buy property in 2020 will delay to 2021, however investment sentiment remains stable, as 73% of our panel said their investment interest in property was either unaffected (55%) or improved (18%).
- 83% Cooking at home**
Unable to go out to eat, and in some cases wary of even delivery services, cooking at home has become increasingly necessary, with 83% of respondents reporting an increase since the outbreak.
- 53% Fresh food disruption**
Stuck at home, online grocery platforms have become a necessity for many, 53% (fresh meat) and 59% (fresh produce) of our panel said they expected a long-term increase in their use of online versus less than 10% that said they used online for fresh food pre-outbreak.
- 83% Online education to last**
With offline centres closed, online education platforms have gotten unique exposure, 83% of parents said they will keep paying for online in some capacity after the outbreak ends.
- 52% Ecommerce hesitancy**
Perhaps worried about physical interactions with delivery drivers, 52% of our panel reported a decrease in their use of food-delivery apps and 39% reported a decrease in online shopping.
- 75% Shopping changes to broadly revert**
At least 75% of our panel, across all categories, stated that after the outbreak is over, their shopping preferences (online versus offline) would return to normal.

Our panel

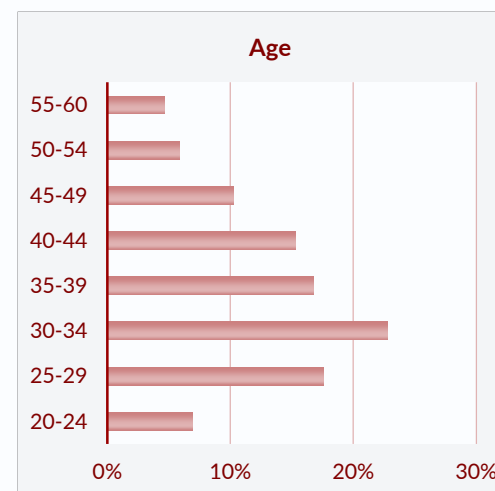
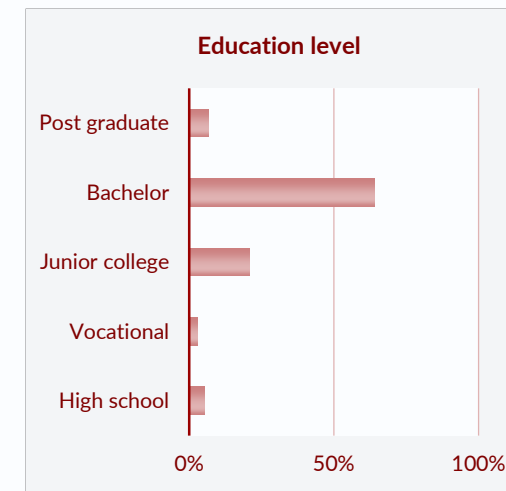
1,600 consumers from over 120 tier-1, -2 and -3 cities

- From 14 to 19 February, China Reality Research surveyed 1,600 consumers from more than 120 cities to gauge the evolving impact of the Covid-19 virus. Our panel includes a diverse spectrum of respondents, from young to old and working to upper class.
- Some 56% of our panel are from tier-1 and -2 cities, while 44% are from tier-3 and above. In line with national ratios, 52% of our panel is male and 48% is female. More than 95% own property, 85% are married, 2% divorced and 85% have children.
- The data collected from these surveys act as the foundation for the key findings in this report.

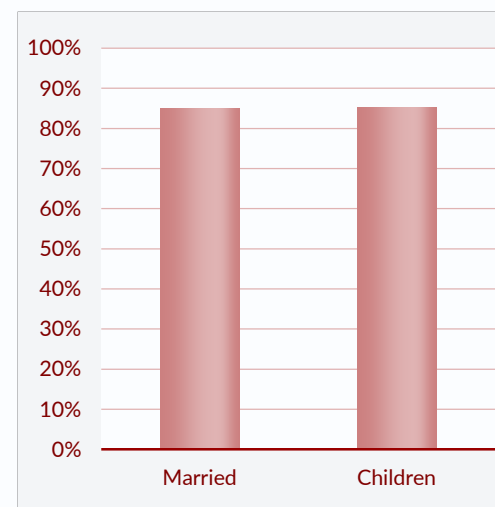
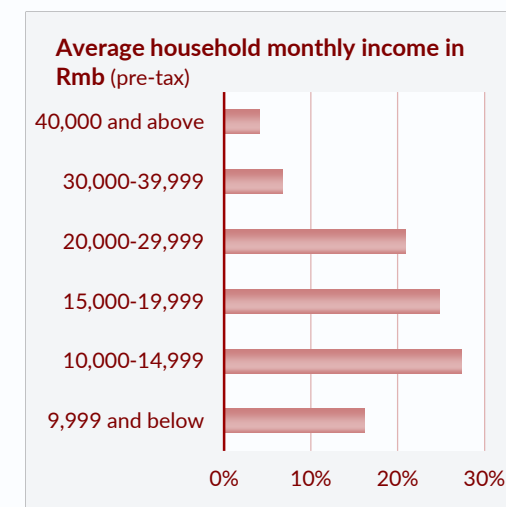
CRR surveyed 1,600 consumers in over 120 cities



Age and education level



Share of panel married, with children and income breakdown



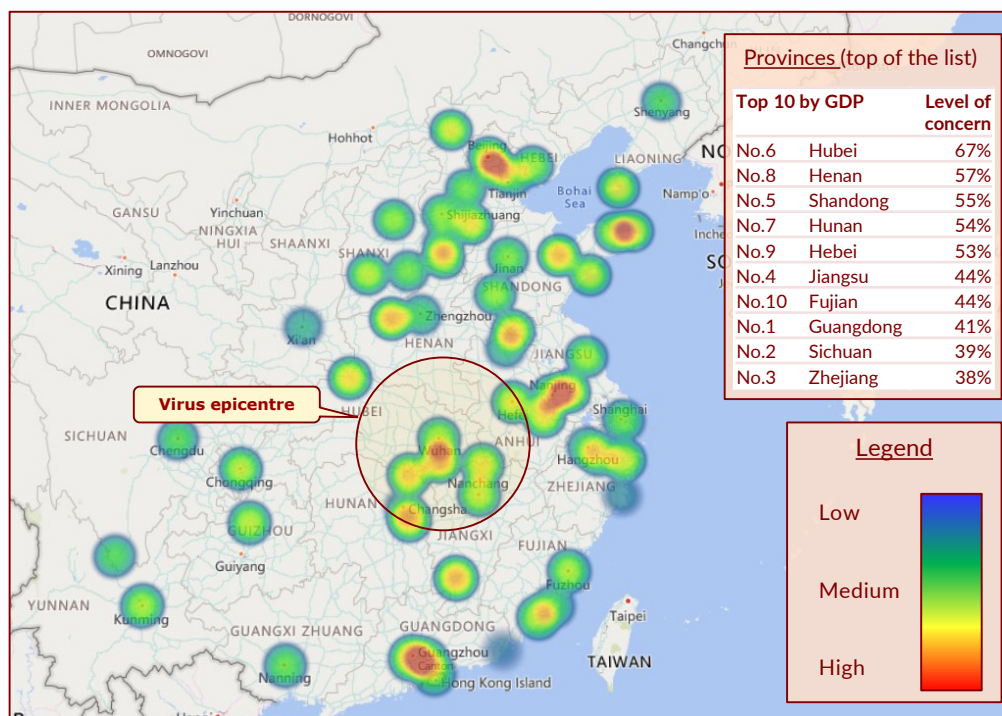
Source: CRR, Bing and Excel Maps; Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation.

Tracking the impact

Mapping out where Chinese consumers are most worried about contracting Covid-19

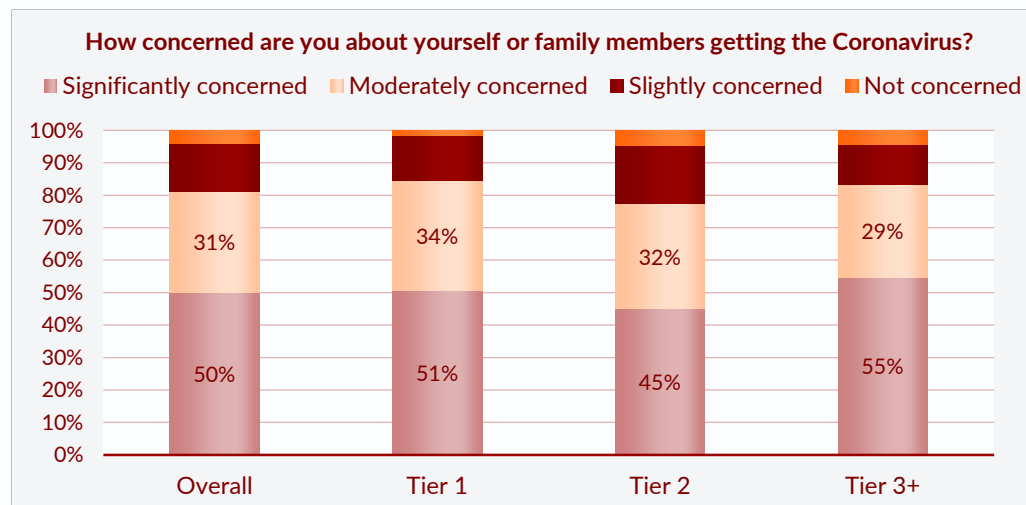
- Half of our panel is 'significantly concerned' that either themselves or a family member will contract Coronavirus. Mapping this out by geography, we were surprised that there is not a clear distinction between the area directly surrounding the virus epicentre in Wuhan and other population centres throughout the country. However, looking provincially, Hubei province, where Wuhan is located, did rank at the top followed by Henan, which sits directly north of the virus epicentre.
- The most popular channel for collecting information on the virus was television (46% of panel). China's super-app WeChat ranked second at 39%, once again proving its far more than just a messaging platform.

Heatmap depicts cities with highest level of concern

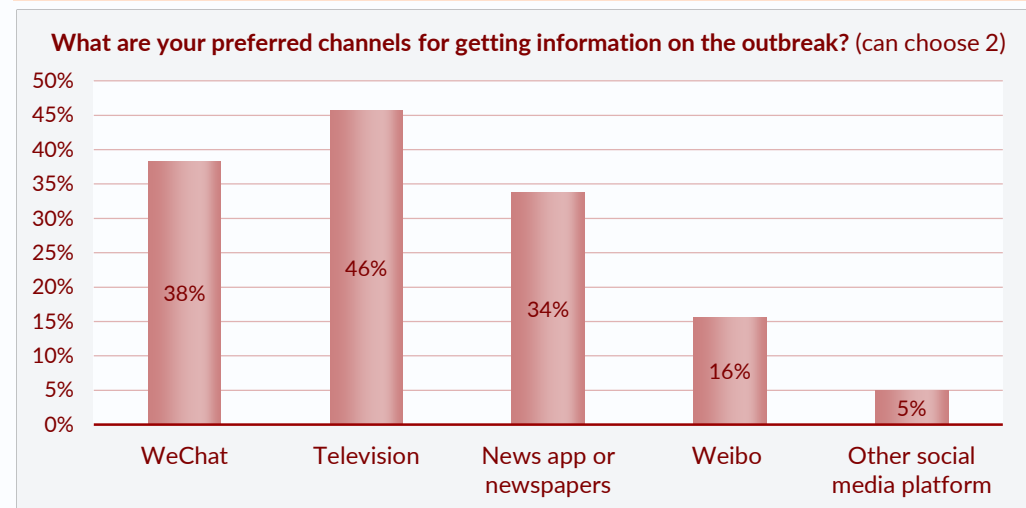


Note: The province depicts the share of respondents 'significantly concerned' with themselves or a family member contracting the virus Source: CRR, NBS Bing and Excel Maps; Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation.

Level of concern



Preferred information channels

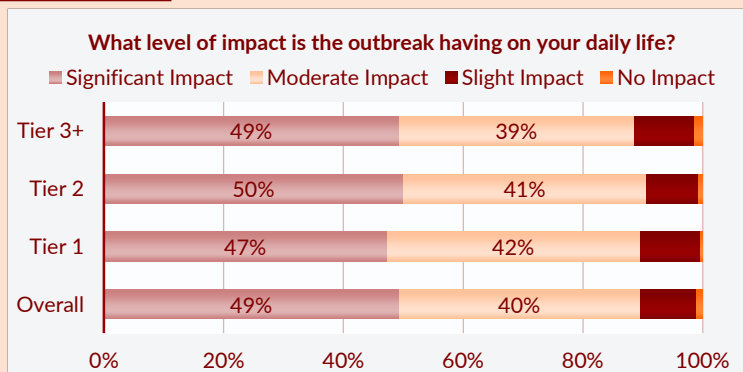


Tracking the impact

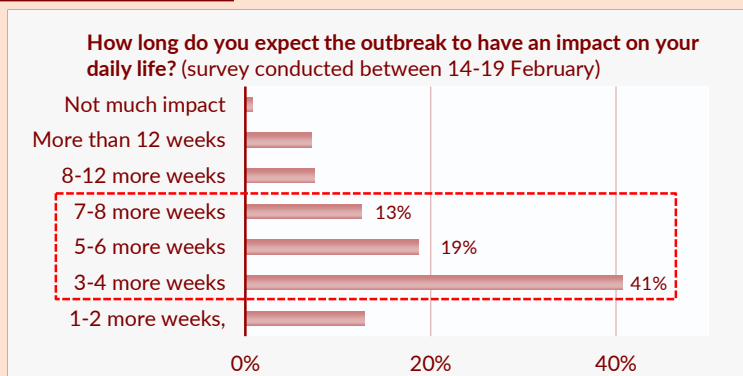
Where is the impact and for how long?

- As expected, respondents living in and directly around Wuhan are seeing the highest disruption. Other cities affected include areas with more severe transit restrictions.
- More important to the economy is how long this impact will drag on, the majority of our panel predicts the outbreak's impact to die down by mid to late march. Specifically, 41% of our panel predicts the next 3-4 weeks, while, when taken in combination, 32% of our panel thinks the impact will last five to eight weeks.

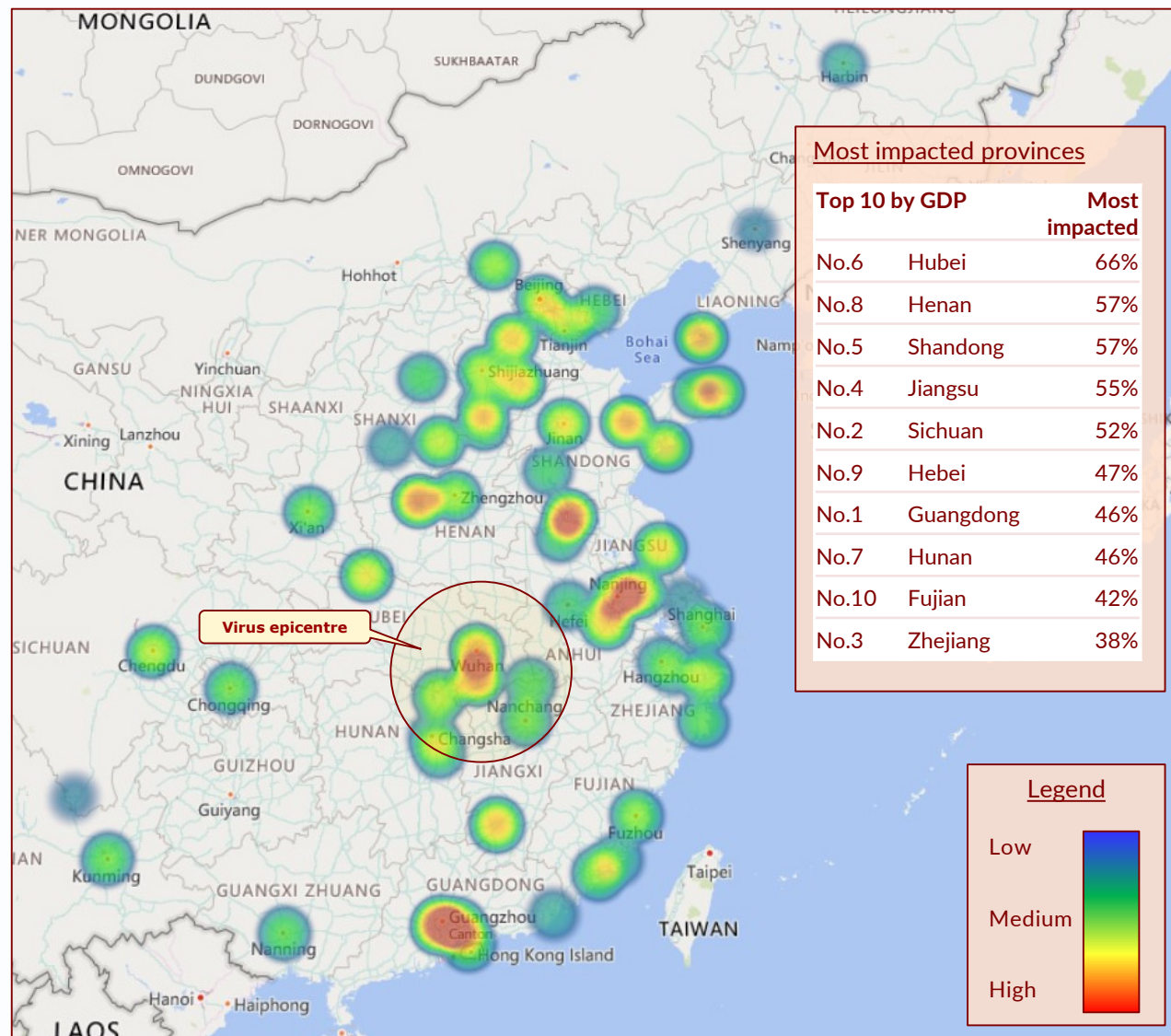
Impact level



Length of impact



Cities mapped by share of respondents who reported 'significant impact' on daily life



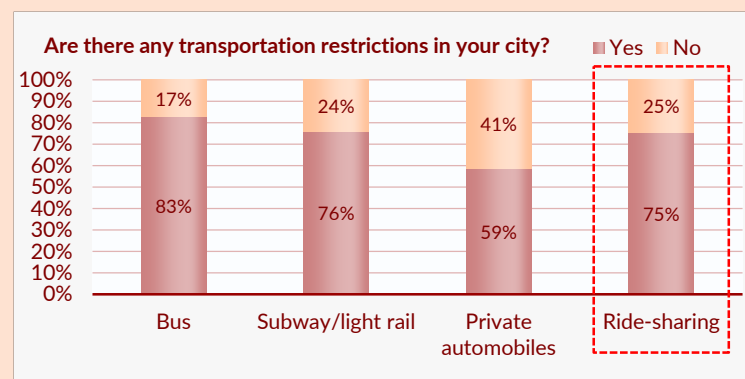
Note: The province list reflects the share of respondents who reported a 'significant impact' to their daily lives since the start of the outbreak. Source: CRR, NBS, Bing and Excel Maps; Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation.

Tracking the impact: transit restrictions

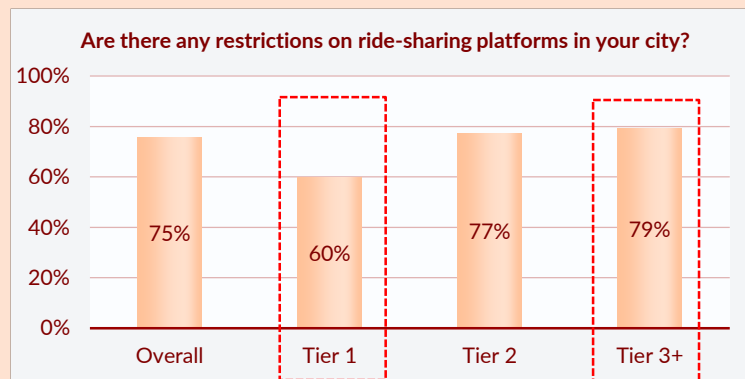
Centres of disruption; tracking transit disruptions

- ❑ We continue to see public and private transit disruption across China. Public transit restrictions remain more severe than those placed on private automobiles.
- ❑ Interesting to watch, is the level at which the government has clamped down on new economy darlings in the ride-sharing industry (ie, Didi); 75% of our panel reported restrictions, with a disproportionate of those coming from tier 2/3 versus tier 1.

Transit restrictions reported by panel

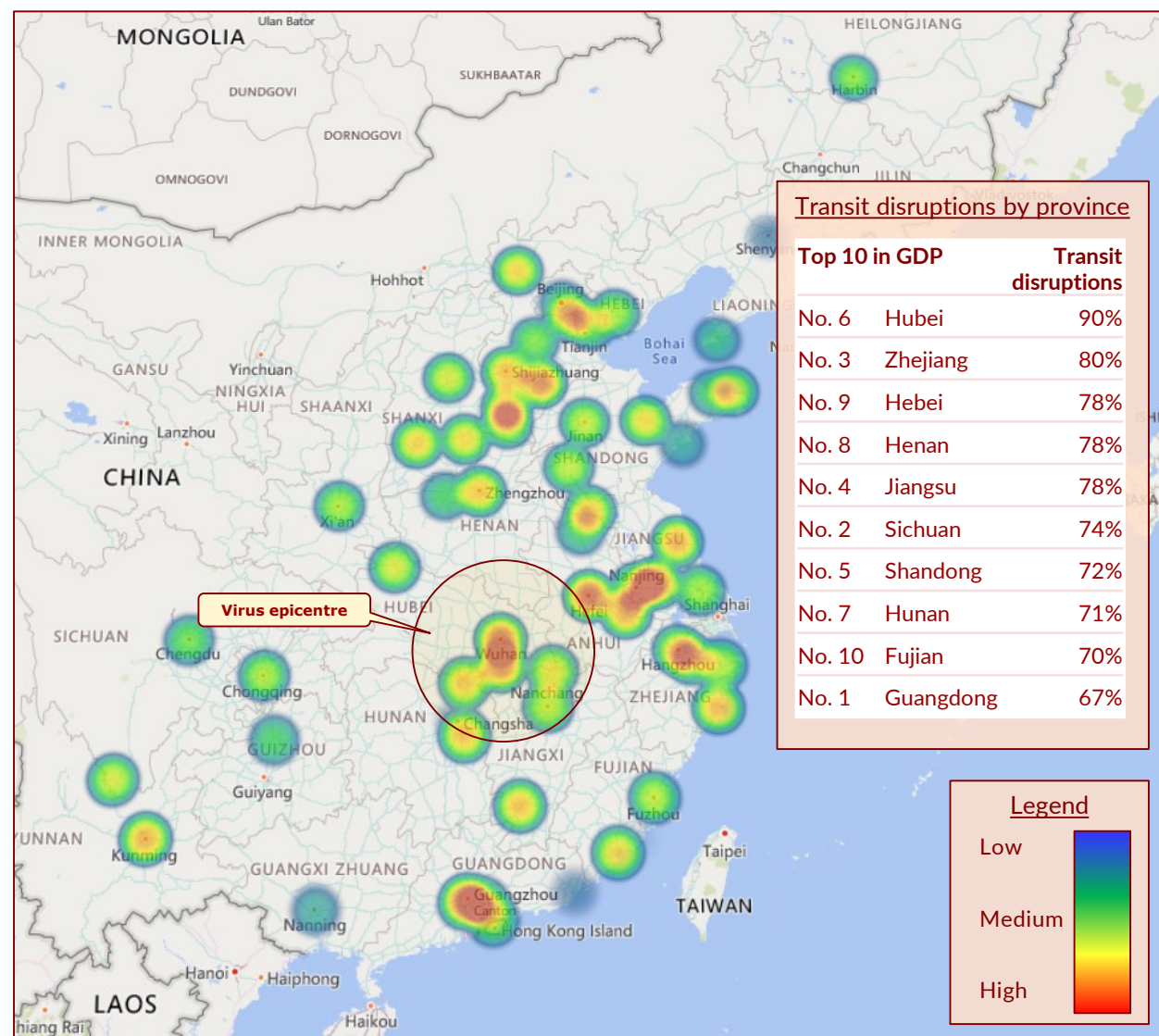


New economy disruption



Note: The province list depicts the aggregate level of reported restrictions across all surveyed categories (bus, subway/light rail, private automobiles, ride-sharing) Source: CRR, NBS, Bing and Excel Maps; Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation.

Cities mapped by level of transit restrictions reported by panel



Tracking the impact: economic hubs

Transit restrictions more severe in tier-3 cities, although still widespread across China

❑ Returning transit networks to full operational levels is vital for getting China's most important economic hubs restarted, as such, in this table we focus on the 20 largest economies in China, tracking bus, subway/light-rail, private vehicle and ride-sharing restrictions as reported directly from our panel.

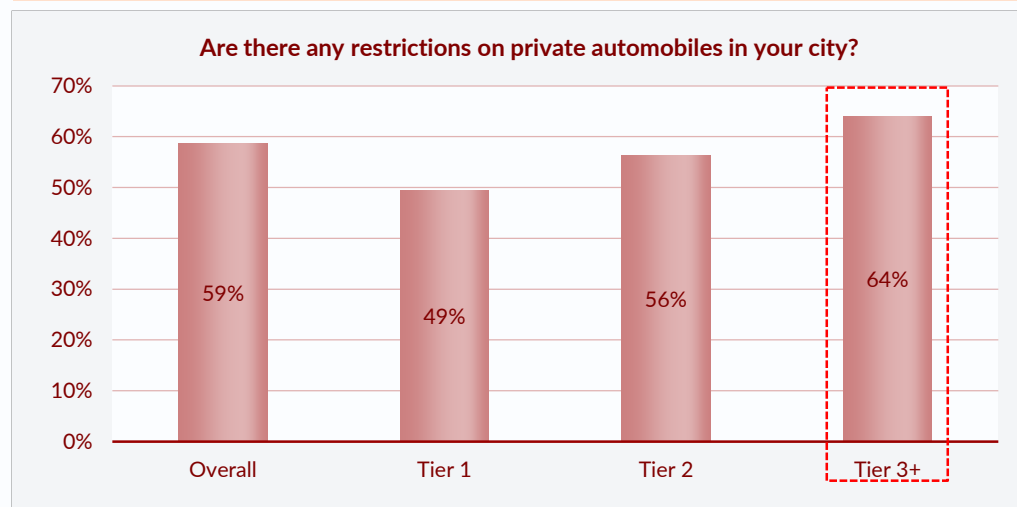
❑ By tier, it is clear that restrictions are generally less severe in economic hubs for both public and private transit, although, as the table depicts, some of China's largest cities (Shenzhen and Guangzhou most significantly) continue to experience extensive disruptions across the board according to our panel.

Transit disruptions in China's 20 largest economies

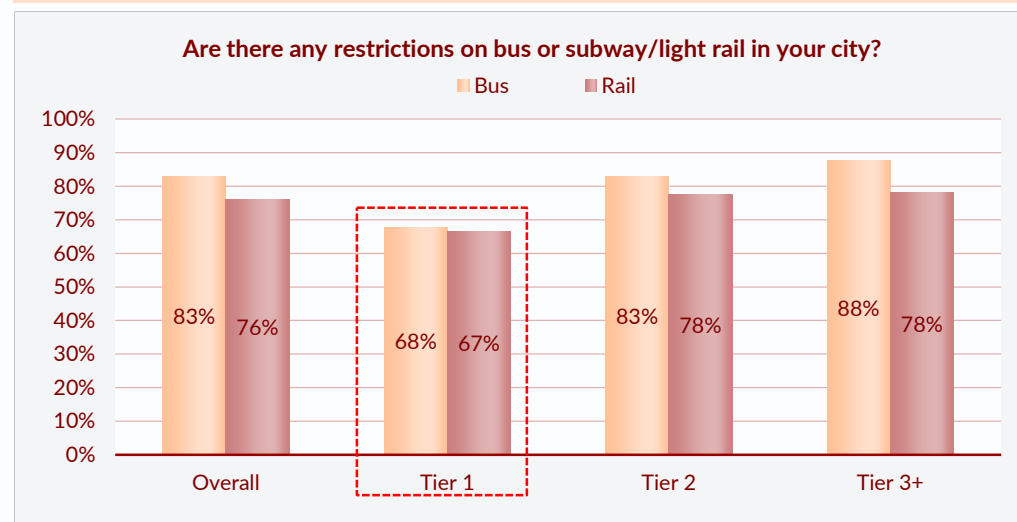
Cities	GDP (2018)	Bus	Rail	Private auto	Ride-sharing
Shanghai	3268	52%	53%	37%	45%
Beijing	3032	67%	64%	51%	61%
Shenzhen	2422	80%	73%	63%	66%
Guangzhou	2286	80%	82%	54%	73%
Chongqing	2036	88%	71%	63%	75%
Tianjin	1881	78%	70%	44%	78%
Suzhou	1860	67%	71%	43%	71%
Chengdu	1534	77%	80%	43%	73%
Wuhan	1485	97%	97%	88%	94%
Hangzhou	1351	84%	80%	66%	93%
Nanjing	1282	91%	88%	47%	81%
Qingdao	1200	69%	54%	46%	62%
Wuxi	1144	100%	83%	17%	50%
Changsha	1100	60%	50%	35%	60%
Ningbo	1075	85%	85%	54%	77%
Zhengzhou	1014	83%	87%	78%	87%
Foshan	994	79%	79%	64%	64%
Quanzhou	847	55%	45%	36%	55%
Nantong	843	83%	67%	58%	83%
Xi'an	835	76%	71%	59%	88%

Source: CRR, NBS

Private auto restrictions by tier



Public transit restrictions by tier



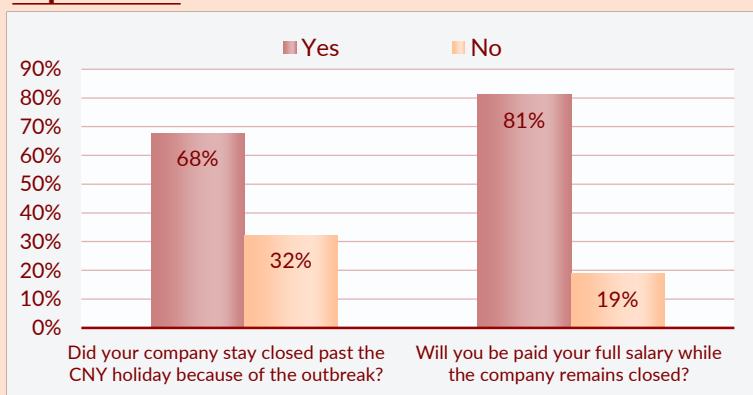
Tracking the impact: closed for business

Feedback from 1,500 employees on company closures across sectors

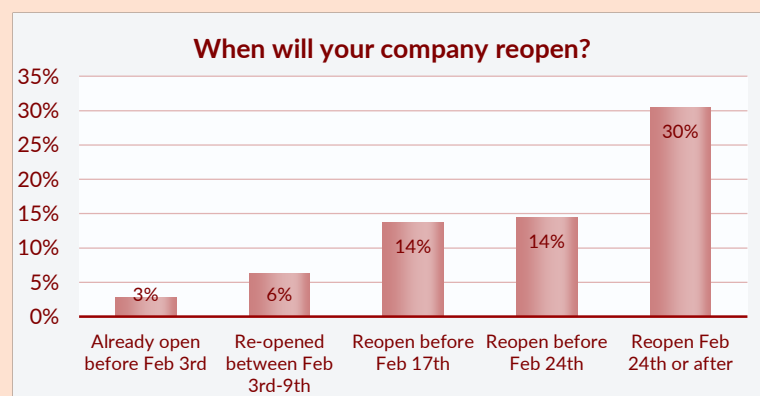
❑ Almost 70% of the companies our panel worked for remained closed after the CNY holiday (3 February). Encouragingly, for consumer spending, 81% were paid their full salary despite not working.

❑ On the pace at which China's factories will reopen, only 25% of respondents working in the manufacturing sector said their companies would remain closed past 24 February, versus the 66% that were closed on 3 February.

Impact level



Length of impact



Source: CRR

Cities mapped by level of transit restrictions reported by panel

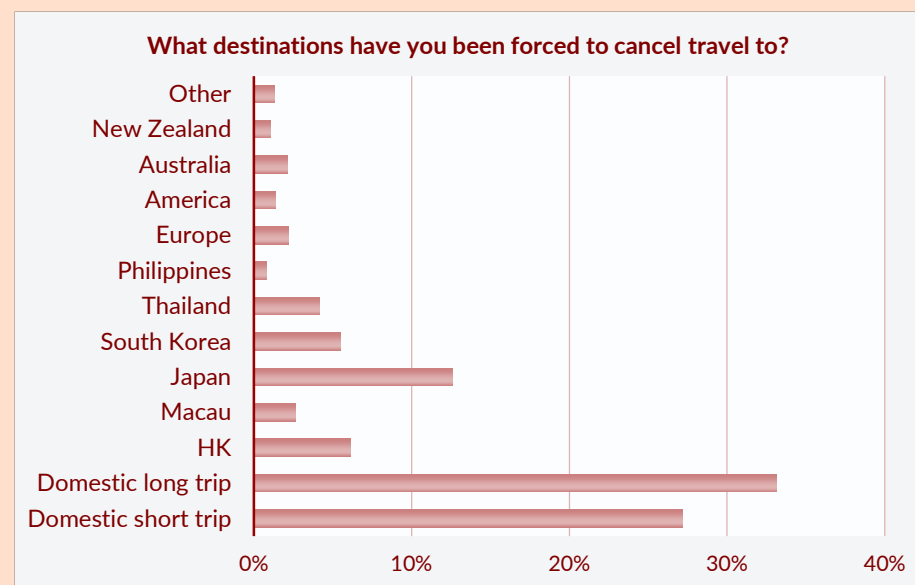
Sectors	% of companies closed on 3 Feb	% of companies closed on 10 Feb	% of companies closed on 17 Feb	% of companies closed on 24 Feb
Manufacturing	66%	57%	37%	25%
Smartphone components	52%	39%	22%	9%
Building materials	69%	59%	44%	26%
Packaging and paper	61%	52%	29%	16%
Cars and automotive parts	66%	63%	27%	22%
Furniture	71%	54%	39%	32%
Textiles	74%	70%	61%	48%
Other	70%	64%	38%	21%
Construction	67%	65%	45%	22%
Real estate	64%	61%	43%	30%
Transport and storage	59%	48%	35%	17%
Wholesale and retail trade	72%	69%	53%	37%
Accommodation and catering	63%	63%	59%	39%
Information technology	69%	64%	50%	31%
Education	68%	63%	61%	57%
Financial services	74%	54%	40%	18%
Healthcare	35%	33%	28%	23%
Other	59%	52%	42%	27%

Tourism: grounded

Travel disruptions: when will the world's most important tourist group get back in the air?

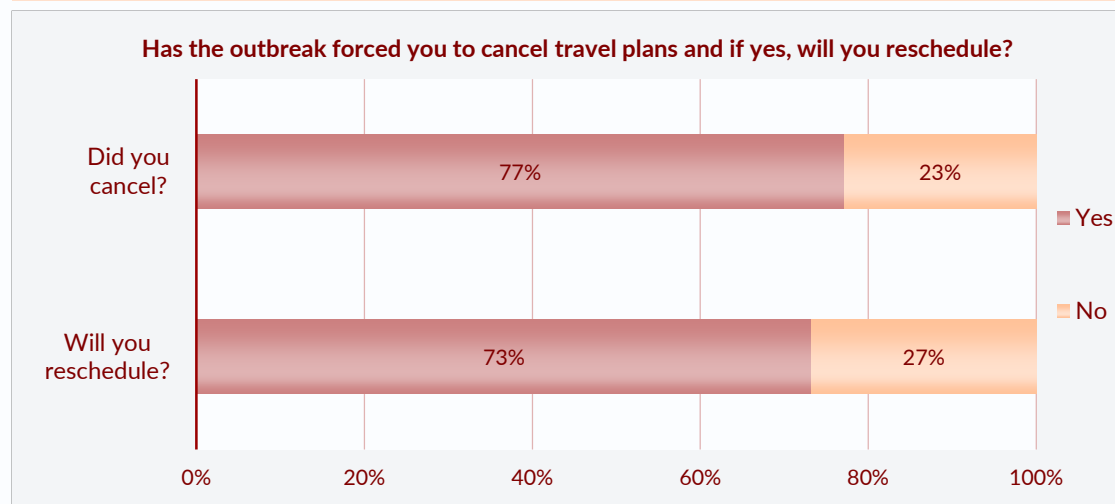
- ❑ As expected, the majority (77%) of our panel has been forced to cancel their travel plans due to the outbreak, out of which 73% will try to reschedule after the situation improves.
- ❑ Close to 60% of our panel originally planned to make domestic trips during the Chinese new year holidays; this makes sense given people tend to return to their home towns to spend time with families rather than making international trips.
- ❑ The majority of respondents aim to wait until the next public holiday (May) to think about rescheduling their canceled travel plans; 38% of the panel said they would wait one to two months after the government announces it is safe to travel before they would reschedule their plans whereas 36% responded two to three months.

Top trip destinations forced to cancel

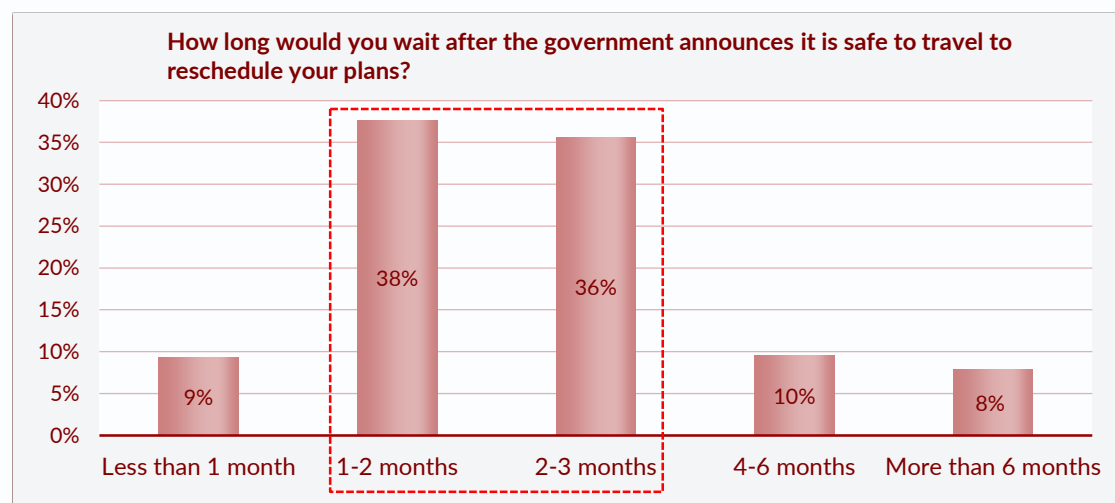


Source: CRR. Note: 'Domestic short trip' includes a trip less than 300km in length.

Cancelled plans - will you reschedule?



Getting back in the air

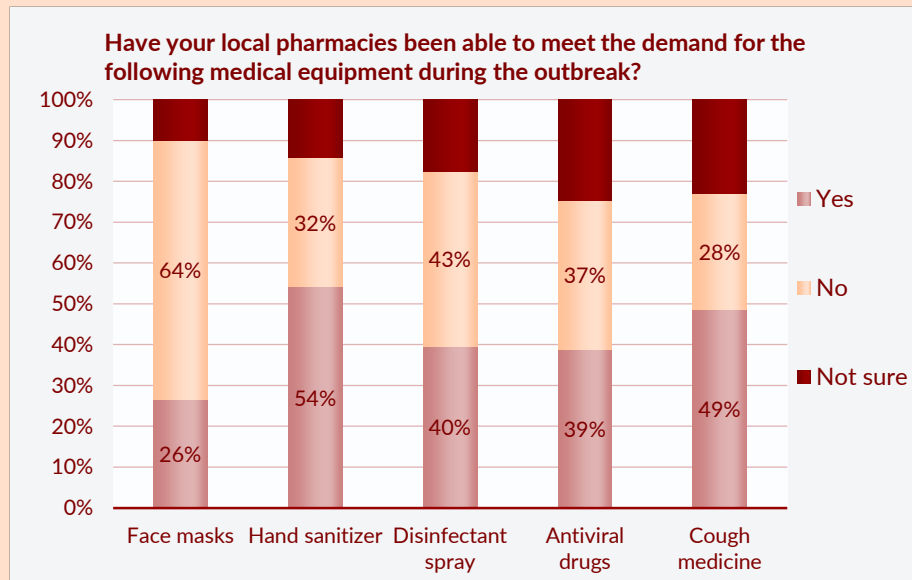


Healthcare: conditions and access

Medical supplies and hospital conditions ok, but panel avoids them anyway

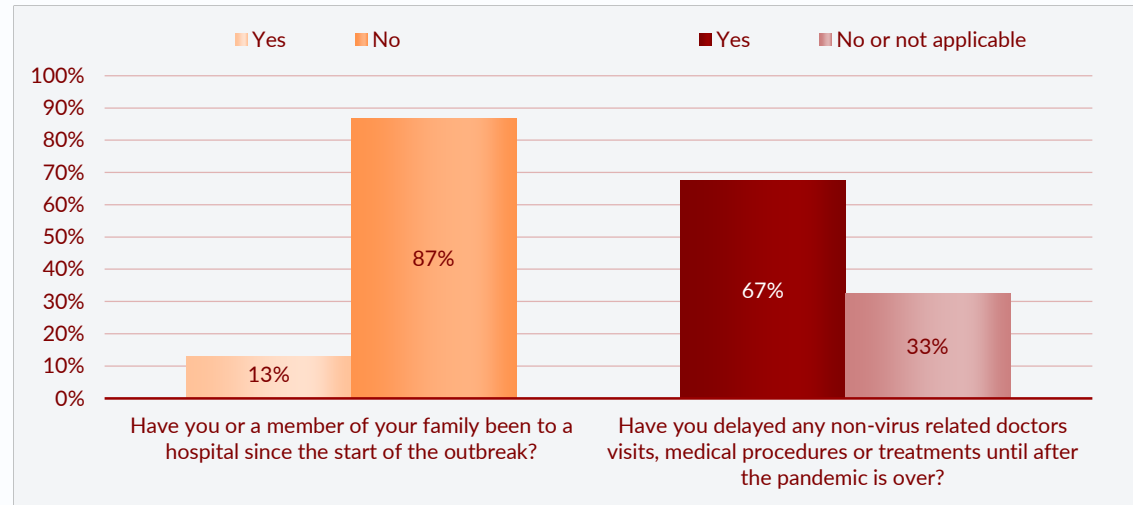
- ❑ The outbreak has discouraged our panel from visiting hospitals for non-related medical treatments; 67% of our panel stated that they had 'delayed' a non-virus related doctor's visit since the start of the Covid-19 outbreak.
- ❑ Access to medical equipment and drugs is better than expected, face-masks are the only medical supply category that more than 50% of our panel reported having trouble buying at local pharmacies.
- ❑ Feedback on hospital conditions was mixed among the 13% of our panel that had visited one since the start of the outbreak, encouragingly, only 9% of visitors reported conditions as 'excessively crowded', 34% reported conditions as 'not crowded' and 33% reported conditions as 'crowded'.

Access to medicine

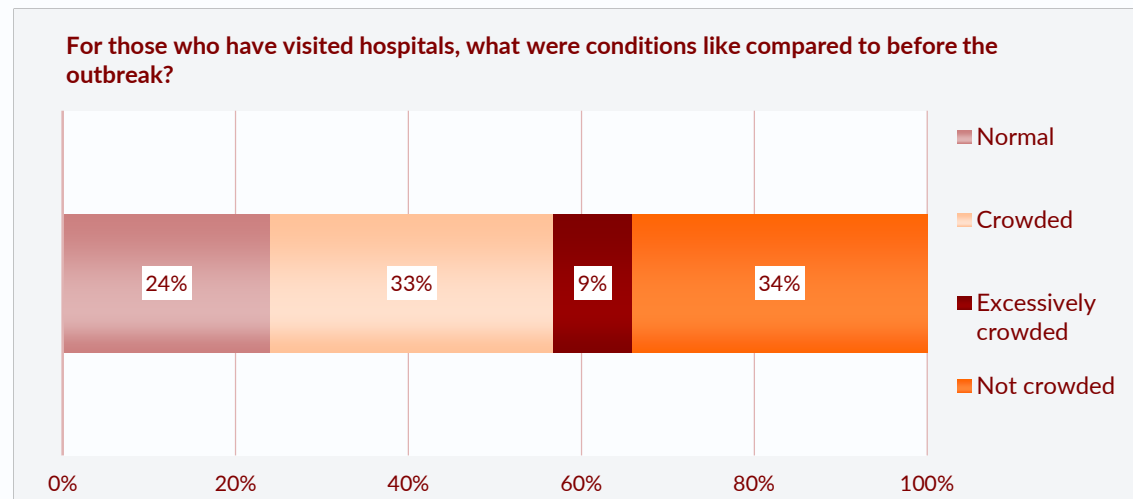


Source: CRR

Have you visited a hospital?



What were the conditions?

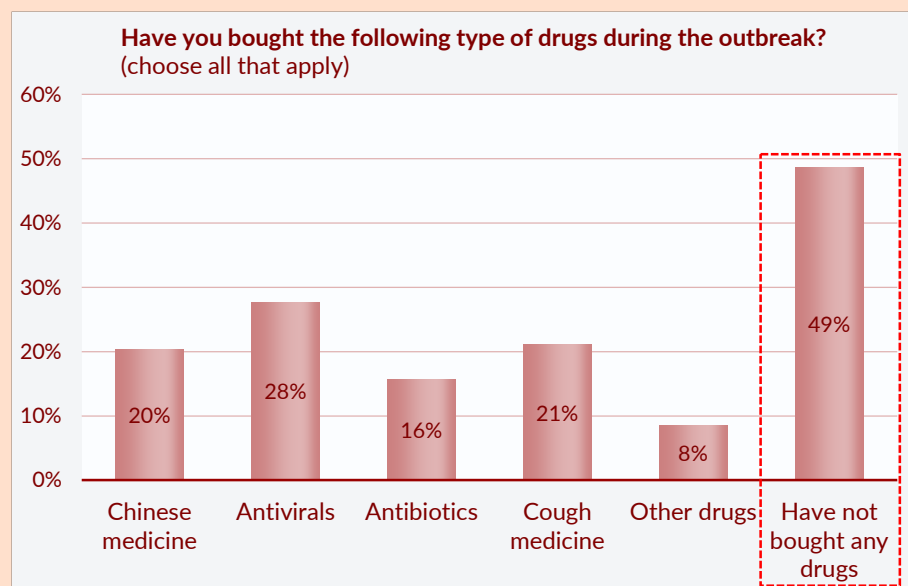


Healthcare: consumer behaviour

Adoption higher than expected, but still more room for growth

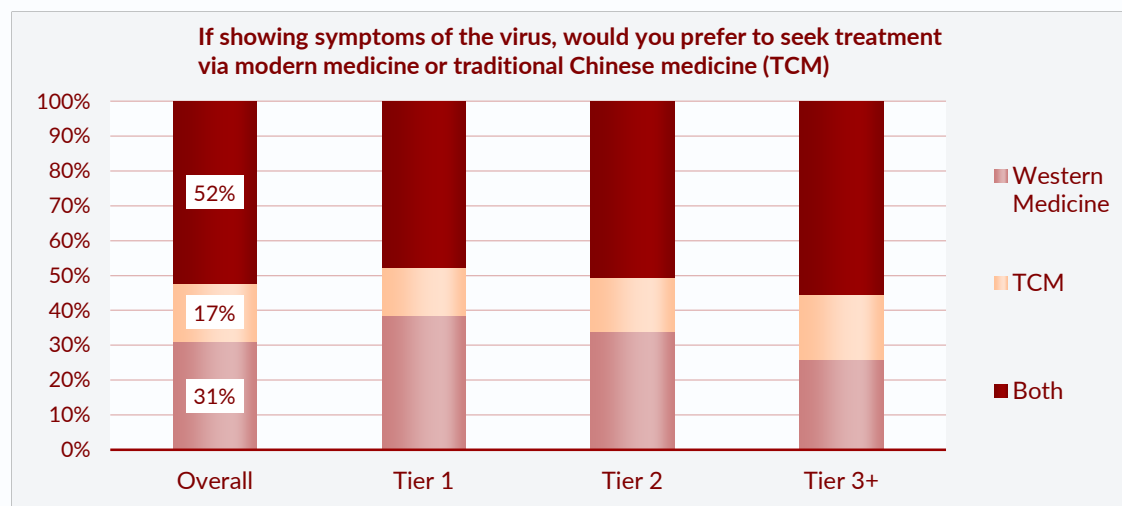
- ❑ Our survey confirmed that consumers' trust in modern medicine has improved, albeit room for growth remains. When asked if they were to show symptoms of the virus, what treatment method they would prefer, only 31% answered 'modern medicine' versus 53% wanting a combination of both traditional Chinese medicine (TCM) and modern medicine. Additionally, 49% of our panel said they had not bought any type of drug since the start of the outbreak, including Chinese medicine.
- ❑ If needed, 38% of tier-1 respondents would want treatment via modern medicine versus 25% in tier-3. If our panel started showing flu symptoms, 55% said they would 'definitely visit' the hospital and 32% said they would 'probably visit'.

Purchase of different medicines during outbreak

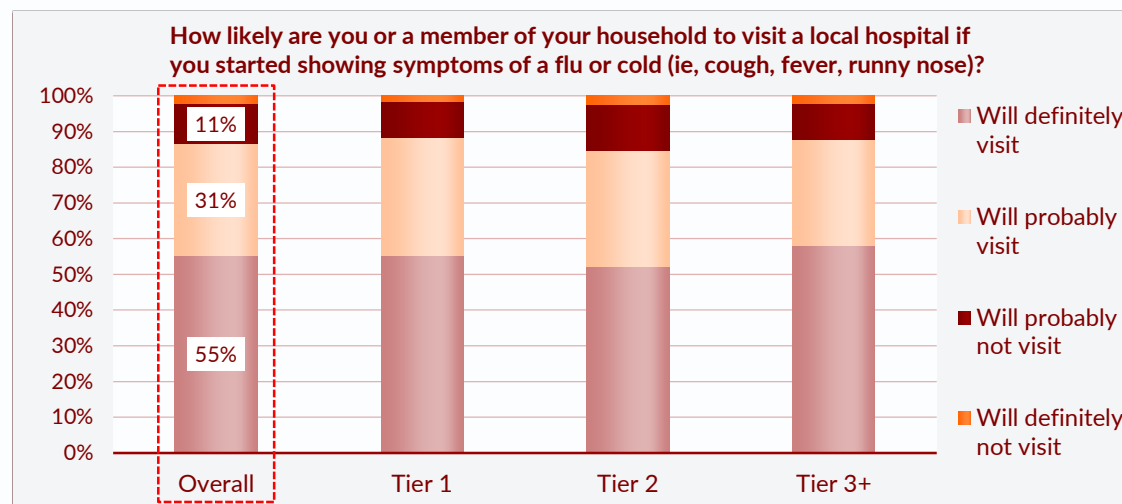


Source: CRR

Chinese medicine versus modern medicine



Level of comfortability with hospital visits

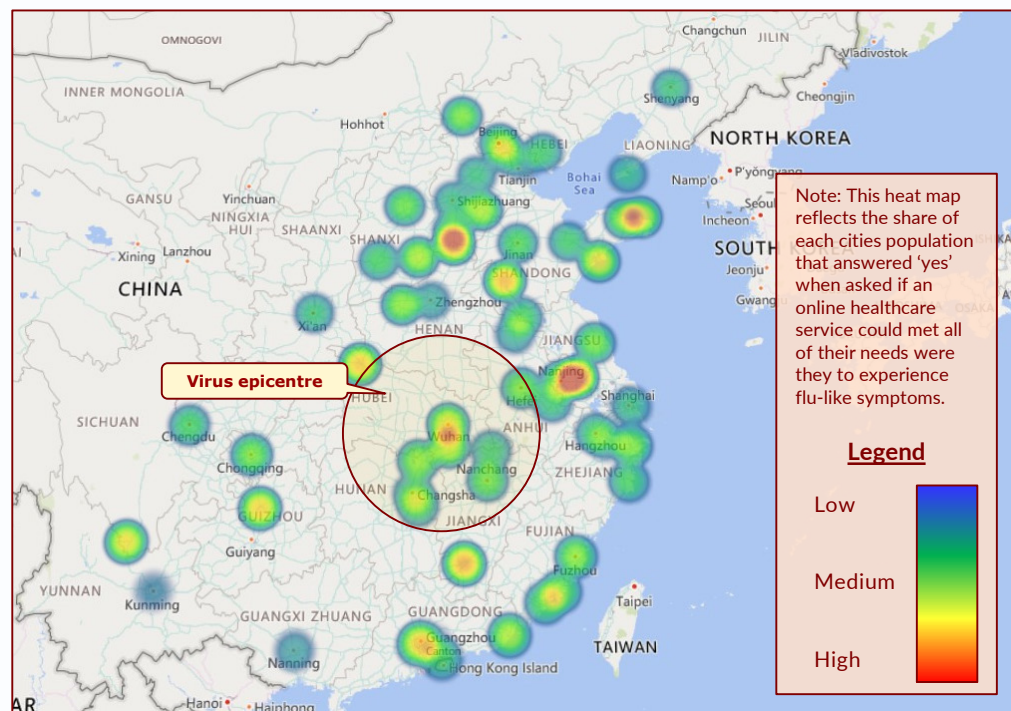


Healthcare: online disruption

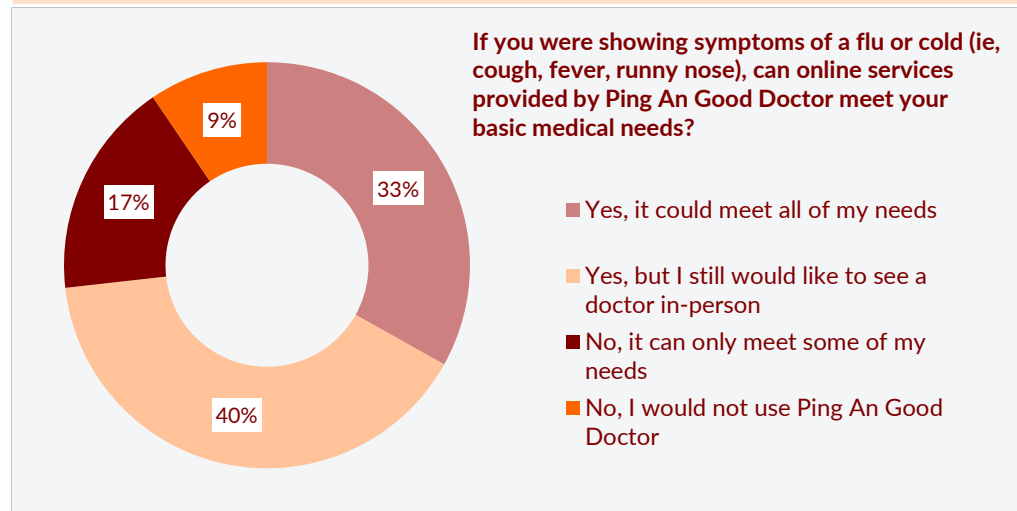
Online healthcare platforms popular, especially in tier-3 cities

- Not even healthcare can escape the strong demand for and popularity in new economy trends among Chinese consumers. When asked about their thoughts on Ping An Good Doctor, the largest mobile medical application in China, with more than 315m users, 33% said the platform 'could meet all' of their medical needs and 40% said it 'could meet their basic needs' but still would like to see a doctor in person.
- Overall, these platforms appear to be more popular with residents of lower-tier cities; 37% of tier-3+ consumers responded that the 'platform could meet all' of their needs versus 28% of tier-1 consumers and 31% of tier-2 consumers.

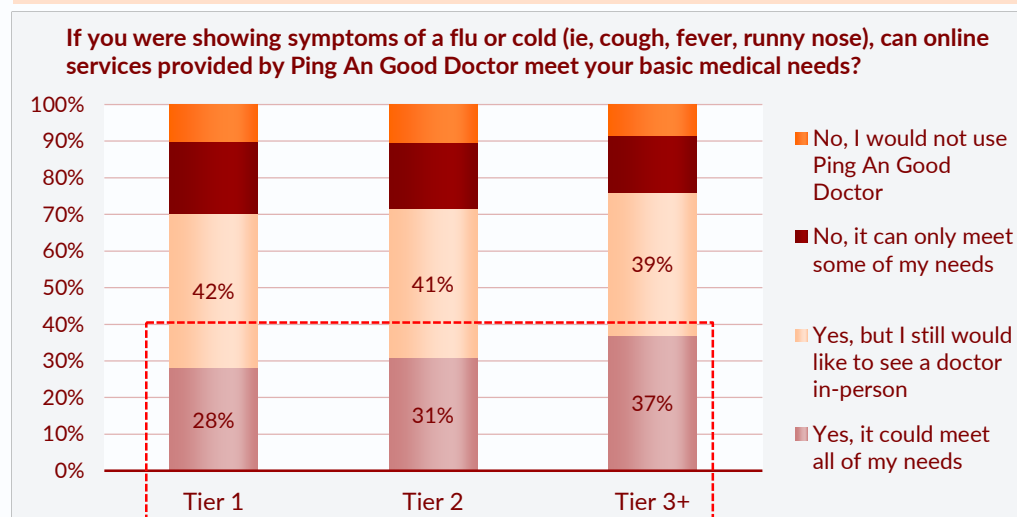
Online platforms more popular in lower-tier cities



Popularity of online healthcare platforms



Popularity by tier



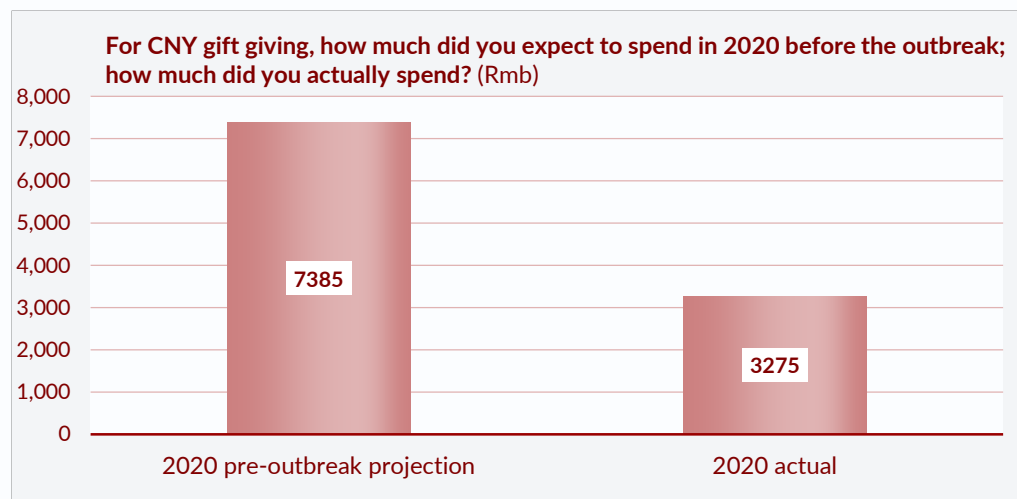
Source: CRR, Bing and Excel Maps; Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation.

Chinese new year: spending disruption

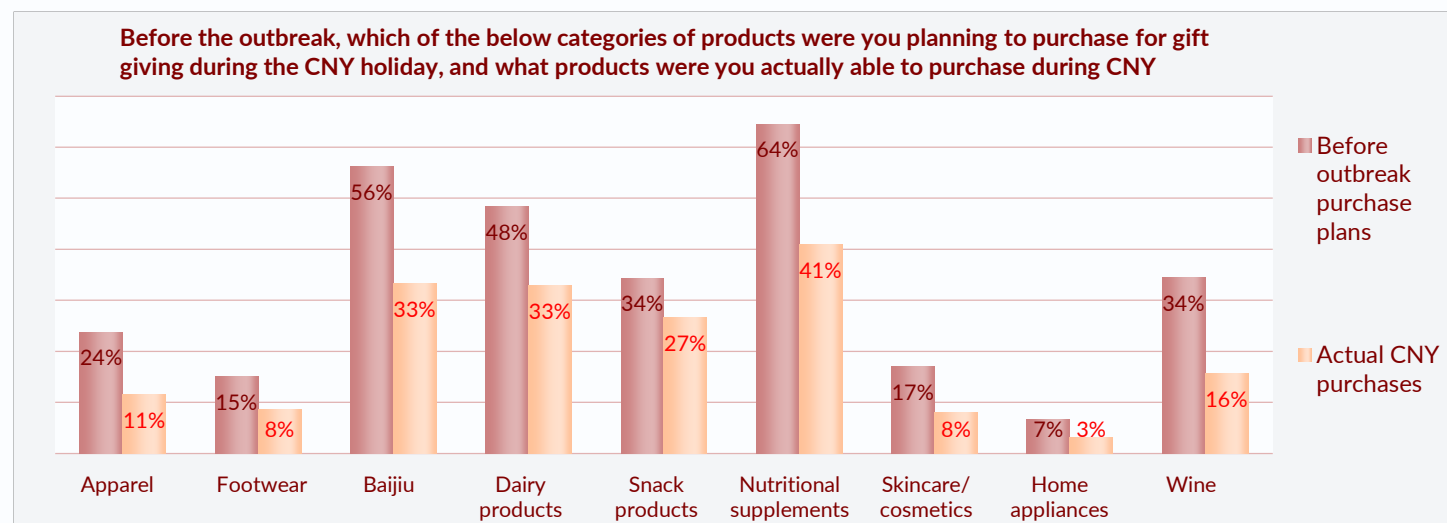
Severe impact; consumers spend less than half of what they planned to over CNY

- ❑ The spread of the Covid-19 virus began to accelerate in the days leading up to the Chinese new year (CNY) holiday, which, in addition to being the most busy travel season in the country, ushers in one of China's most significant shopping sprees as consumers purchase food, drink and gifts in preparation for the various family gatherings that take place during the nation's most important holiday.
- ❑ For many consumer categories such as baijiu, dairy products, snack products, nutritional supplements, etc, CNY is one of the peak annual sales periods. Because of this, the timing of the Covid-19 outbreak will have a disproportionately high impact on specific consumer segments connected to the holiday. CRR's panel on average spent only 44% of the nearly Rmb7,400 they estimated they would have spent on gift giving if the outbreak would not have taken place.
- ❑ Categories hit especially hard were those usually bought closest to the holiday. For our panel, this included baijiu, nutritional supplements and wine. Overall, not a single category was protected from the disruption that the virus caused, although less expensive products (snacks) fared the best.

Spending shortfall



Category breakdown



Major purchases delayed

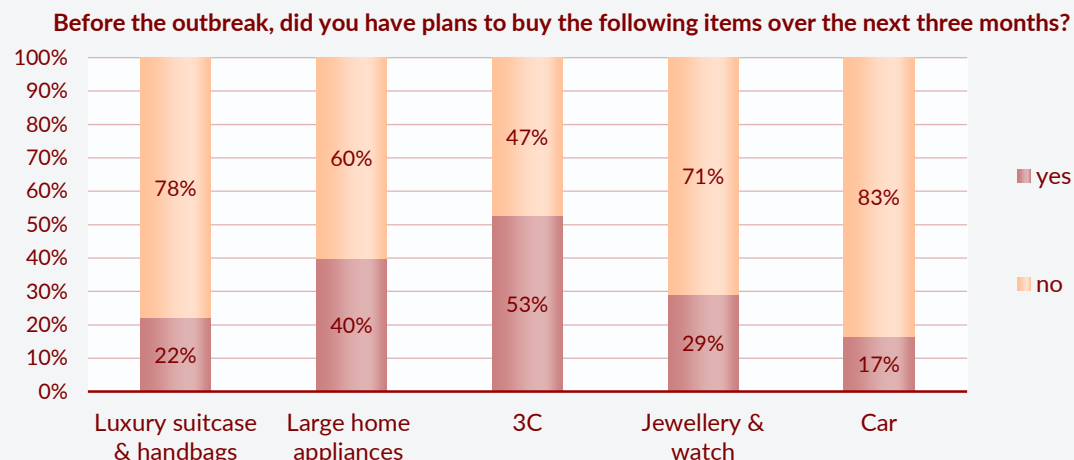
Significant caution; near-term disruption across all categories

- ❑ In addition to family gatherings, CNY also marks when many consumers receive their yearly bonuses from work. This makes the months following the holiday a key period for major purchases.
- ❑ Large home appliances (like washing machines, refrigerators, etc) and computers, cameras and cellphones (3C) are the two categories that look to suffer most from the outbreak. More than 53% of our panel planned to purchase 3C products over the next three months and 78% of those said they would delay those purchases as a result of the outbreak. In appliances, 79% of the 40% who had pre-outbreak purchase plans will now delay.
- ❑ In regards to luxury items, caution exists across all categories; 86% of those who had plans to purchase suitcases and handbags; and 85% of those with plans to buy jewellery and watches over the next three months said that the outbreak has put those plans on hold.

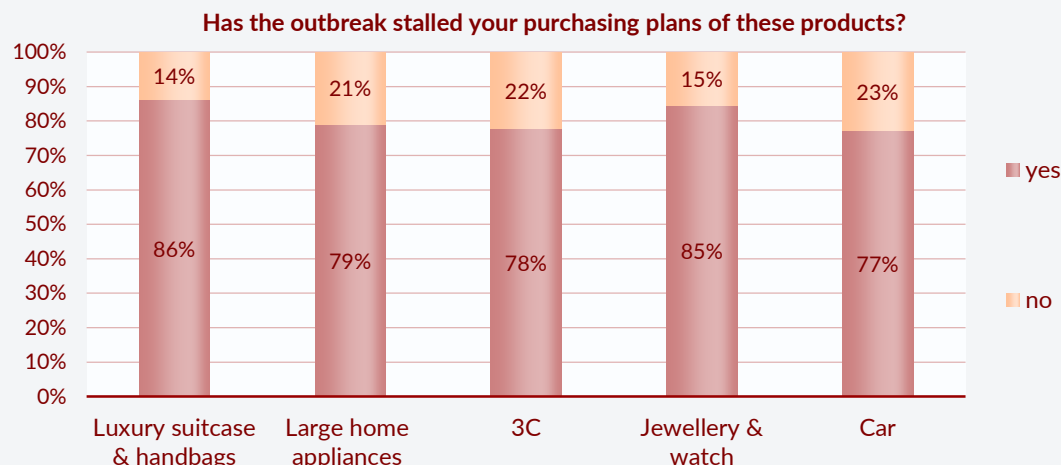


Note: photo taken by CRR at JD offline retail location in Guangxi province. Source: CRR

Pre-outbreak purchase plans



Outbreak delays purchasing



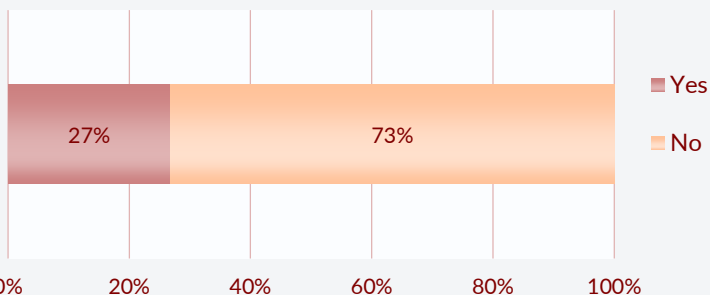
Property: purchases delayed

Property impact significant near term, but should be limited to 2020

- ❑ CRR expects Covid-19's impact on China's all-important property market to remain limited to the next 6-12 months.
- ❑ Just over a quarter of our panel had plans to buy property in 2020 (27%), of that group, 51% said they would delay buying to 2021, while only 5% said they would forgo their buying plans all together.

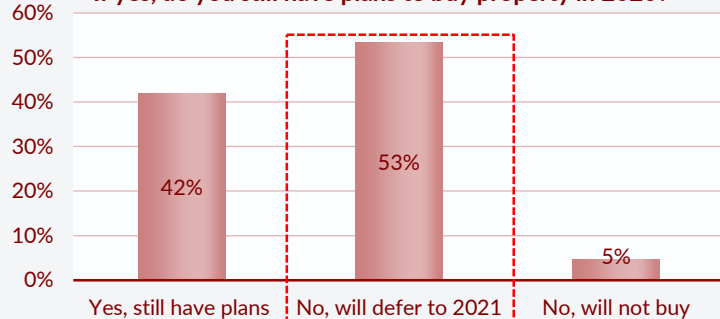
Buying plans

Prior to the outbreak, did you have plans to buy property in 2020?

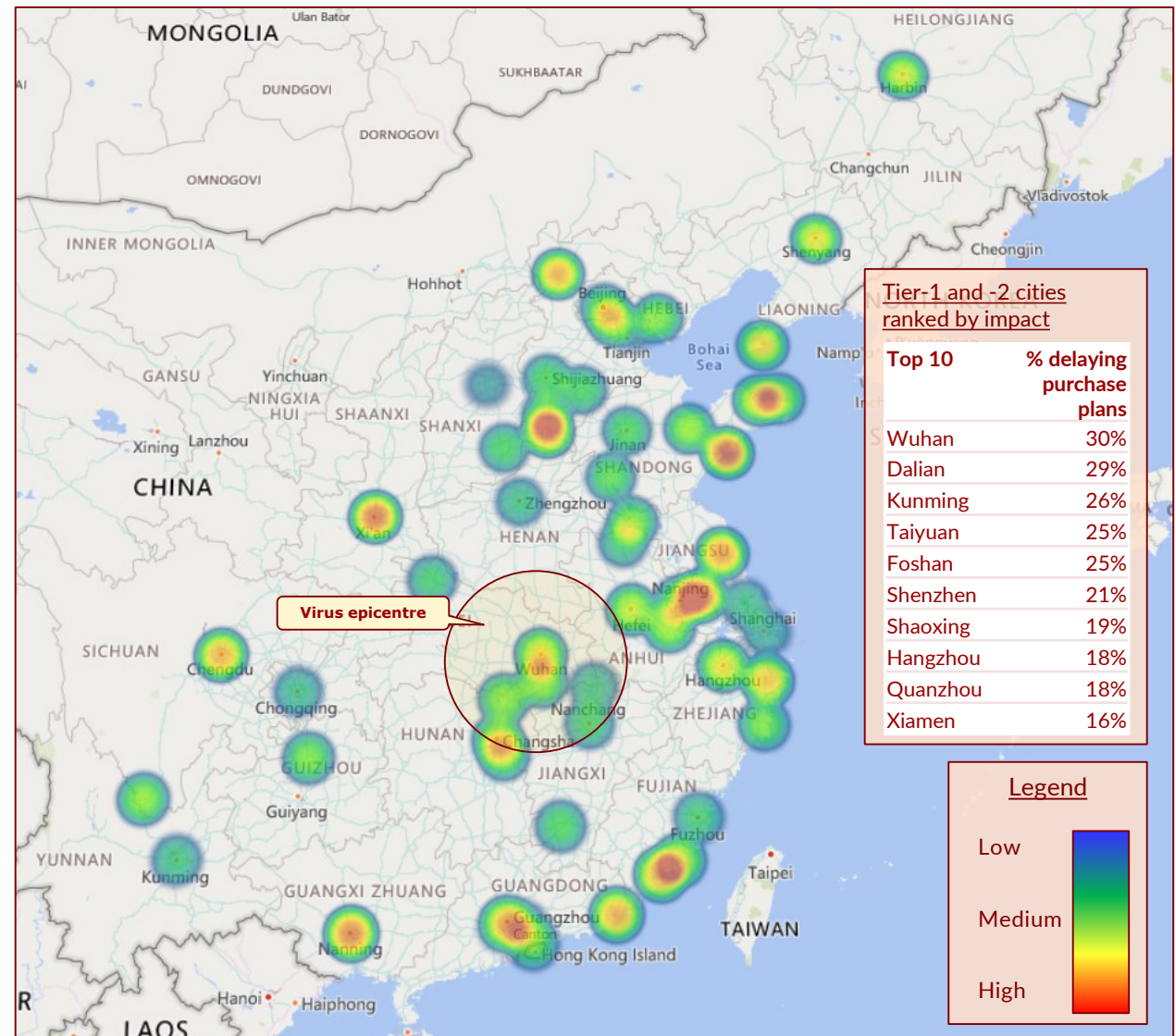


Impact of Covid-19

If yes, do you still have plans to buy property in 2020?



Cities mapped by share of property buyers who will delay buying plans till 2021



Source: CRR, Bing and Excel Maps; Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation.

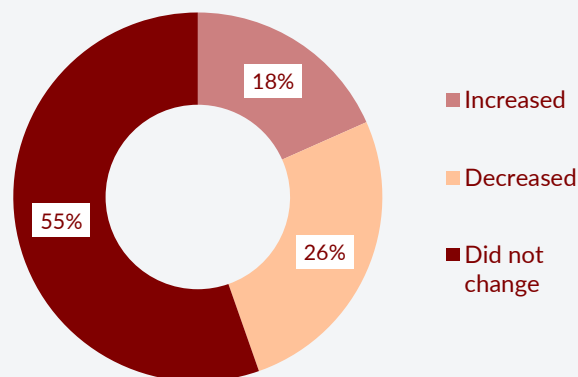
Property: investment outlook

Investment sentiment towards property remains stable

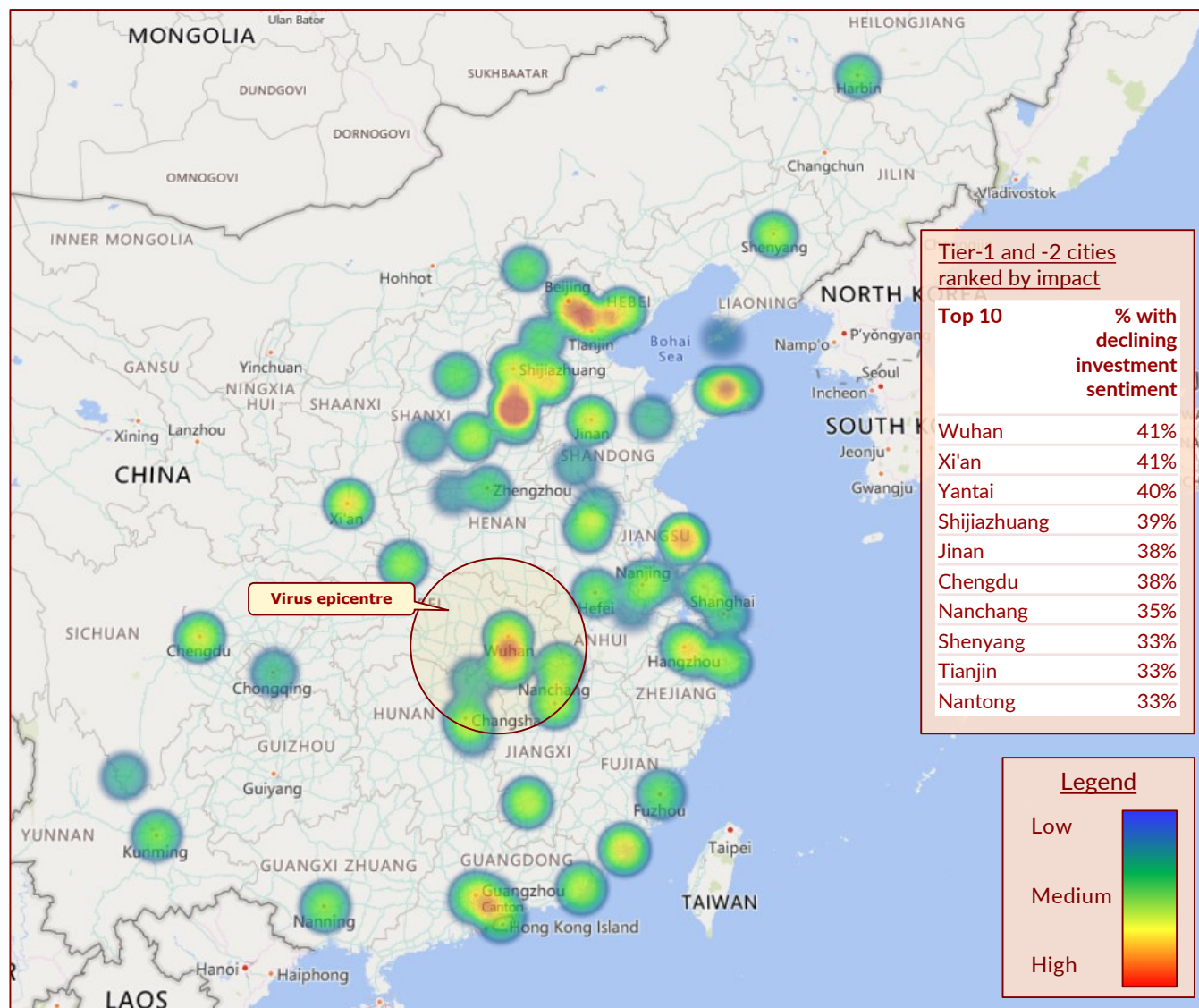
- ❑ In the aggregate, investment sentiment for property remains stable among our panel. When asked how the outbreak had impacted their investment interest in property, 55% responded 'did not change' versus 26% that replied 'decreased'.
- ❑ Somewhat surprisingly, and perhaps a sign of some respondents interpreting the potential weakness in property prices as an opportunity, 18% of our panel responded that their investment interest had actually increased.
- ❑ Given the varying number of infections city to city, near-term challenges are better interpreted on a case-by-case basis. By city, Wuhan, Xian, Yantai, Shijiazhuang and Jinan ranked in the top-five in regards to declining investment interest.

Investment outlook

As a result of the outbreak, your investment interest in property has_____?



Cities mapped by share of panel that expressed a declining investment interest in property



Source: CRR, Bing and Excel Maps; Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation.

Property: impact by tier

Tier-2 and -3 cities more likely to delay their 2020 purchase plans

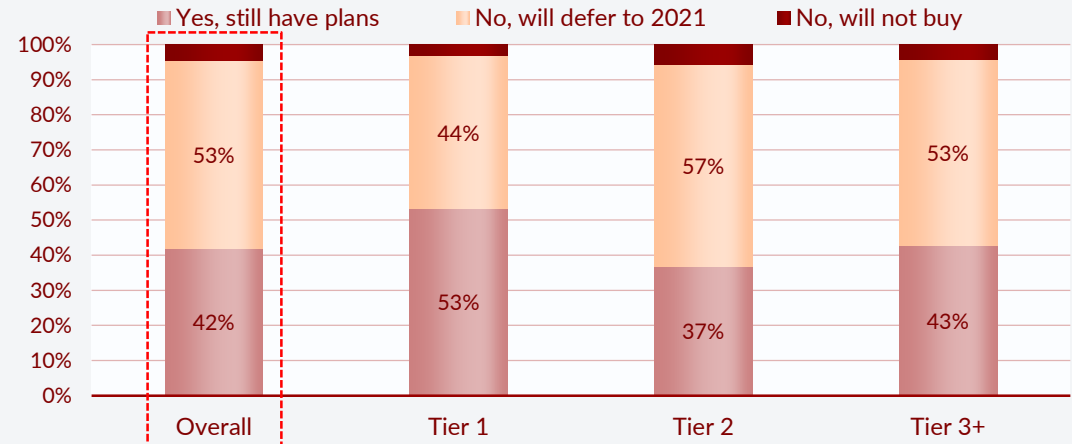
- ❑ Near term, respondents in tier-1 cities with pre-outbreak plans to buy property in 2020 were less concerned with the outbreak's impact compared to tier-2/3. More than half (53%) of tier-1 respondents with plans to buy said they still intended to do so in 2020, while only 37% and 43% felt the same in tier-2/3.
- ❑ In terms of investment sentiment, tier-1 cities measured slightly more optimistic, however, overall more than 54% of consumers from each city-tier said that their investment interest in property was unaffected by the outbreak, while 18% (tier-1/2) and 19% (tier-3) said the outbreak had actually made their sentiment improve. Again, negative responses are most likely to be found at a more granular level than city tiers.



Note: photo taken by CRR at a show room in a property development in Chenzhou, Hunan province Source: CRR

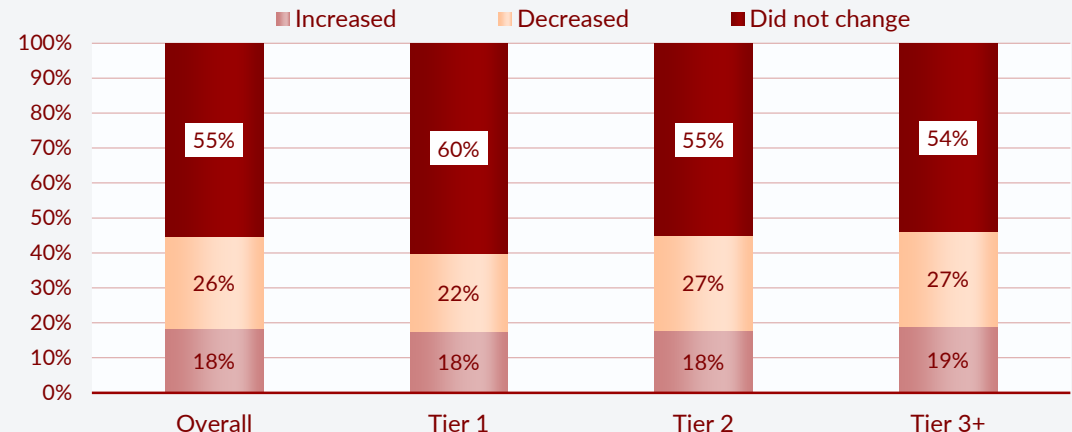
Outbreak's impact on 2020 buying plans

If you had plans in 2020 to buy property before the outbreak, do you still plan to after the outbreak?



Outbreak's impact on investment interest

As a result of the outbreak, your investment interest in property has_____?

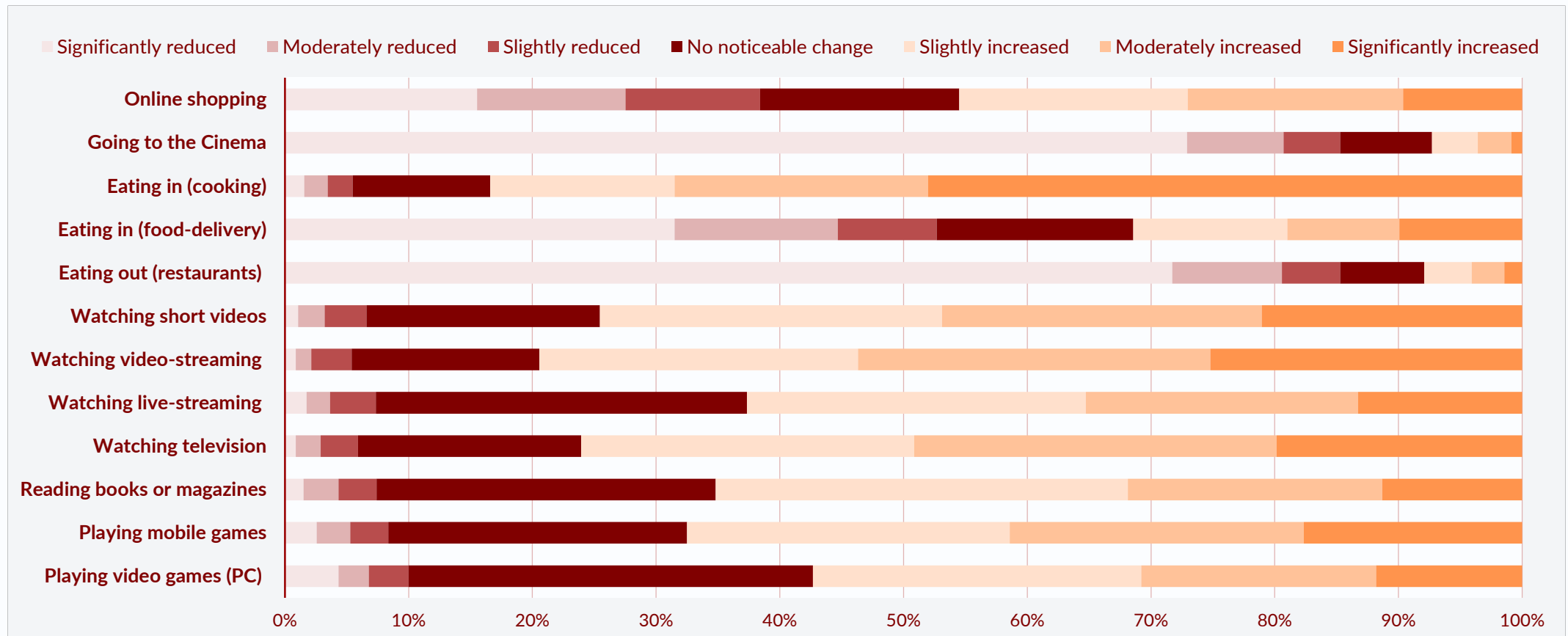


Stuck inside: behavioural shifts

How is consumer behaviour evolving and what sectors are most impacted?

- ❑ Stuck inside since late-January, Chinese consumers' daily lives have been disrupted. More time inside means more time on mobile apps (gaming, livestreaming, video streaming, etc) and less time, or rather an inability, to participate in traditional brick-and-mortar consumer behaviour.
- ❑ However, the results bear out more than the obvious, as the outbreak intensified, consumers across China began to avoid any and all risk of contact with the outside world; this shifted consumer behaviour in sometimes unexpected directions. There has been a sharp decrease in food delivery among some respondents and an unprecedented reprisal in cooking at home (especially for tier-1 residents) while consumers are becoming less comfortable with online shopping as it does not seem as contactless as thought due to human deliveries. In this section, CRR provides a category by category breakdown of how consumer behaviour and spending has shifted and what platforms and brands stand to benefit.

How has your participation changed in the following activities as a result of the outbreak?



Source: CRR

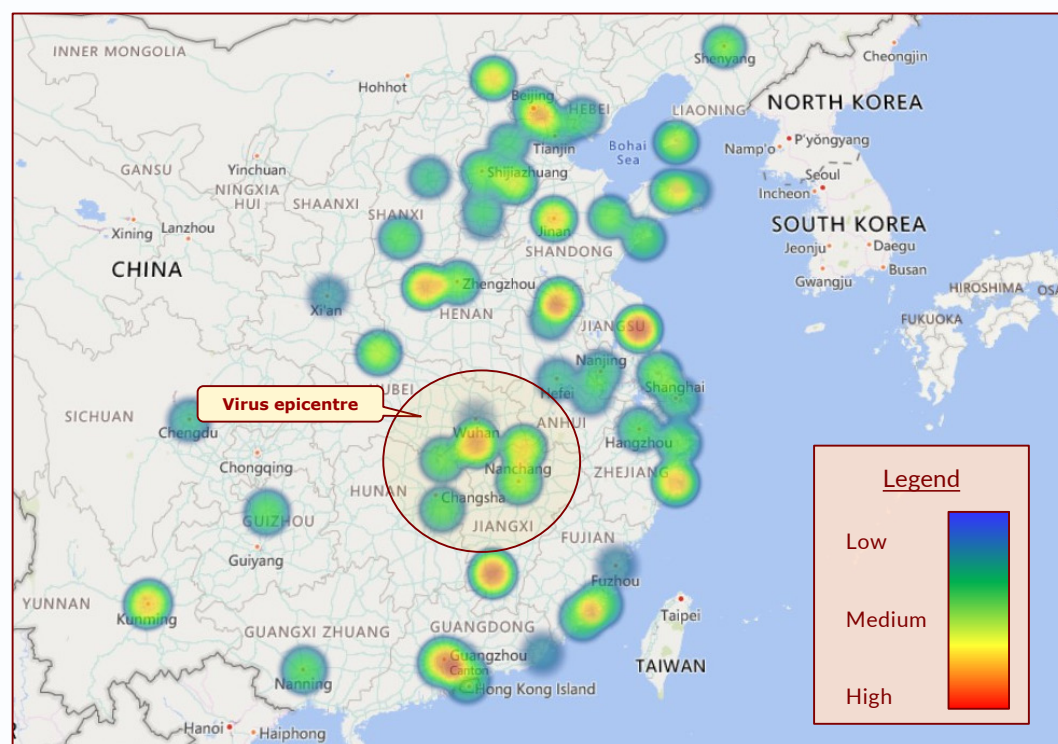
Stuck inside: live-streaming

Live-streaming usage sees sharp spike; Douyin and Kuaishou stand out

□ Since the outbreak, 62% of CRR's panel reported a 'slight', 'moderate' or 'significant' increase in the time they spent watching live-streaming. Less than 7% of our panel said that they had reduced live-streaming as a result of the outbreak.

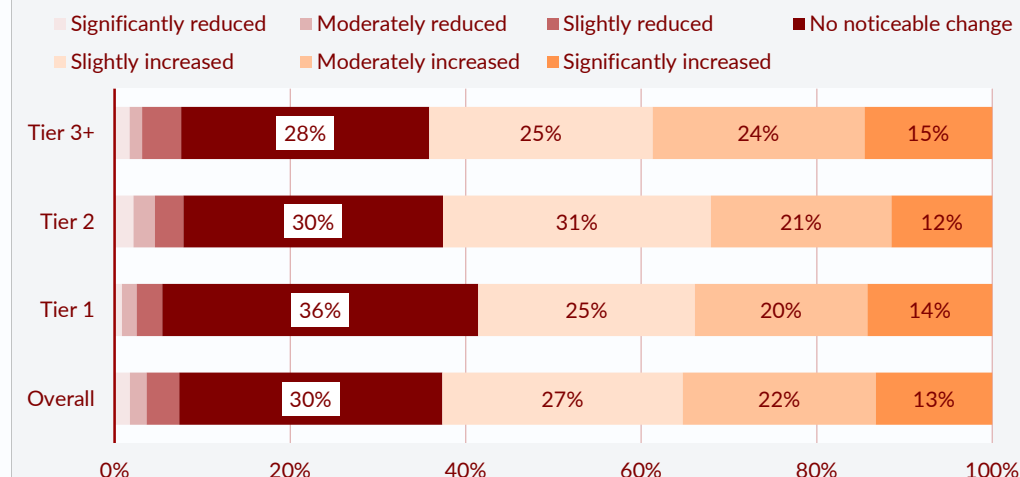
□ Two platforms stand out as being the most popular with our panel, Douyin was listed by 35% of respondents and Kuaishou by 26%. Ranking a more distant third and fourth were Huya (12%) and Douyu (11%).

Cities with largest increase in live-streaming

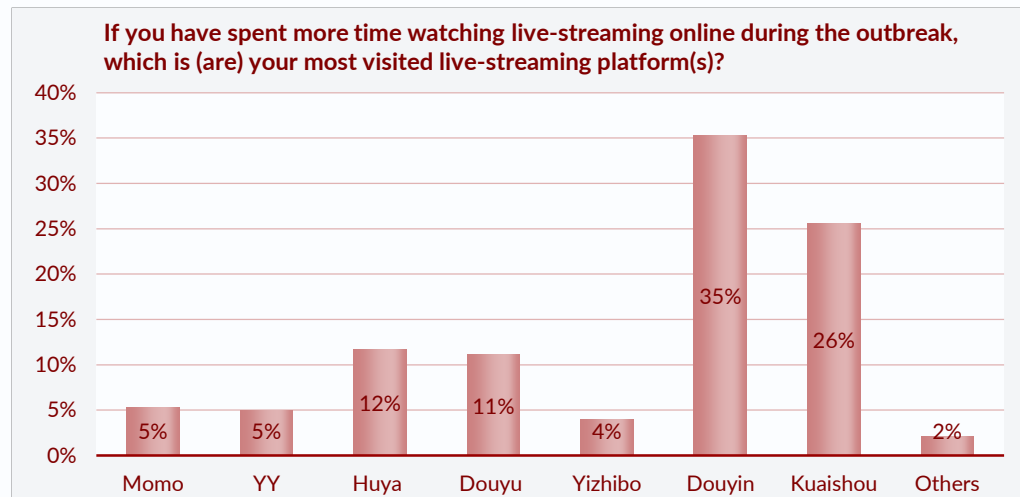


Note: This heatmap tracks the share of respondents in each city who reported a 'significant increase' in their use of live-streaming. Source: CRR, Bing and Excel Maps; Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation.

Outbreak's impact on amount of time spent live-streaming



Most popular platforms



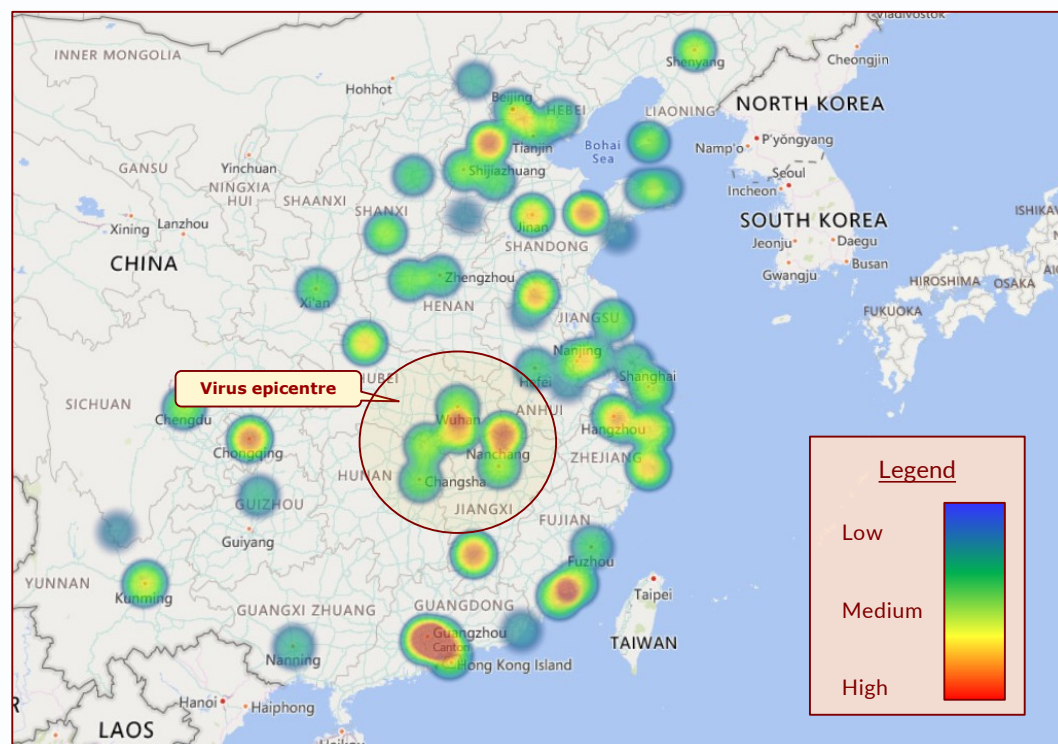
Stuck inside: video streaming

Significant jump in video streaming, particularly among tier-1 and -2 city users

❑ Almost 80% of respondents reported a 'slight', 'moderate' or 'significant' increase in their usage of video-streaming platforms to watch movies or television shows since the start of the outbreak. At a more granular level, tier-1 and -2 cities outpaced tier-3 in the share of consumers who reported a 'significant increase' in time spent.

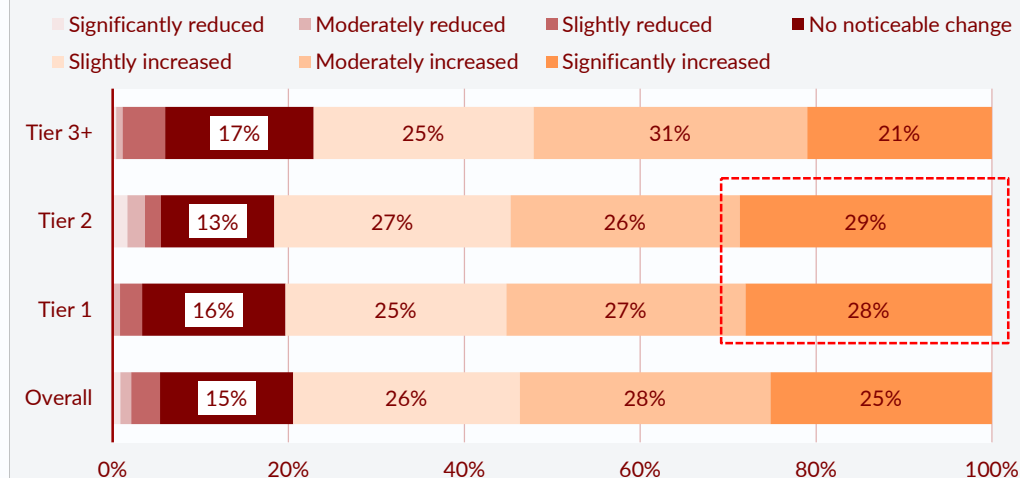
❑ In regards to platforms, iQIYI and Tencent video stand out as the top two, while Youku ranks a more distant third.

Cities with largest increase in video streaming

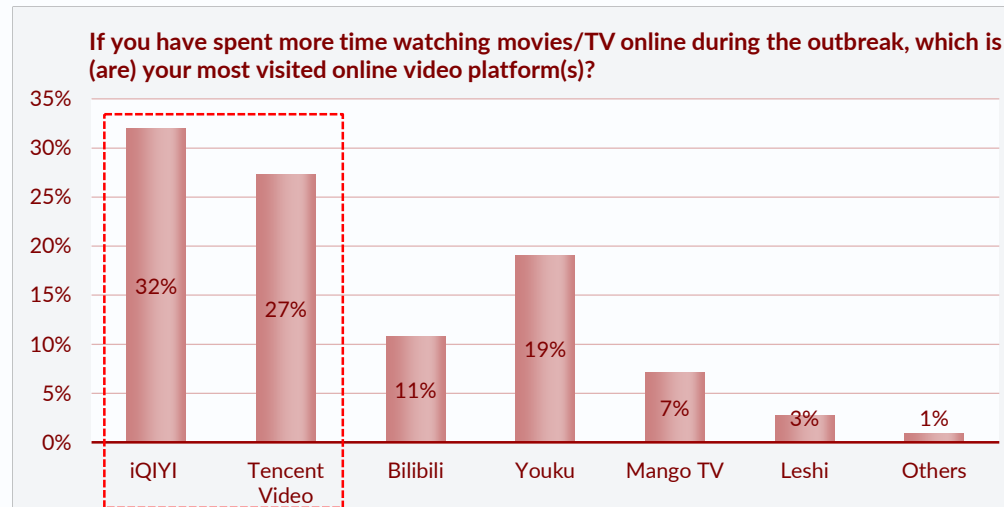


Note: This heatmap tracks the share of respondents in each city who reported a 'significant increase' in their use of video streaming. Source: CRR, Bing and Excel Maps; Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation.

Outbreak's impact on amount of time spent streaming videos



Most popular platforms



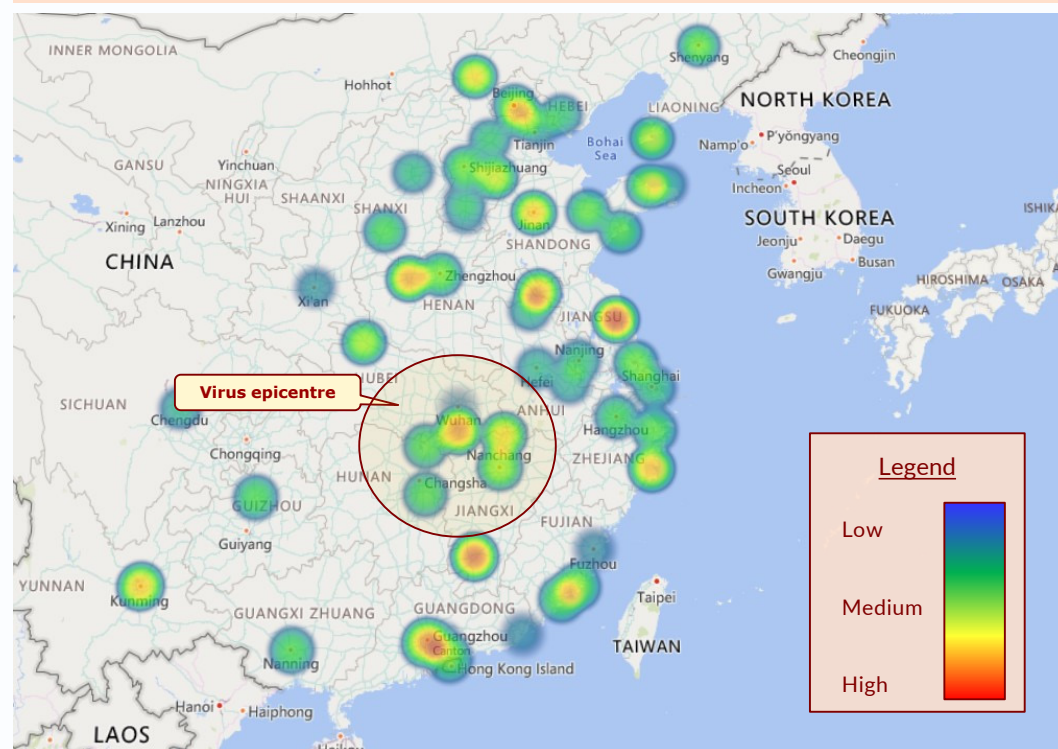
Stuck inside: short video

Broad increase in usage with two clear winners

❑ Short video platforms have seen a broad increase in usage since the start of the virus, only a relatively small portion (19%) reported 'no noticeable change' in usage. The majority of our panel has increased watching: 21% reported significantly increased usage, 26% moderately increased and 28% slightly increased.

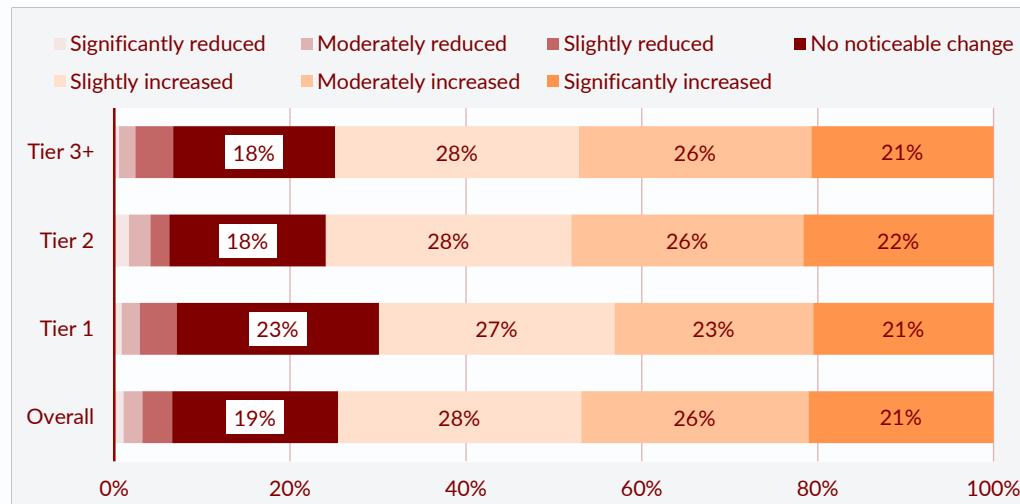
❑ Douyin ranked as the clear leader in popularity, getting mentioned by 40% of our panel, Kuaishou was the only other platform to be mentioned by at least 10% of our panel.

Cities with largest increase in watching short videos

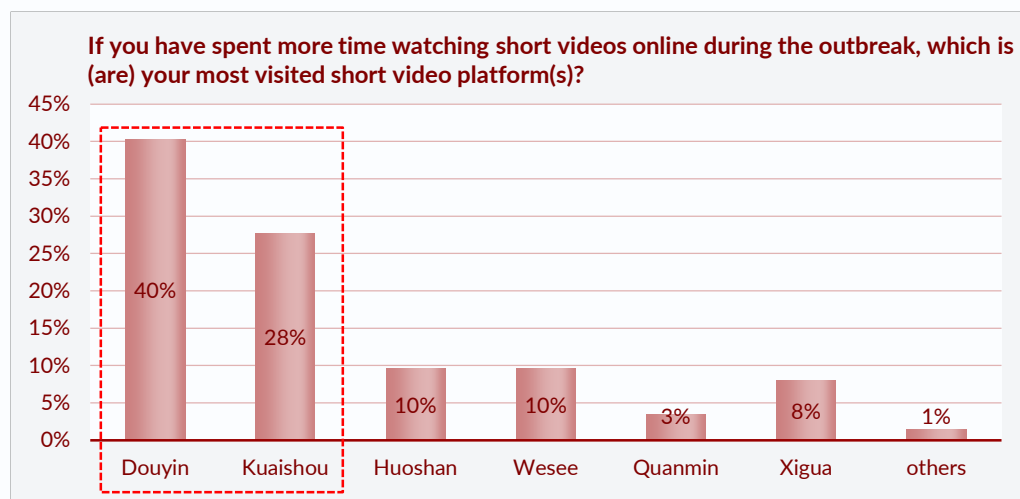


Note: This heatmap tracks the share of respondents in each city who reported a 'significant increase' in their use of short video platforms. Source: CRR, Bing and Excel Maps; Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation.

Outbreak's impact on amount of time watching short videos



Most popular platforms



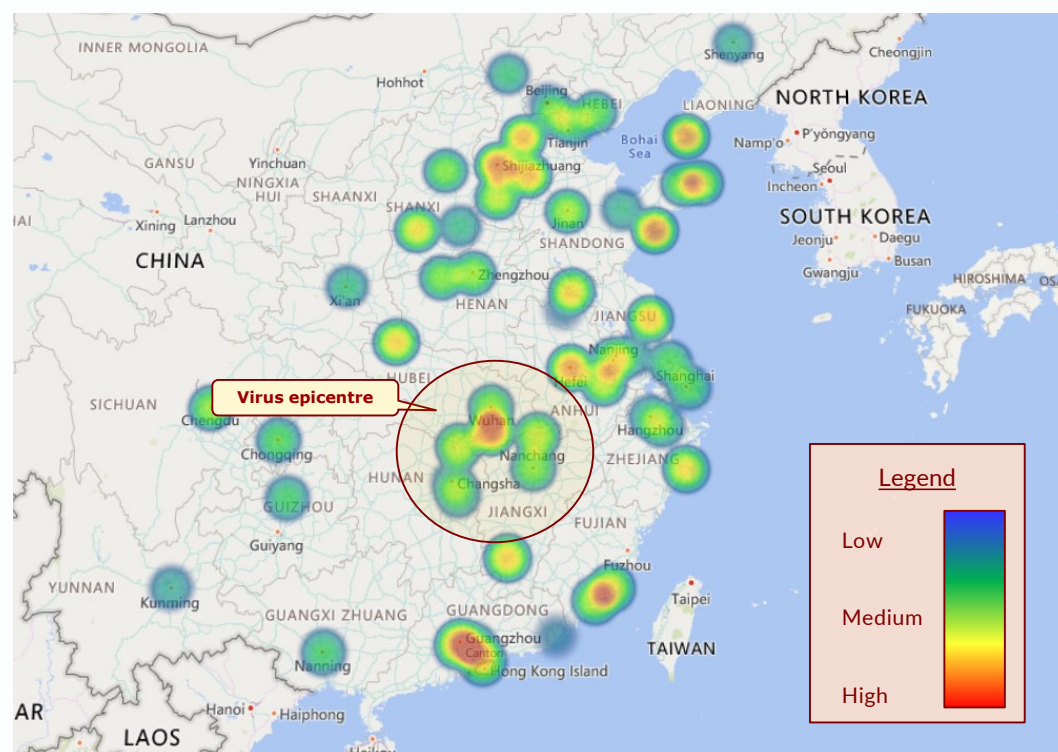
Stuck inside: gaming

Top games reap the rewards while WeChat mini-games remain popular

❑ The increased time spent inside and extended break from work has led to increased time spent playing China's most popular mobile games such as Honour of Kings and Peacekeeper Elite. Overall, 92% of our panel said that they had either seen no change or increased the amount of time spent playing mobile games since the start of the outbreak.

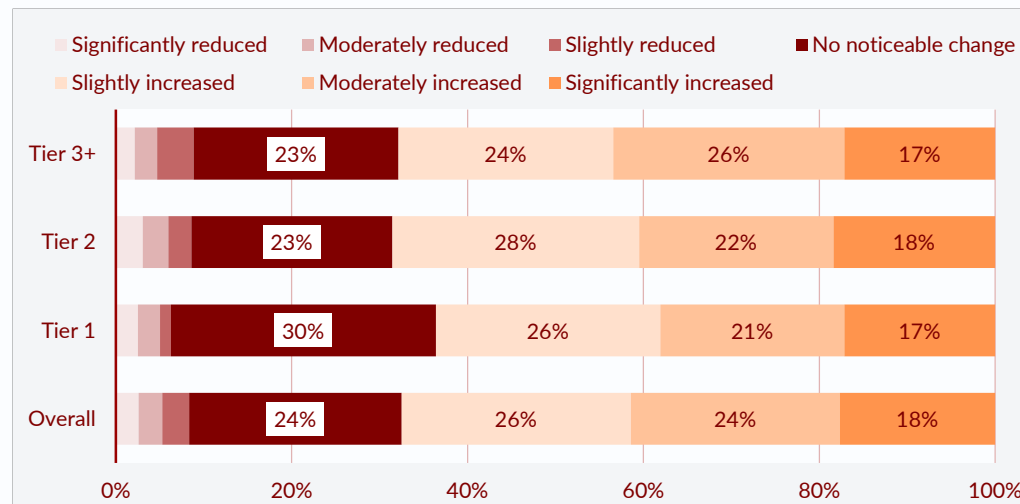
❑ Meanwhile, Weixin (Wechat) mini-games, especially popular among older age-groups and in lower-tier cities where dataspeeds tend to be slower, ranked as the third most popular type of game.

Cities with largest increase in mobile gaming

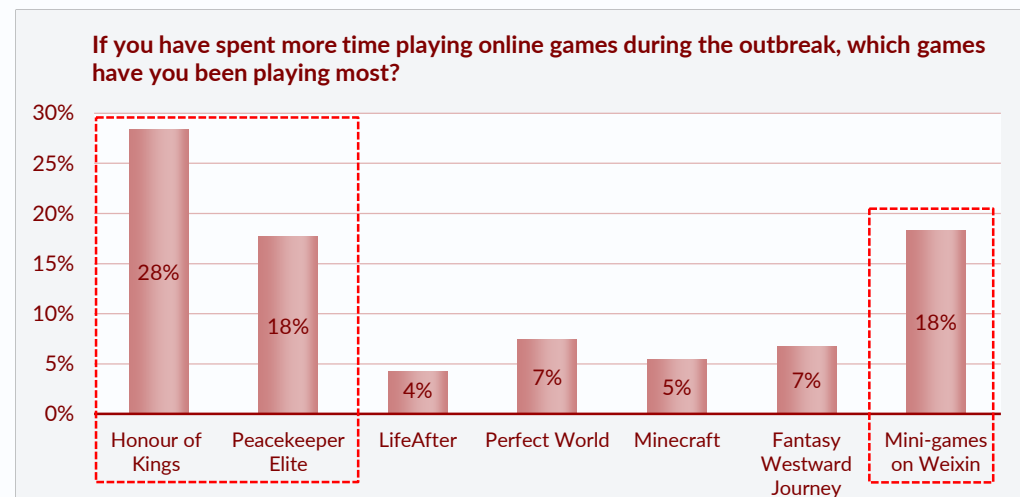


Note: This heatmap tracks the share of respondents in each city who reported a 'significant increase' in their use of mobile games. Source: CRR, Bing and Excel Maps; Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation.

Outbreak's impact on amount of time spent gaming



Most popular games

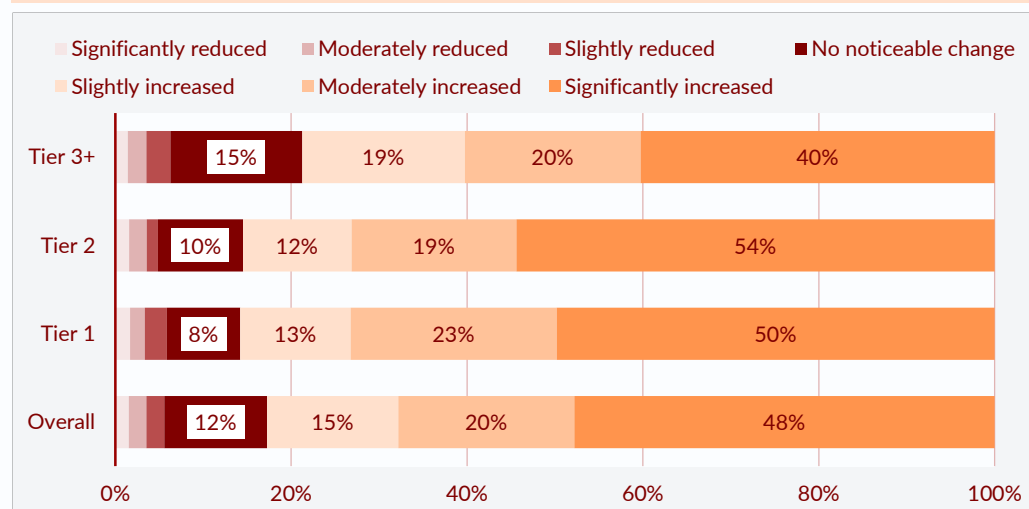


Stuck inside: dining habits

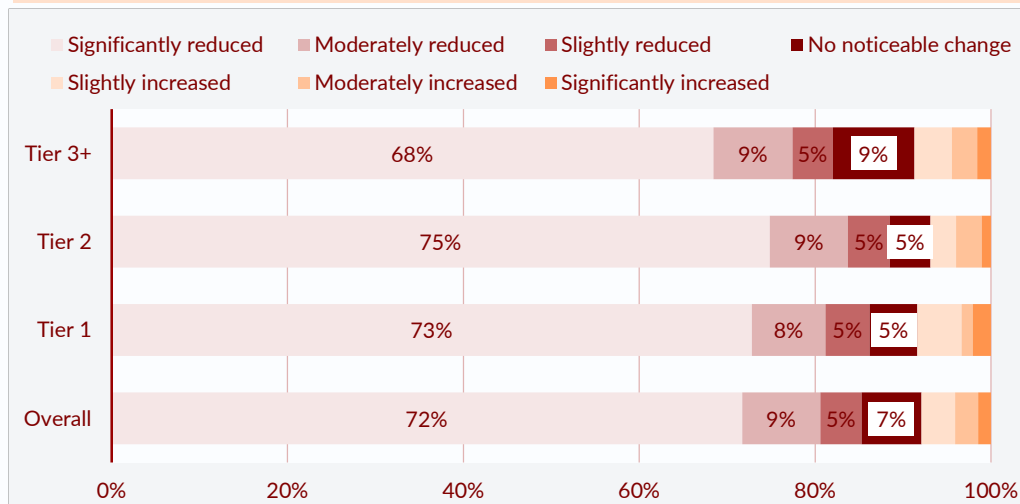
Cooking at home returns as food delivery comfortability becomes mixed

- ❑ In recent years, China's tier-1 and -2 consumers have quickly adopted food delivery as they spend more time working. However, now more than 50% of tier-1 and -2 consumers reported that since the start of the outbreak they have 'significantly increased' the amount of meals they cook at home. Conversely, food delivery, which CRR suspects increased at the start of the outbreak, has dropped precipitously as consumers worry about person to person contact.
- ❑ Overall, 31% of our panel reported a significant decrease in food-delivery app use. Going out to eat has not been a viable option for the vast majority of consumers and 72% of our panel reported a 'significant' reduction in eating at restaurants.
- ❑ It remains unclear what the long-term impact (if any) the virus will have on consumers' eating habits, but for now, our data across the board clearly shows the disruptions in consumer dining habits.

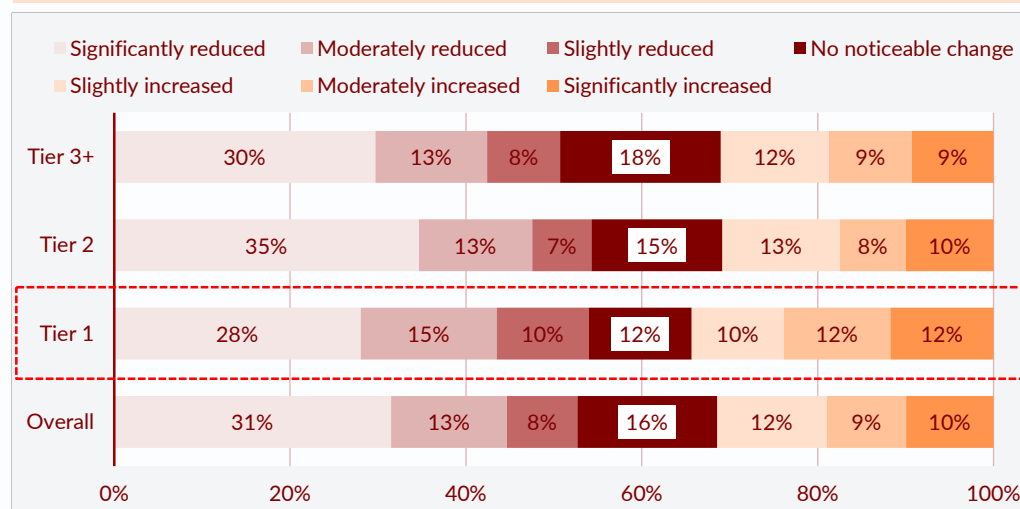
Outbreak's impact on cooking at home



Outbreak's impact on going out to eat



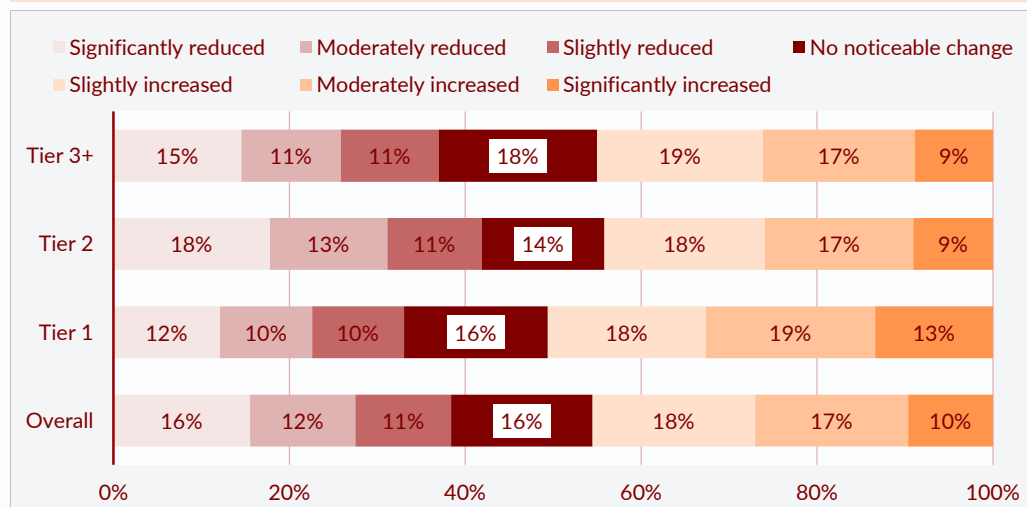
Outbreak's impact on use of food delivery apps



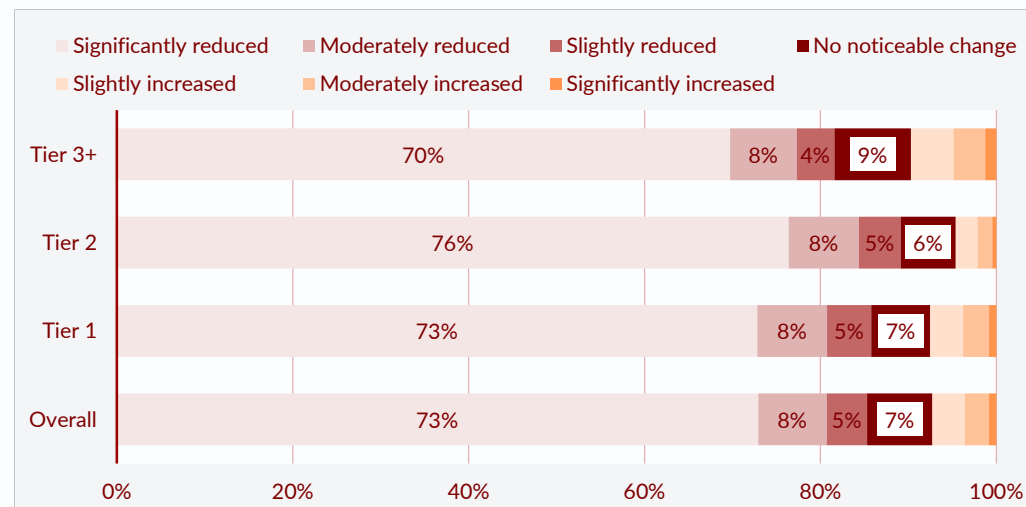
Stuck inside: shopping and other entertainment

Online shopping mixed, while time spent reading and watching TV jump

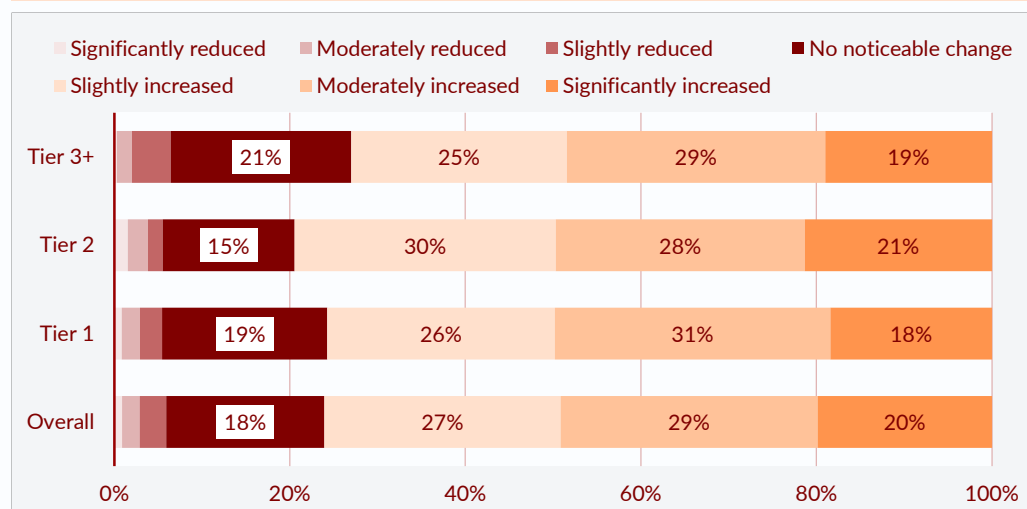
Outbreak's impact on time spent online shopping



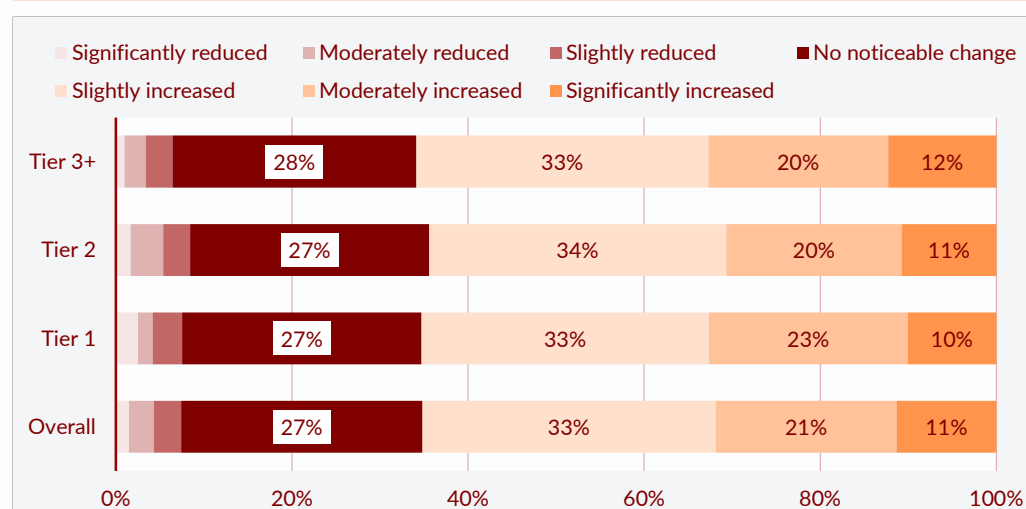
Outbreak's impact on trips to the cinema



Outbreak's impact on watching television



Outbreak's impact on time spent reading books and magazines

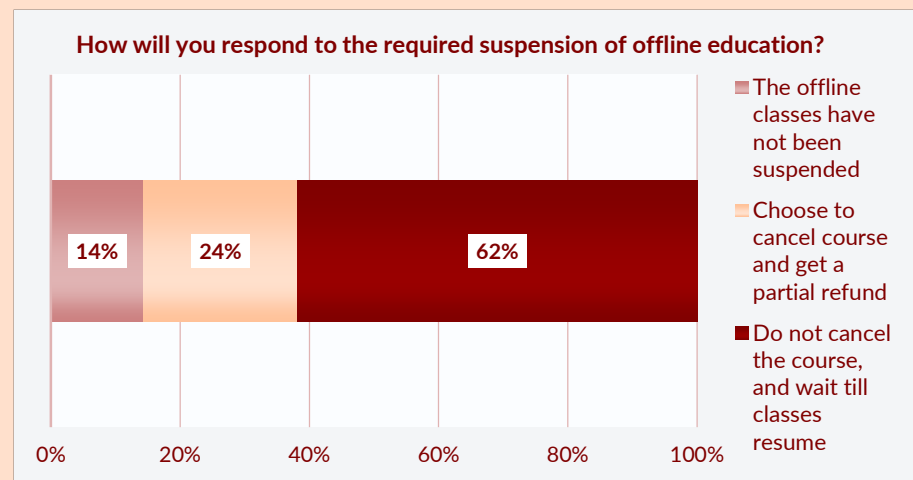


Education: offline suspended

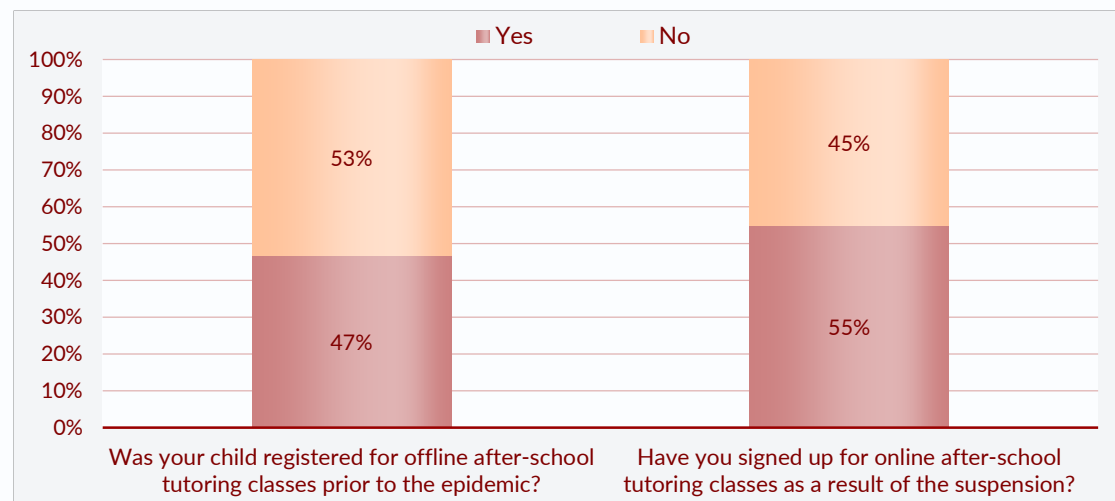
Impact from offline suspension appears manageable; online gets unique opportunity

- ❑ In addition to cancelling schools, the government has also required offline-tutoring centres to close as a way to further prevent the spread of the outbreak. Prior to the outbreak, almost half (47%) of our respondents with children indicated their children were registered for offline after-school tutoring classes.
- ❑ This situation has provided a unique opportunity for online tutoring platforms; 55% of our panel said they signed up for online tutoring classes as a result of the outbreak, representing a substantial opportunity for new user growth for online platforms.
- ❑ In regards to offline, 62% of those already signed up for offline classes indicated they would choose a wait-and-see approach instead of cancelling the course right away; only 24% choose to cancel the class and to get a partial refund. According to our survey the two most popular offline education brands held the majority of the market prior to the outbreak. TAL Edu (TAL) was the most popular brand with half of those choosing offline education as their customers; New Oriental Edu (EDU) was second with a 34% share.

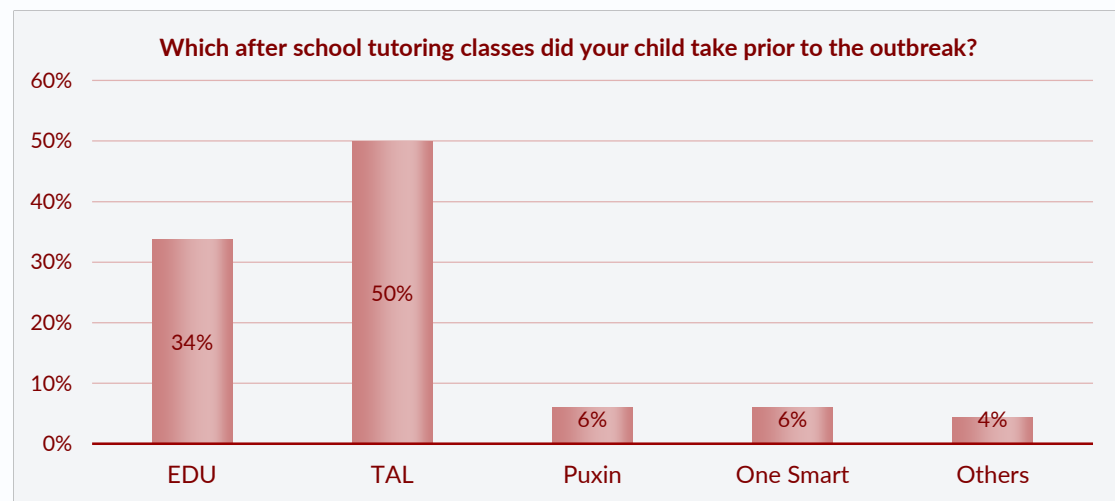
Will they cancel



Offline to online



Most popular offline platforms



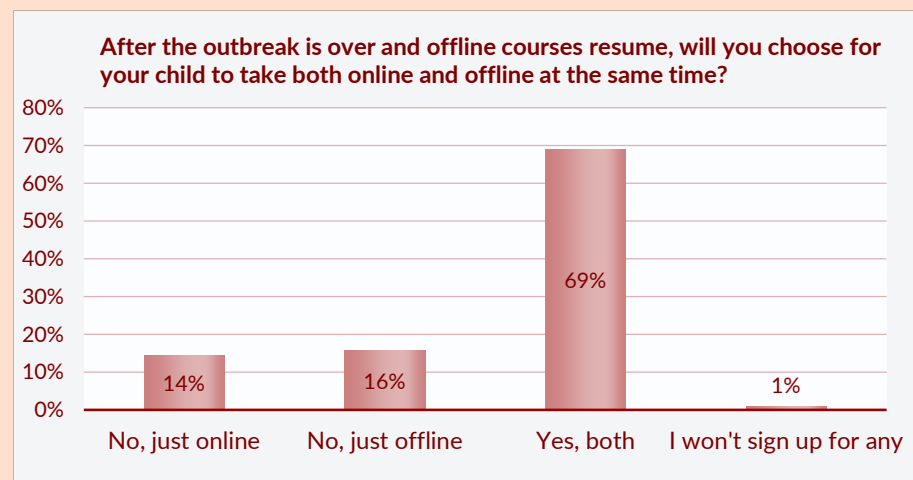
Note: The 55% of respondents who said they had signed up for online after-school tutoring classes as a result of the outbreak does not incl. Source: CRR

Education: online opportunity

Suspension provides unique opportunity as parents' interest in online platforms jumps

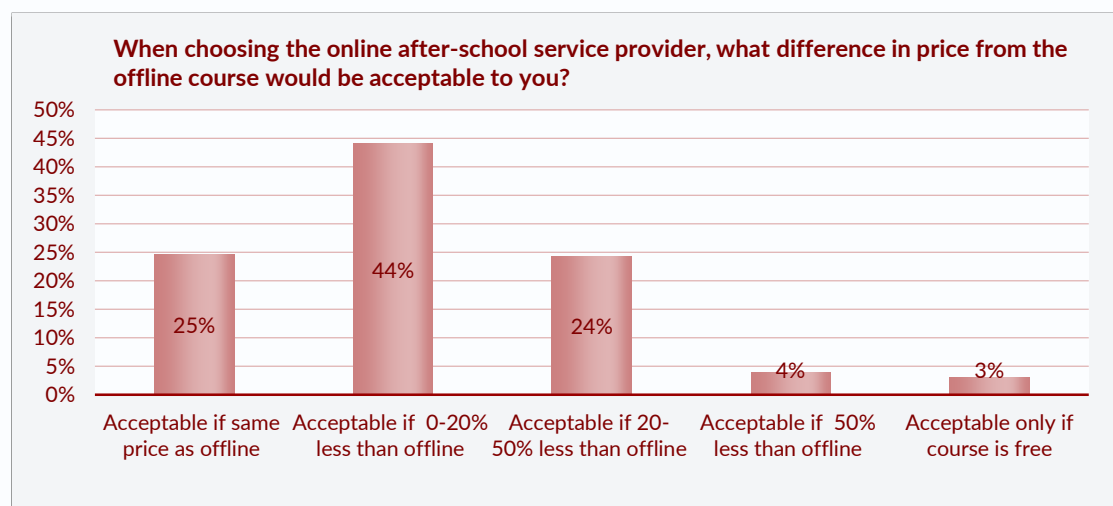
- ❑ The education market appears to be more competitive online than offline based on the diversity of online brands being chosen by parents as a result of the outbreak.
- ❑ TAL and EDU remain popular among the online education platforms, with 45% and 21% of those who joined as a result of the outbreak choosing the respective brands. Yuanfudao is another popular online platform with a 21% share of those newly joined.
- ❑ In regards to pricing, respondents expect online to be more affordable than offline; 25% suggested they are okay if both have comparable pricing; 44% indicated a reduction of 0-20% in online pricing would be acceptable whereas 24% indicated 20-50% reduction for online.
- ❑ The choice to add an online component to children's education solutions appears to have a high chance of being sticky even after the offline courses resume; 69% suggested they would keep both online and offline platforms at the same time for their kids even after the outbreak is over. The share of parents who would choose just online versus just offline are comparative: 14% vs 16%.

Will it stick?

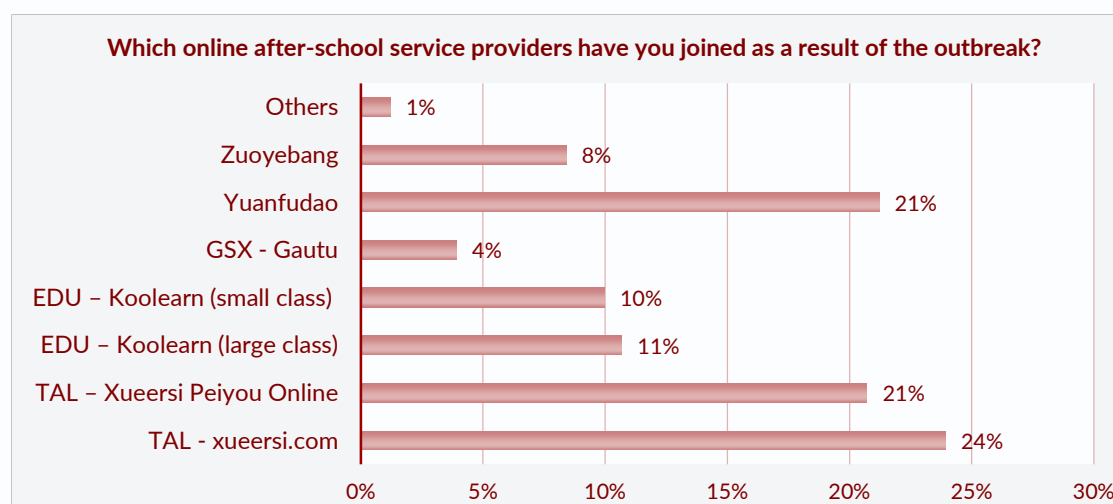


Source: CRR

Making the switch



Most popular online platform after the outbreak

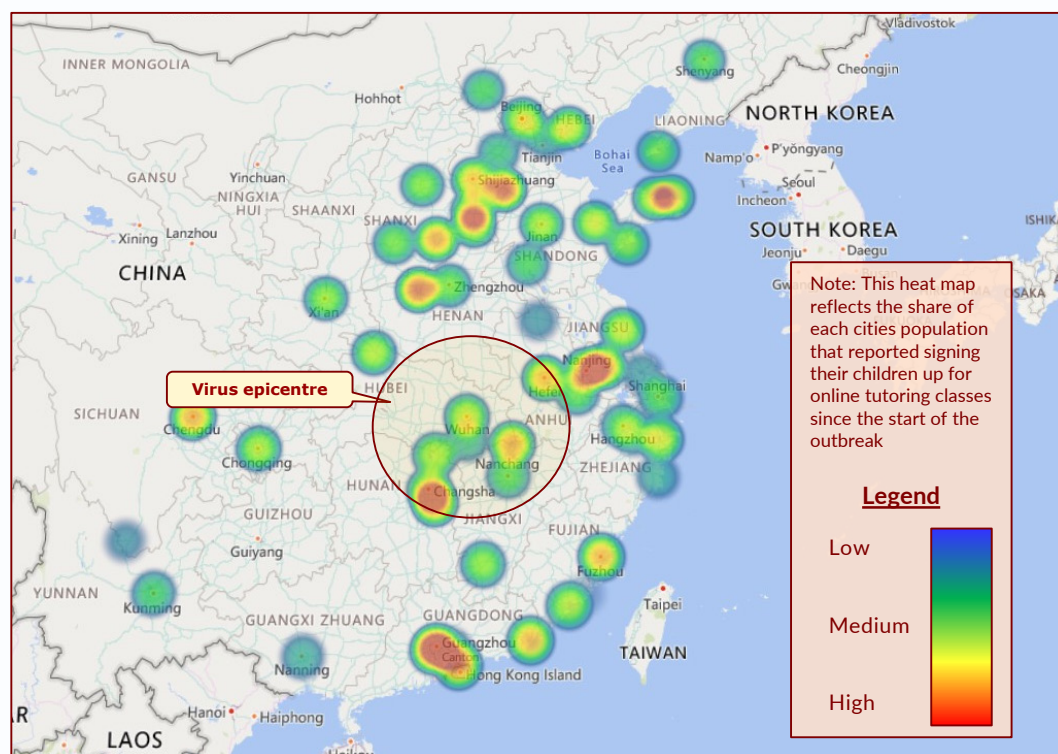


Education: trends by tier

Online adoption more popular in Tier 1 cities

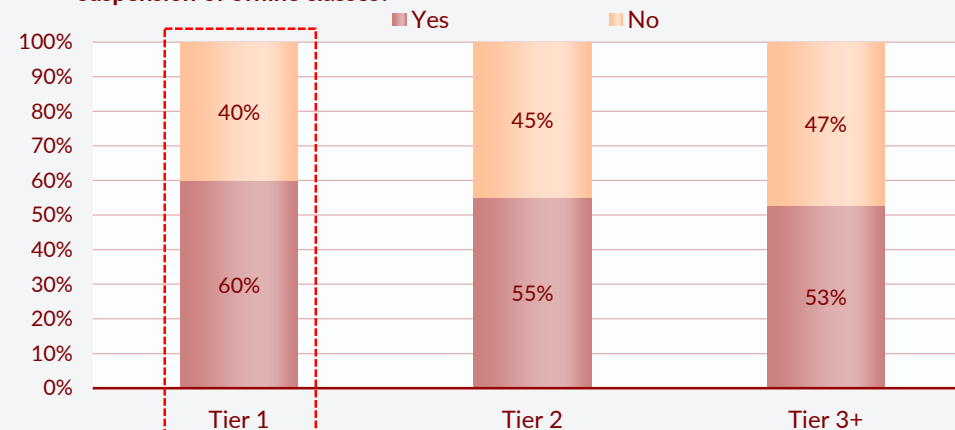
- By tier, 60% of parents in tier-1 cities have signed up for online after-school tutoring classes as a result of the offline class suspension due to the outbreak. This compares to 55% and 53% in tier-2 and -3 cities.
- When asked about their post-outbreak plans regarding their children's education options, 76% in tier-1 cities would continue to choose both online and offline platforms, comparing to only 68% in tier 2 and 67% in tier 3. The proportion of parents from tier 1 indicating offline only after the outbreak is also smaller vs tier-2 /3 cities - 10% versus 17%.

Cities where online has gained the most traction



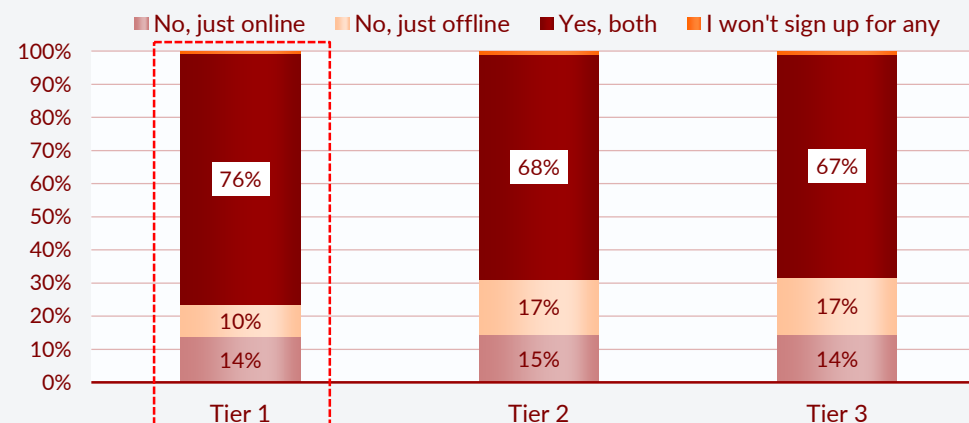
Online adoption by tier

Have you signed up for online after-school tutoring classes since the government suspension of offline classes?



Post-outbreak plans by tier

After the outbreak is over and offline courses resume, will you choose for your child to take both online and offline at the same time?



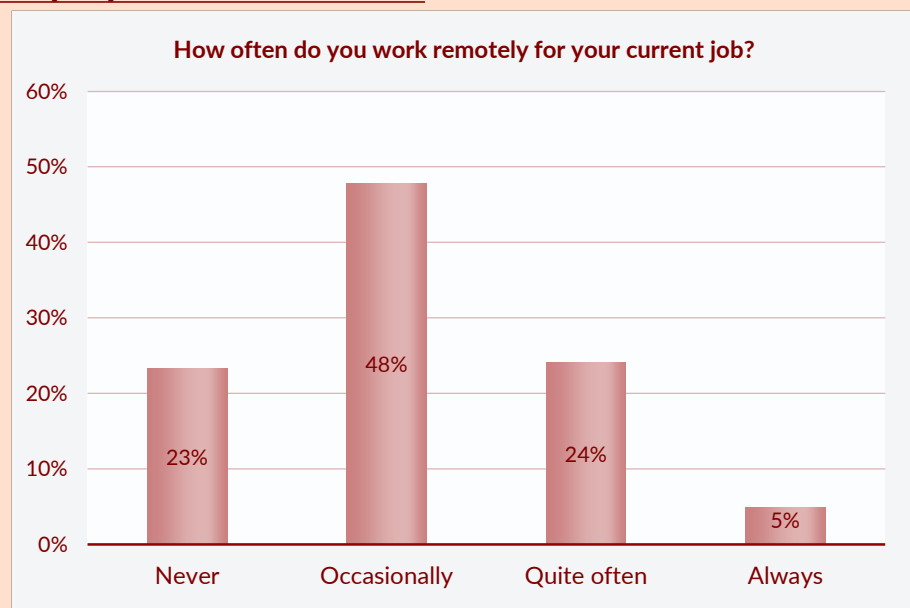
Source: CRR, Bing and Excel Maps; Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation.

Working from home

Outbreak gives people more opportunities to work remotely

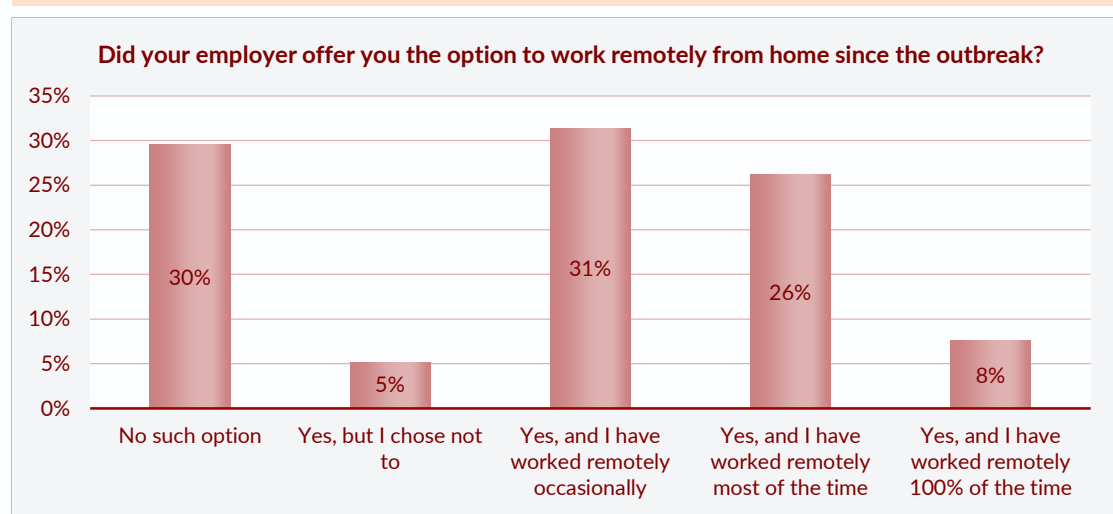
- ❑ Working from home has become a necessity for many of our respondents since the start of the outbreak, 70% of our panel reported working remotely in some capacity since the start of the outbreak, while the remaining 30% indicated they were not offered the option by their employer.
- ❑ A higher-than-expected share of our panel had tried working remotely in the past, only 23% indicated they have never done so, and over half of our panel indicated they felt satisfied with the overall experience in working remotely from home.
- ❑ Out of the 20% who had not experienced working remotely before, more than 65% of them said they would love to give it a try if given the option.

Do people work from home?

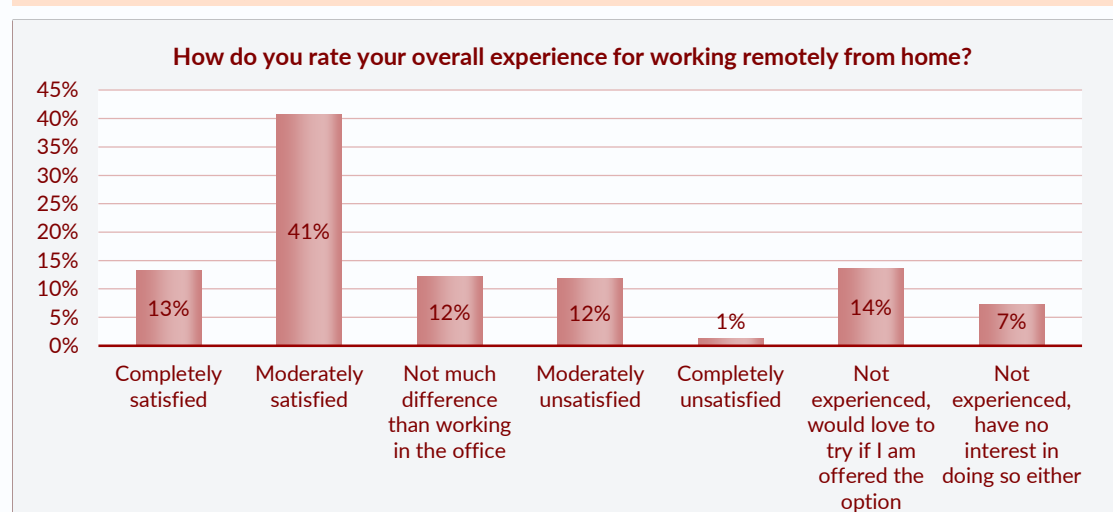


Source: CRR

Working from home since the outbreak



Do people enjoy working from home?

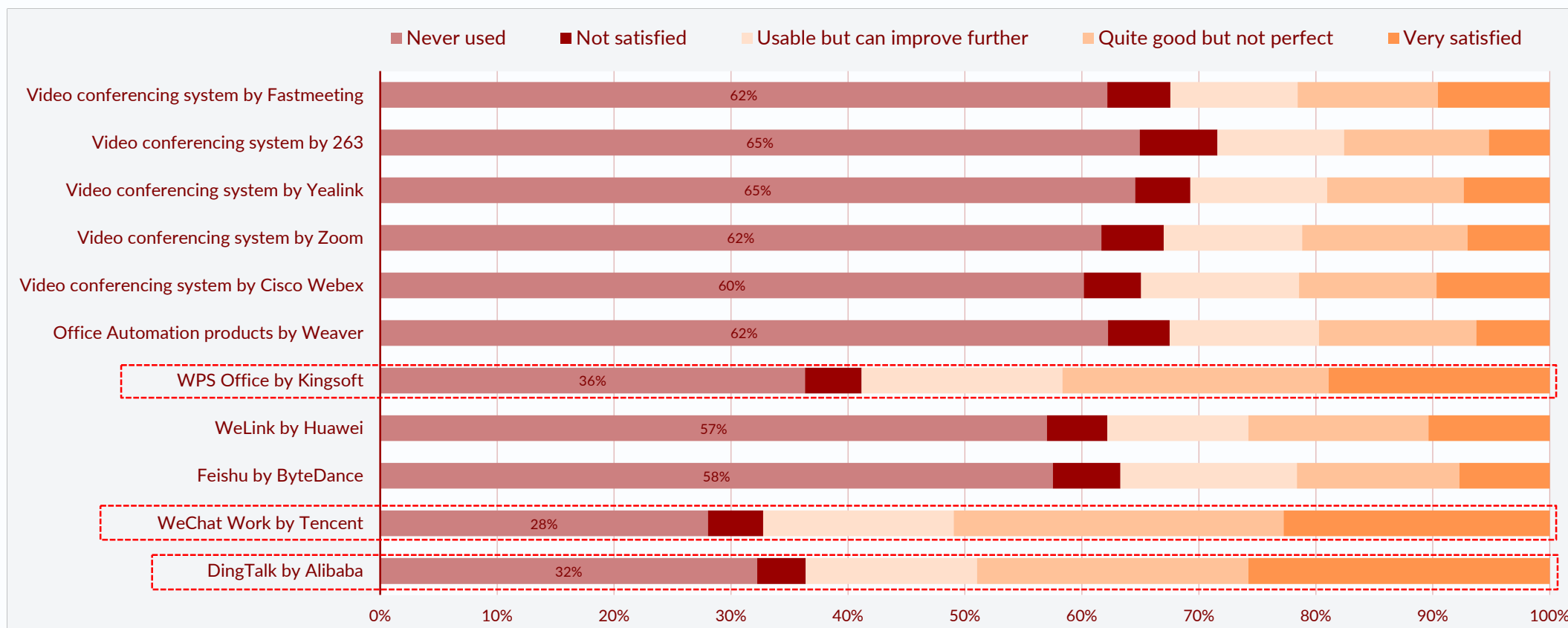


Working from home: top platforms

Three collaborative office tools stand out

- ❑ For collaborative applications, more people have used WeChat Work by Tencent and DingTalk by Alibaba, with a higher proportion of our panel also feeling satisfied with these tools.
- ❑ WPS Office by Kingsoft was another vertical segment leader with high popularity. For those who have used the application, over half felt positive with the tool and close to 30% indicated they were very satisfied.
- ❑ For every video conferencing tool listed in our survey (including both foreign and domestic solutions), over 60% of our panel indicated they have never used the tool before, indicating the market is still fairly fragmented with many applications still trying to fight for the pole position.

How would you rate the following collaborative office tools?



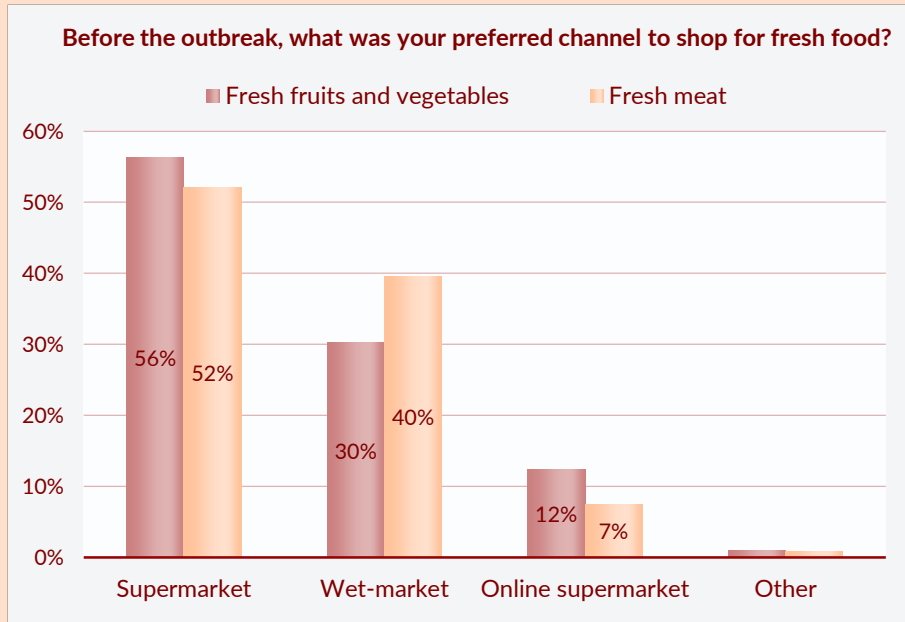
Source: CRR

Groceries: pre-outbreak norms

Wet markets remain a significant channel for food buying; online still nascent

- ❑ Despite the rapid expansion of modern supermarket chains and the more recent push by ecommerce platforms into fresh food delivery, traditional wet markets continue to be popular among Chinese consumers. Before the outbreak, our panel ranked their preferences for wet markets at 40% and supermarkets at 52% while online at just 7%.
- ❑ The connection between the virus outbreak and a wet market in Wuhan that sold live animals has brought its role in China's food-supply into the national conversation. We analyse how consumers' near- and long-term sentiment towards wet markets has been effected by the outbreak and what opportunities exist for other channels (supermarkets and online) to gain share.

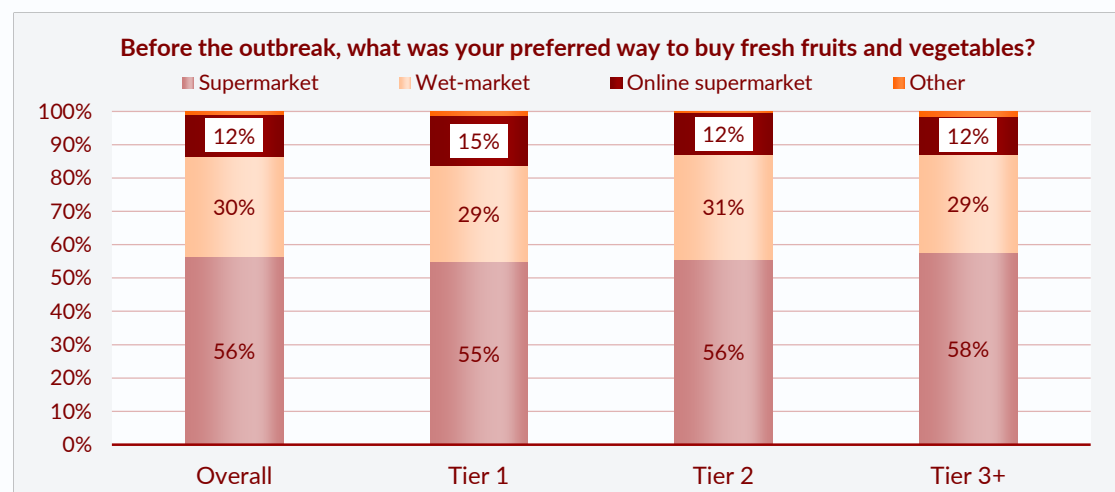
Channel breakdown



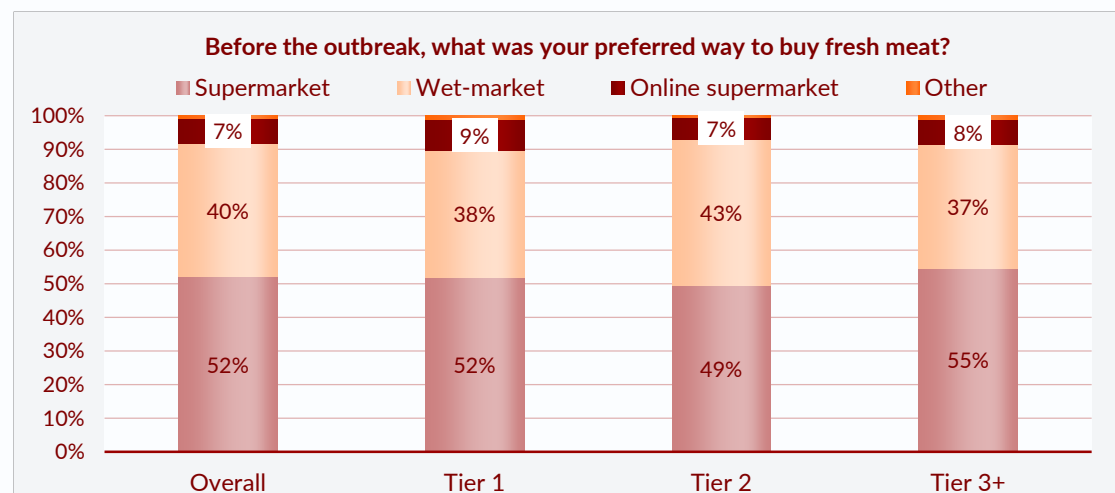
Source: CRR

February 2020

Fresh produce purchase behaviour by tier



Fresh meat purchase behaviour by tier



Groceries: purchasing impact

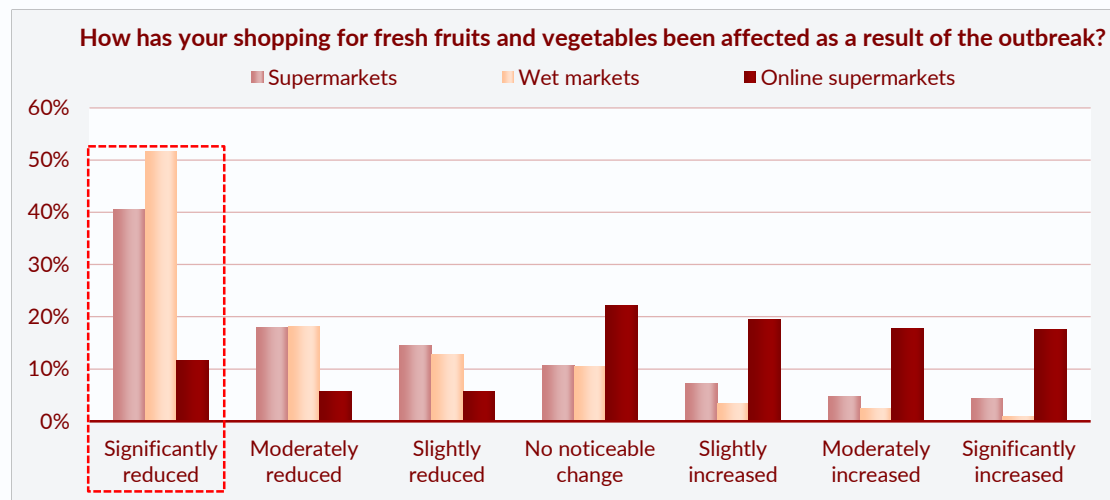
Amid outbreak, consumers flock to online platforms for fresh food buying

- ❑ CRR's panel reported a sharp drop in their use of supermarkets and wet markets, which has greatly benefited online channels. More than 50% of our panel reported either a 'slight', 'moderate' or 'significant' increase in their use of online grocery platforms.
- ❑ On the other end of the spectrum, wet markets have been hit harder than supermarkets; 51% (fresh produce) and 45% (fresh meat) cited a 'significant' reduction in their use of wet markets since the start of the outbreak versus 40% (fresh produce) and 34% (fresh meat) for supermarkets.

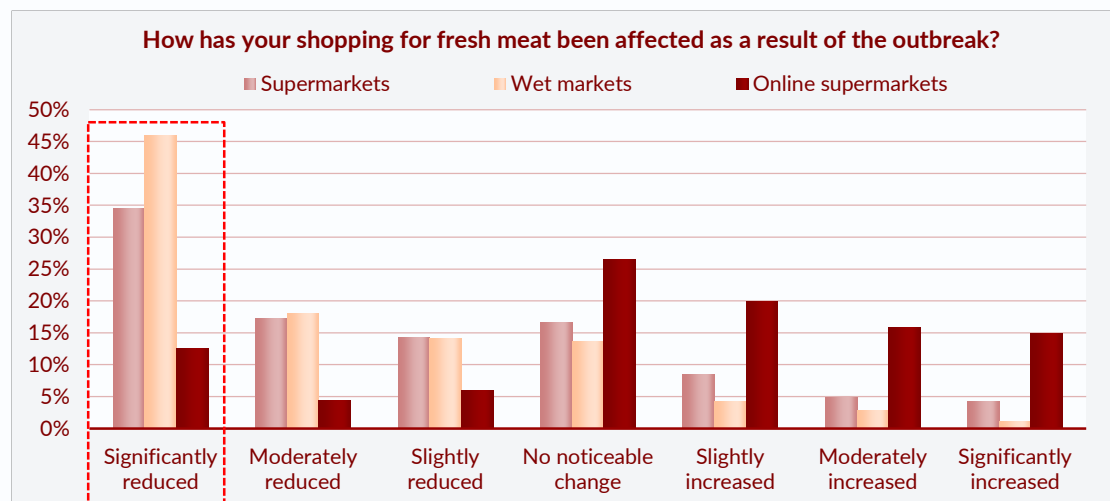


Note: picture taken by CRR in a Walmart in Chenzhou, Hunan province Source: CRR

Outbreak's impact on fresh produce purchase behaviour



Outbreak's impact on fresh meat purchase behaviour



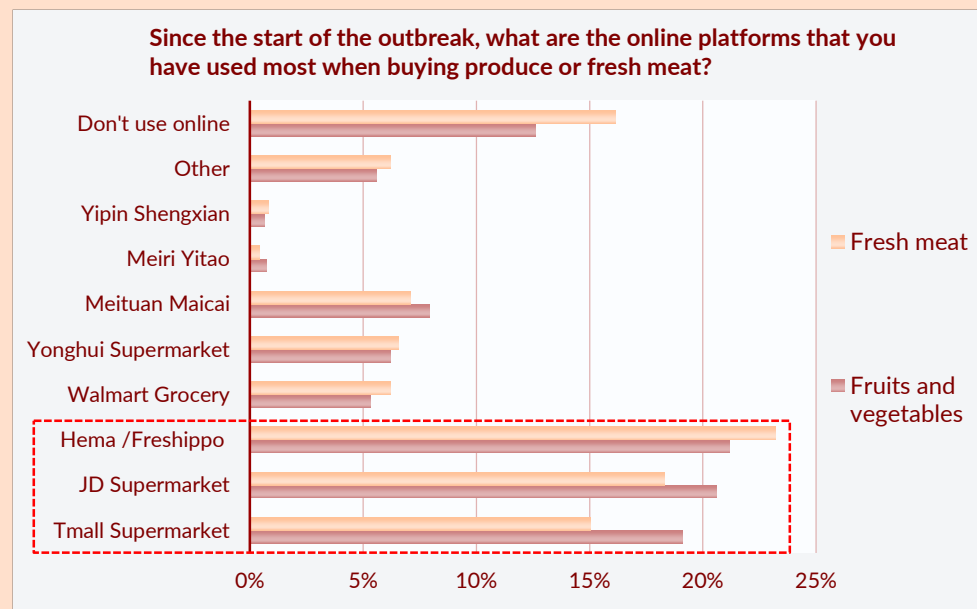
Groceries: most popular brands

Three clear frontrunners for online supermarkets; hypermarkets top offline list

Online

- ❑ Hema (Alibaba), JD Supermarket (JD) and Tmall Supermarket (Alibaba) stood out as the brands that have experienced the most user growth since the start of the outbreak.
- ❑ Meanwhile, offline supermarket giant Walmart, one of the top traditional supermarket brands in China, still appears to have plenty of room for improvement when it comes to its online offerings; only around 5% of our panel mentioned they had used Walmart's online platform. Overall, 13% (fresh produce) and 16% (fresh meat) said they had not used an online platform to order groceries since the start of the outbreak.

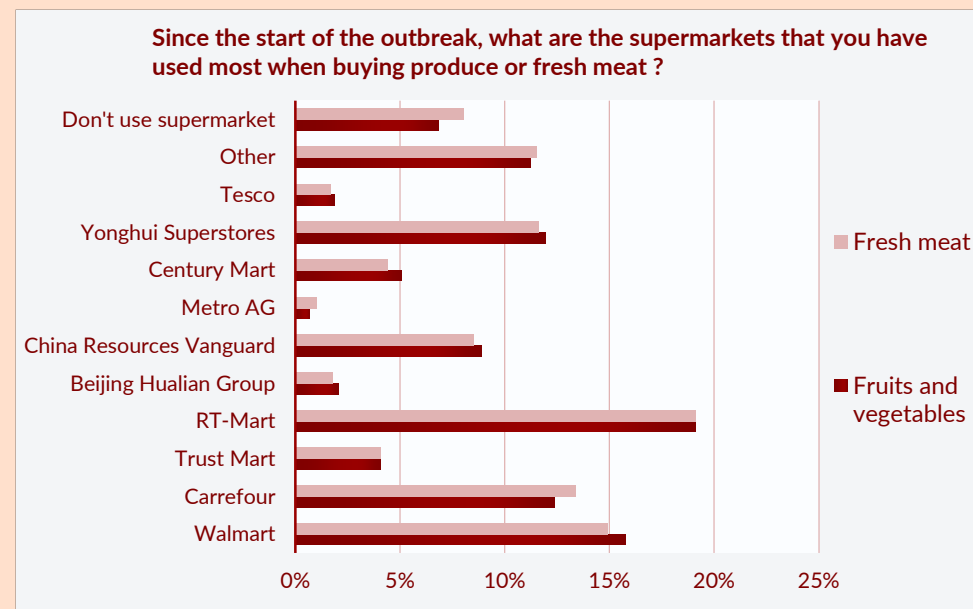
Most popular online platforms



Offline

- ❑ The top three supermarkets that stood out to our panel are all hypermarkets, or what is called in the West a “big box” store, RT-Mart ranked first followed by foreign imports Walmart and Carrefour.
- ❑ Ranked four and fifth on the list were more traditional supermarkets Yonghui Superstores and China Resources Vanguard. Only 7% (fresh produce) and 8% (fresh meat) of our panel said that they have not used a supermarket since the start of the outbreak, far less than those stating they had not used online supermarkets.

Most popular supermarkets



Groceries: long-term impact

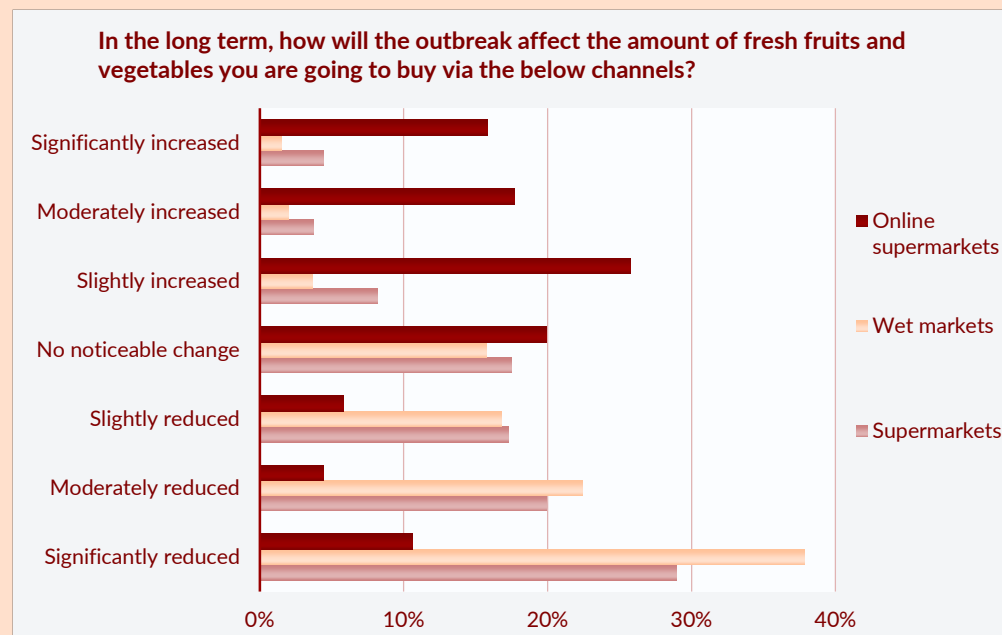
Effects run deep as consumers predict significant long-term shift in their behaviour

- ❑ When asked about long-term changes in their purchasing behaviour, more than 35% of our panel said the outbreak will 'significantly reduce' the amount they shop at wet markets for fresh produce and meat. Sentiment towards supermarkets didn't fair much better, as just under 30% of our panel also said they would 'significantly reduce' the amount they shop.
- ❑ Our panel's feedback clearly bears out an increased exposure to online grocery platforms as a result of this virus, in combination, 59% (fresh produce) and 53% (fresh meat) of our panel said they would increase their use of online grocery platforms in some way; this compares to the 7% (fresh meat) and 12% (fresh produce) that selected online grocery platforms as their pre-outbreak preferred channel for purchasing fresh food.

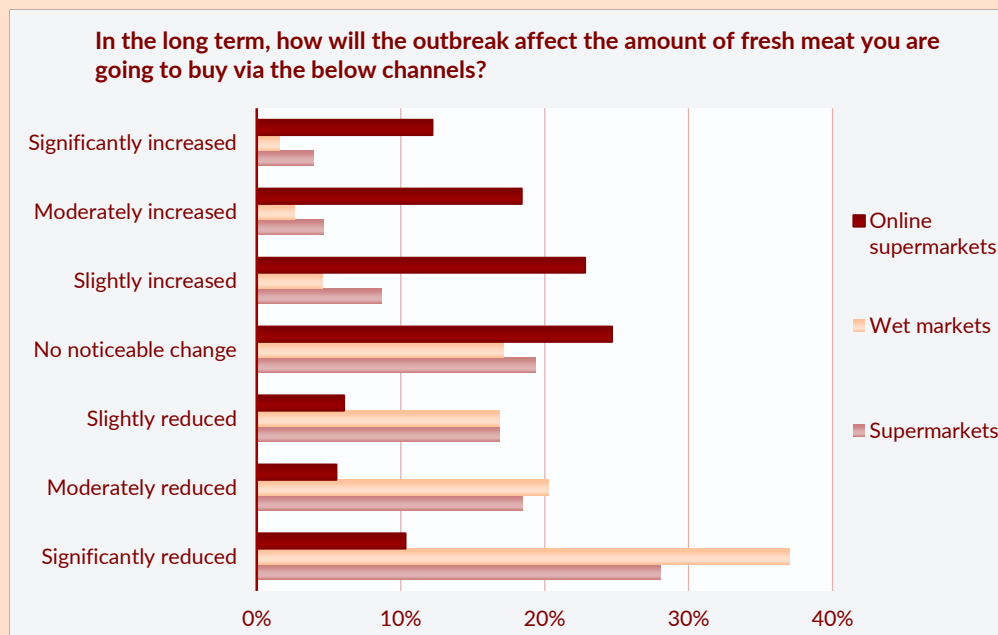
Street scenes (Wuhan food delivery)



Long-term impact on fresh produce shopping



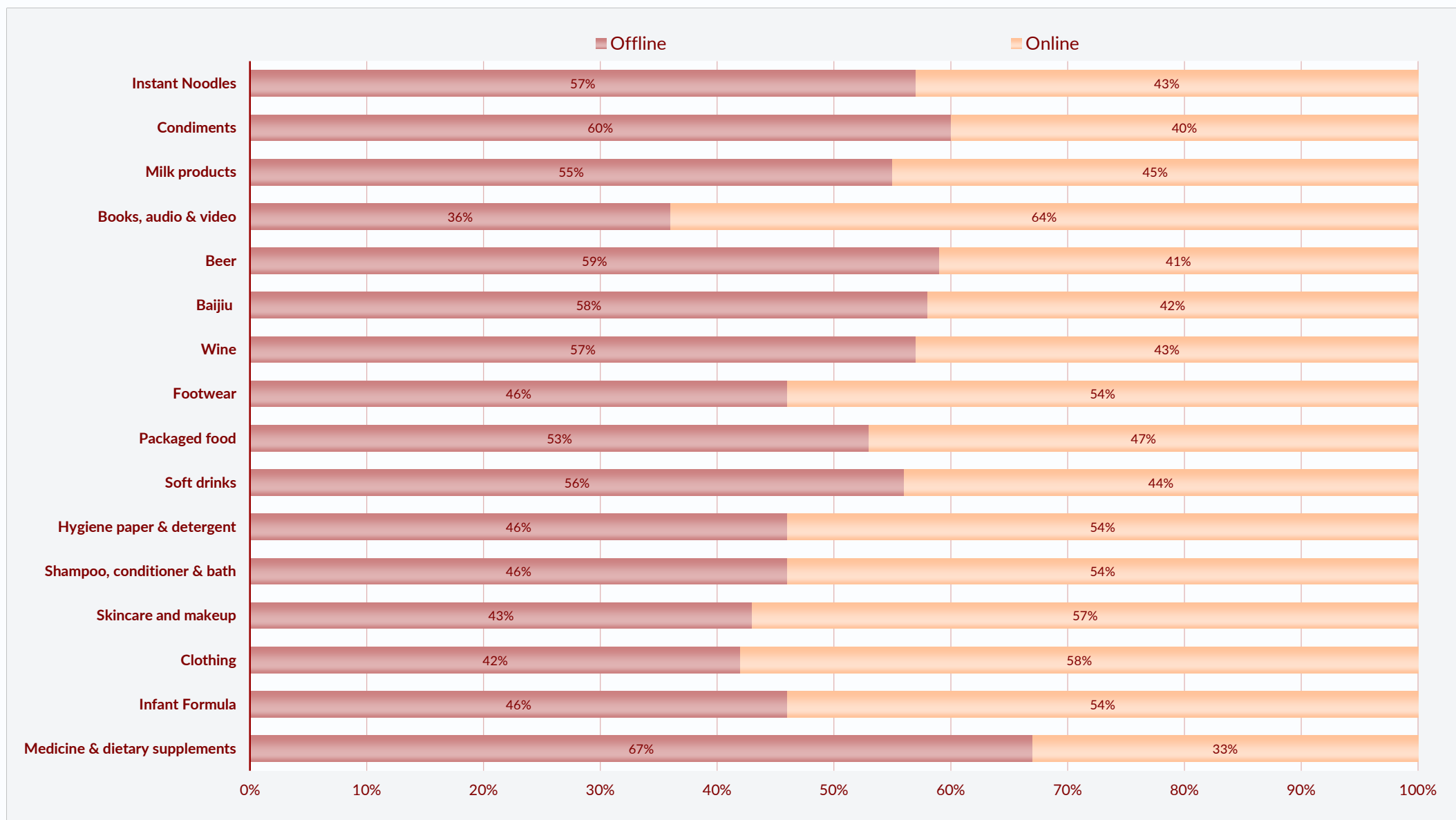
Long-term impact on fresh meat shopping



Note: Photo taken by CRR (Gabriel Ke) outside of Wuhan, Hubei province on Feb 18th. Source: CRR

Shopping insight: what are the norms?

Before the virus, what were our panel's preferred shopping channels (online vs offline)



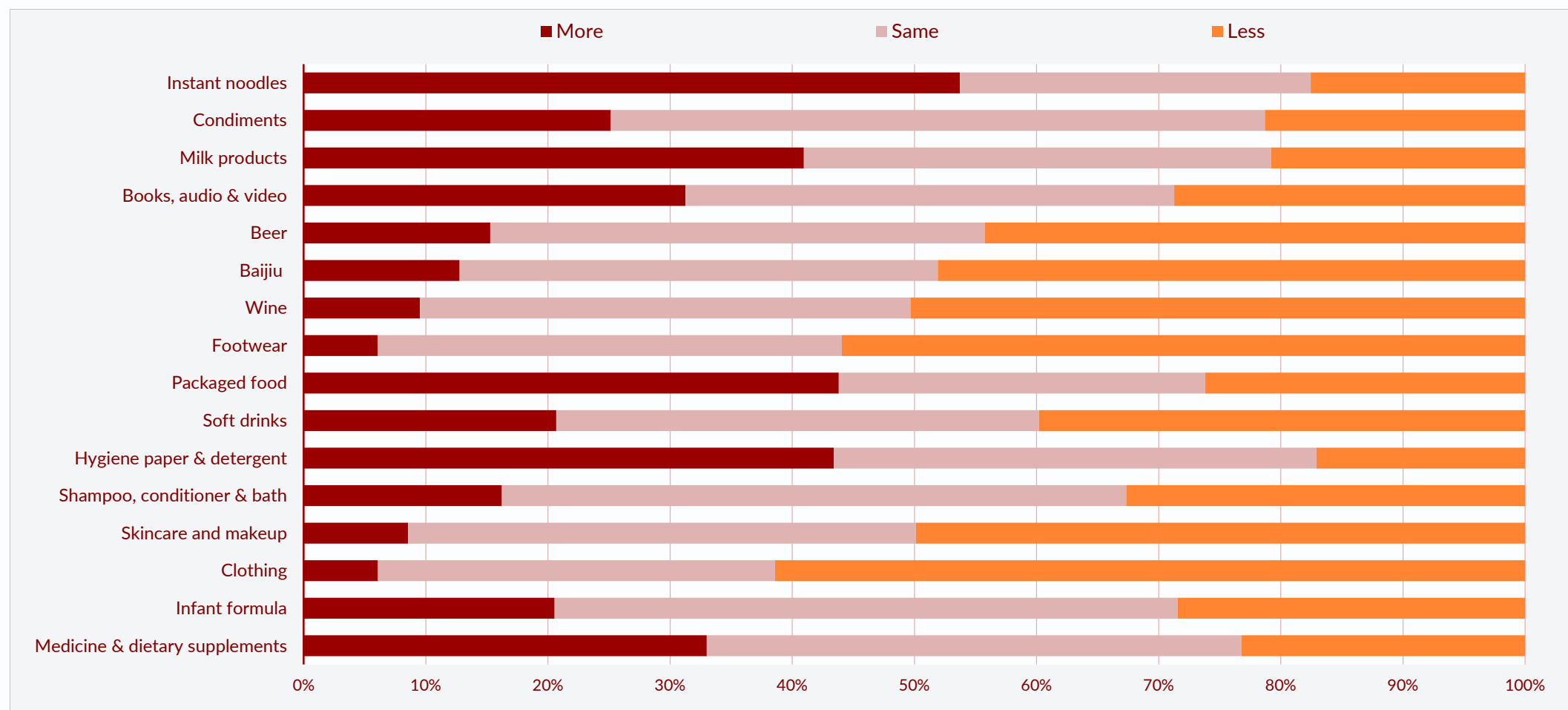
Source: CRR

Shopping disruption: short-term impact

Short-term spikes and dips in predictable product categories

- ❑ Changes in purchases since the outbreak align with expectations: instant noodles, packaged goods, hygiene products, milk products and medicine & dietary supplements have since seen a jump in spending, while clothing, footwear, beer, wine, baijiu and cosmetics all face significant drops in demand.
- ❑ Beyond the short term, what CRR is most curious about is whether there are any shifts in people's purchasing channels (online vs offline), and if so, will those channel shifts stick once the outbreak is over?

During the outbreak you have bought more, the same, or less of the following products compared to normal at this time of the year?



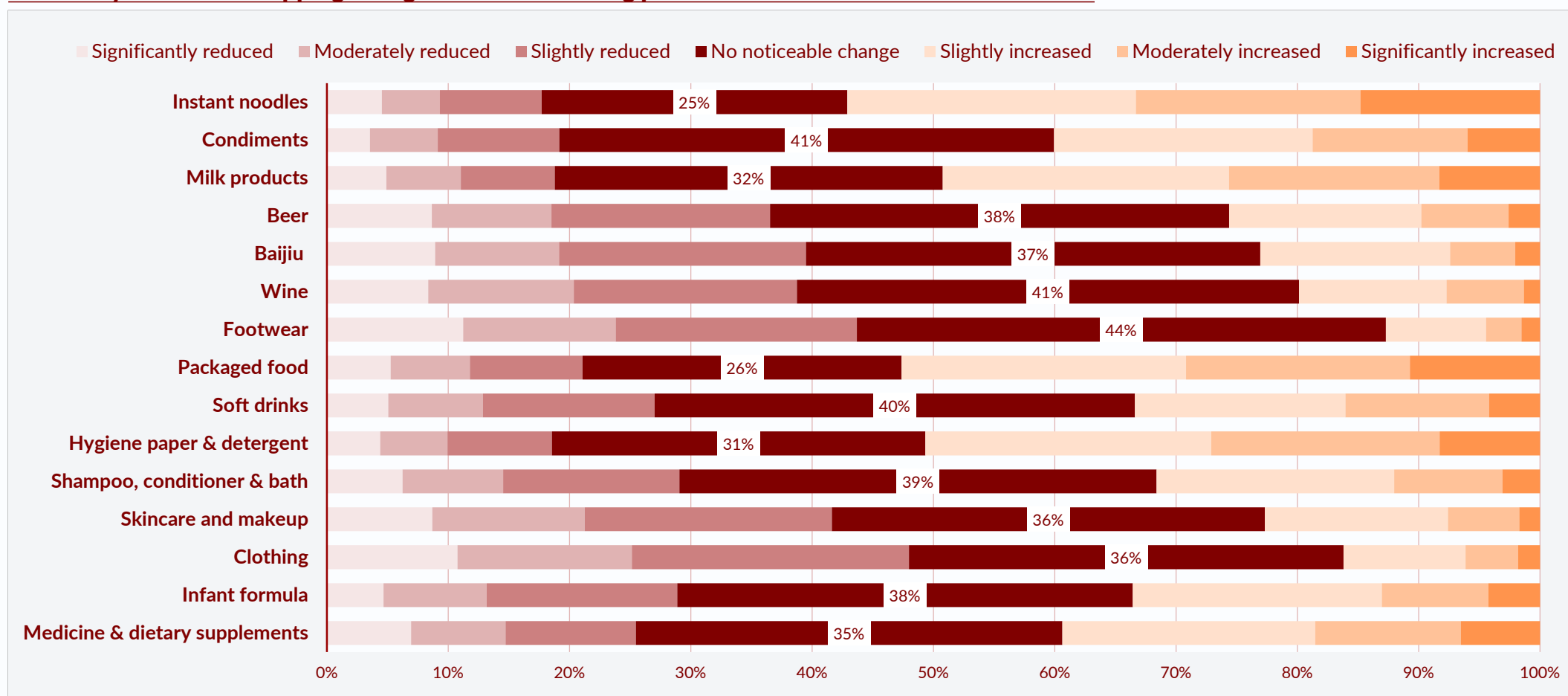
Source: CRR

Shopping disruption: online opportunity

Increase in online spending far from ubiquitous across categories

- ❑ Jumps in online shopping were less widespread than expected, many categories we measured were mixed, with a significant share of consumers reducing their use of online channels, or stating they had not changed their behaviour at all.
- ❑ Spikes in demand in online shopping mostly coincided with the categories that are receiving virus-related demand jumps; instant noodles, packaged foods, hygiene products and medicine & dietary supplements saw the most significant increases in online shopping. However, for the majority of categories, our panel did not think the outbreak would have a significant impact on their long-term shopping behaviour from a channel (online vs offline) perspective.

How has your online shopping changed for the following products since the start of the outbreak?



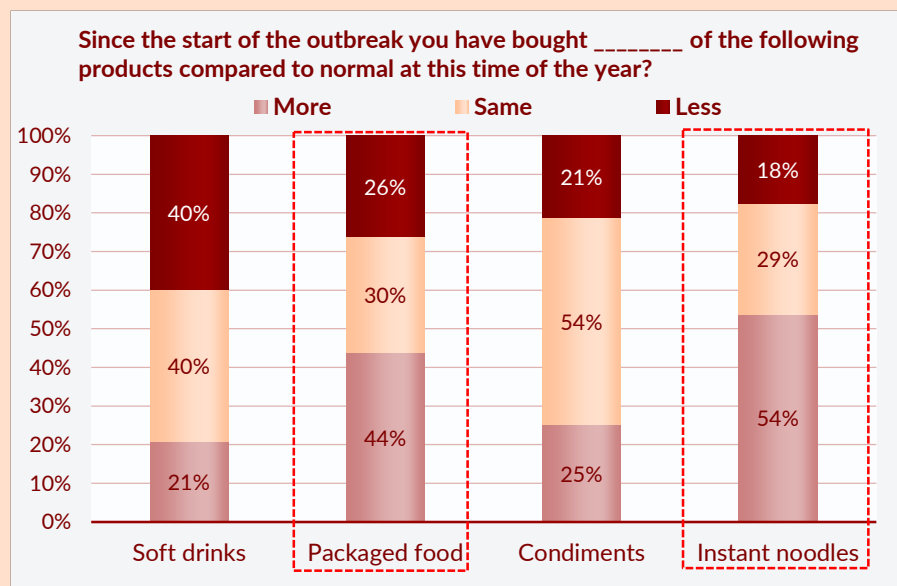
Source: CRR

Shopping disruption: food and beverage

Near term jump, but little long-term impact

- ❑ Packaged foods and instant noodles are the short-term winners in F&B; 44% (packaged foods) and 54% (instant noodles) of respondents have increased their buying since the start of the outbreak.
- ❑ In terms of purchasing channels, online platforms have benefited the most from the uptick in demand. Instant noodles have performed especially well, as 15% said they had 'significantly increased' their use of online channels for purchases.
- ❑ Long term, our panel expects little impact in their purchasing behaviour, 44% (packaged food) and 49% (instant noodles) said that after the outbreak they would return to buying most of the products offline as they did before the outbreak.

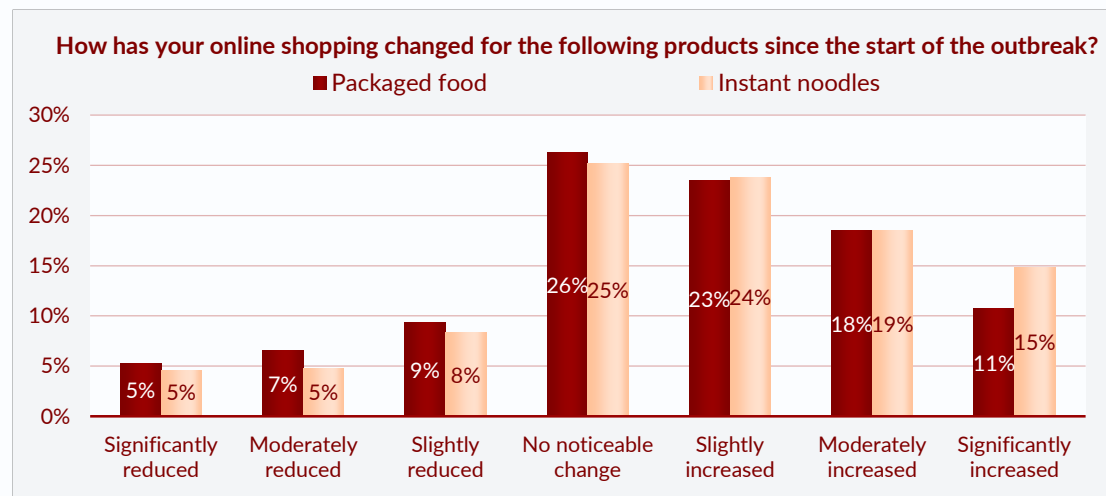
Short-term winners



Source: CRR

February 2020

Online opportunity



Long-term online vs offline purchase impact

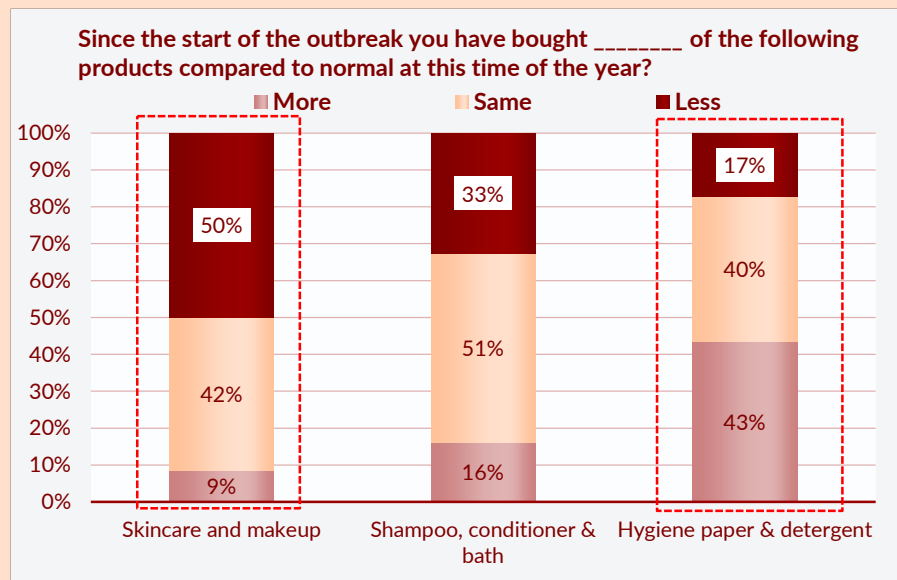


Shopping disruption: personal care and hygiene

Hygiene products jump while cosmetics struggle

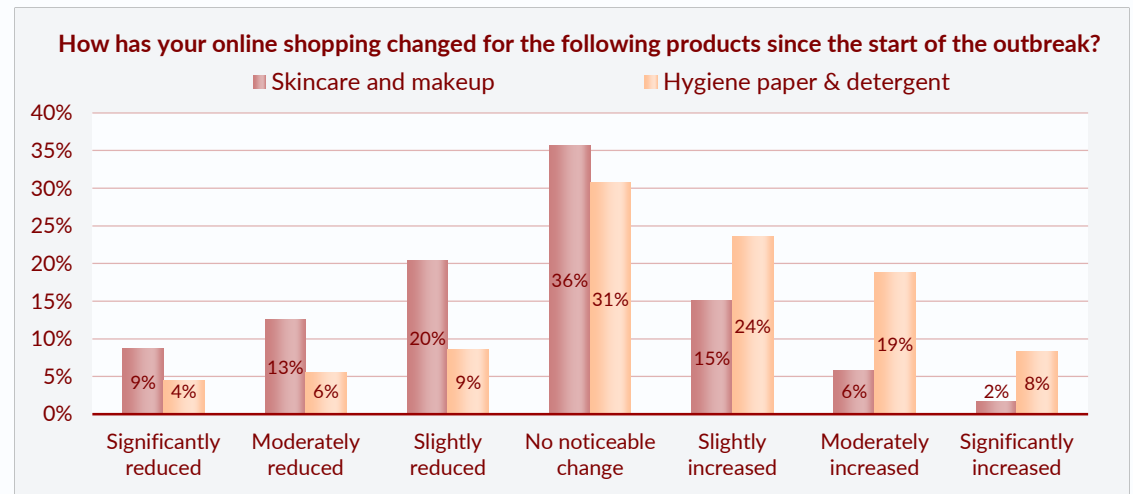
- Exactly half of our panel said they were buying less cosmetic products as a result of the outbreak. Meanwhile, hygiene paper & detergent received a significant jump in demand; 43% of our panel said they had increased their buying.
- Online shopping for hygiene paper & detergent increased for a combined 53% of our panel, with 8% reporting a 'significant increase' in their spending.
- Long term, online appears to not only be the preferred channel for both cosmetics (44%) and hygiene products (41%), but also could see a significant bump, as around 10% of our panel implied that as a result of the outbreak they would switch to making most of their cosmetics and hygiene purchases online.

Short-term winners and losers

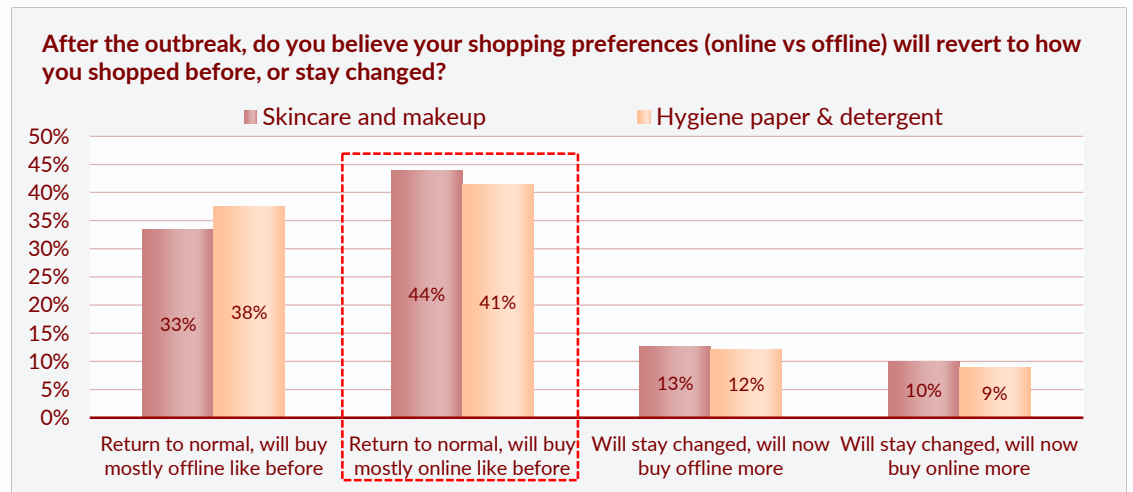


Source: CRR

Online opportunity



Long-term online vs offline purchase impact



Shopping disruption: changes won't stick

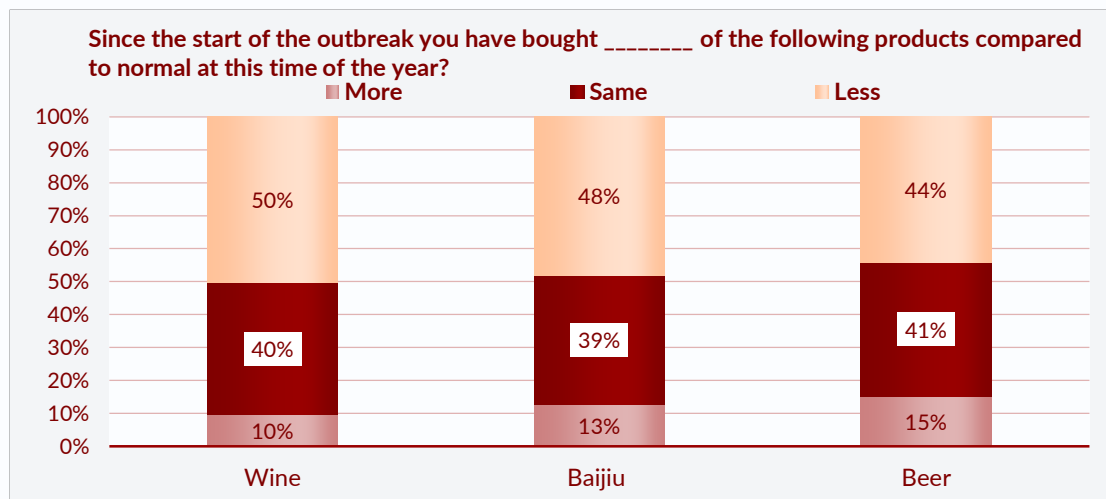
Near-term demand for clothing, footwear and alcohol looks bleak

- Our respondents reported a severe drop in their demand for clothing and footwear products; 61% (clothing) and 56% (footwear) said they were spending less as a result of the outbreak.
- Alcohol products are not faring much better, as wine, baijiu and beer all look to take a hit across the board; this, after the sector already experienced the negative effects of well below average CNY spending.

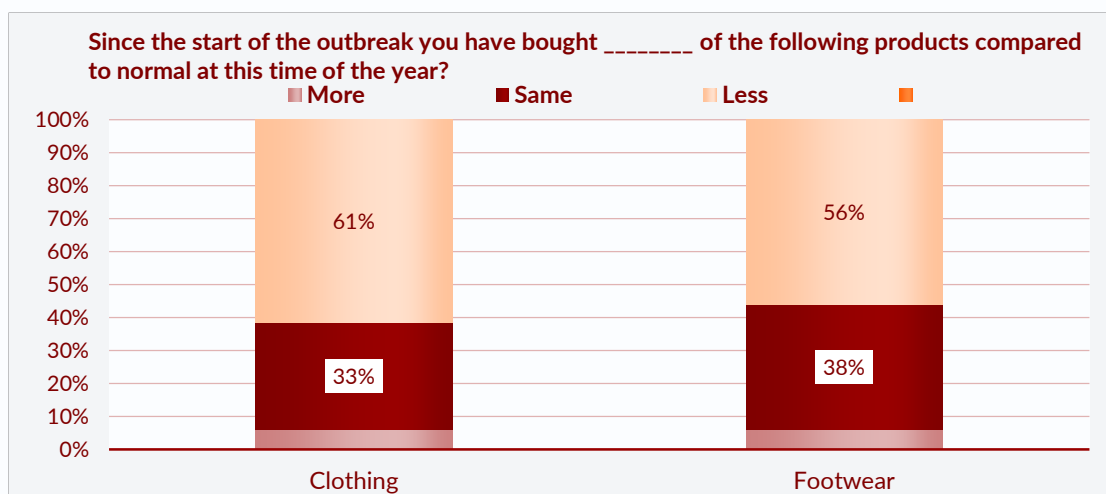


Note: Photo taken by CRR in Hunan province. Source: CRR

Outbreak's impact on alcohol demand



Outbreak's impact on apparel demand

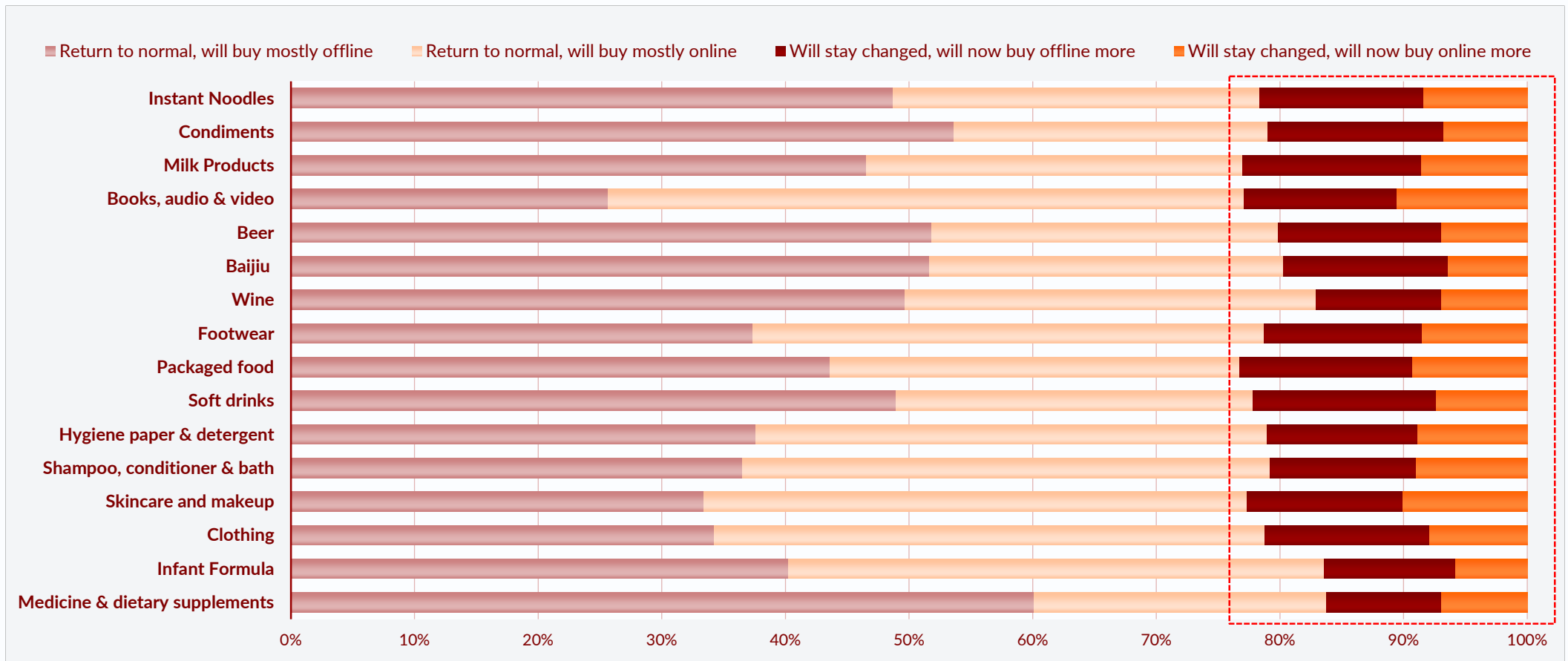


Shopping disruption: changes won't stick

Vast majority of consumers expect behaviour to return to normal

- ❑ Our data do not bear out significant long-term changes in how consumers purchase goods. At least 75% of our panel, across all categories, stated that after the outbreak was over their shopping preferences (online vs offline) would return to normal, whether that be online or offline.
- ❑ Second, when it comes to consumers who did expect a change in their shopping preferences, we actually saw just as many, if not more in some cases, consumers saying they would purchase products offline more in the future as a result of the outbreak. The most significant increases we see for online were in cosmetics (10%) and books, audio and video products (11%).

After the outbreak, do you believe your shopping preferences for the following products will revert to how you shopped before, or stay changed?



Source: CRR

Companies mentioned

Alibaba (BABA US - US\$218.04 - BUY)
Beijing Hualian (N-R)
BILI (N-R)
Bytedance (N-R)
Carrefour (N-R)
China Resources Vanguard (N-R)
Cisco (N-R)
Didi (N-R)
DOYU (N-R)
GSX Techedu (GSX US - US\$42.76 - O-PF)
Huawei Tech (N-R)
Hunan TV (N-R)
Huya (HUYA US - US\$20.93 - BUY)
iQIYI (IQ US - US\$24.72 - U-PF)
JD.com (JD US - US\$41.48 - BUY)
Kingsoft (N-R)
Meituan (N-R)

Metro AG (N-R)
Microsoft (N-R)
Momo (MOMO US - US\$31.00 - BUY)
New Oriental Edu (EDU US - US\$137.66 - O-PF)
OneSmart International Education Group (N-R)
Ping An Good Doctor (N-R)
Puxin (N-R)
RT-Mart (N-R)
Sun Art (6808 HK - HK\$10.22 - SELL)
TAL Edu (TAL US - US\$58.46 - O-PF)
Tencent (700 HK - HK\$410.00 - BUY)
Wal-Mart Stores (N-R)
Yealink Network Technology (N-R)
Yonghui Superstores (N-R)
Youku (N-R)
YY (YY US - US\$61.24 - BUY)
Zoom Video Communications (N-R)

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