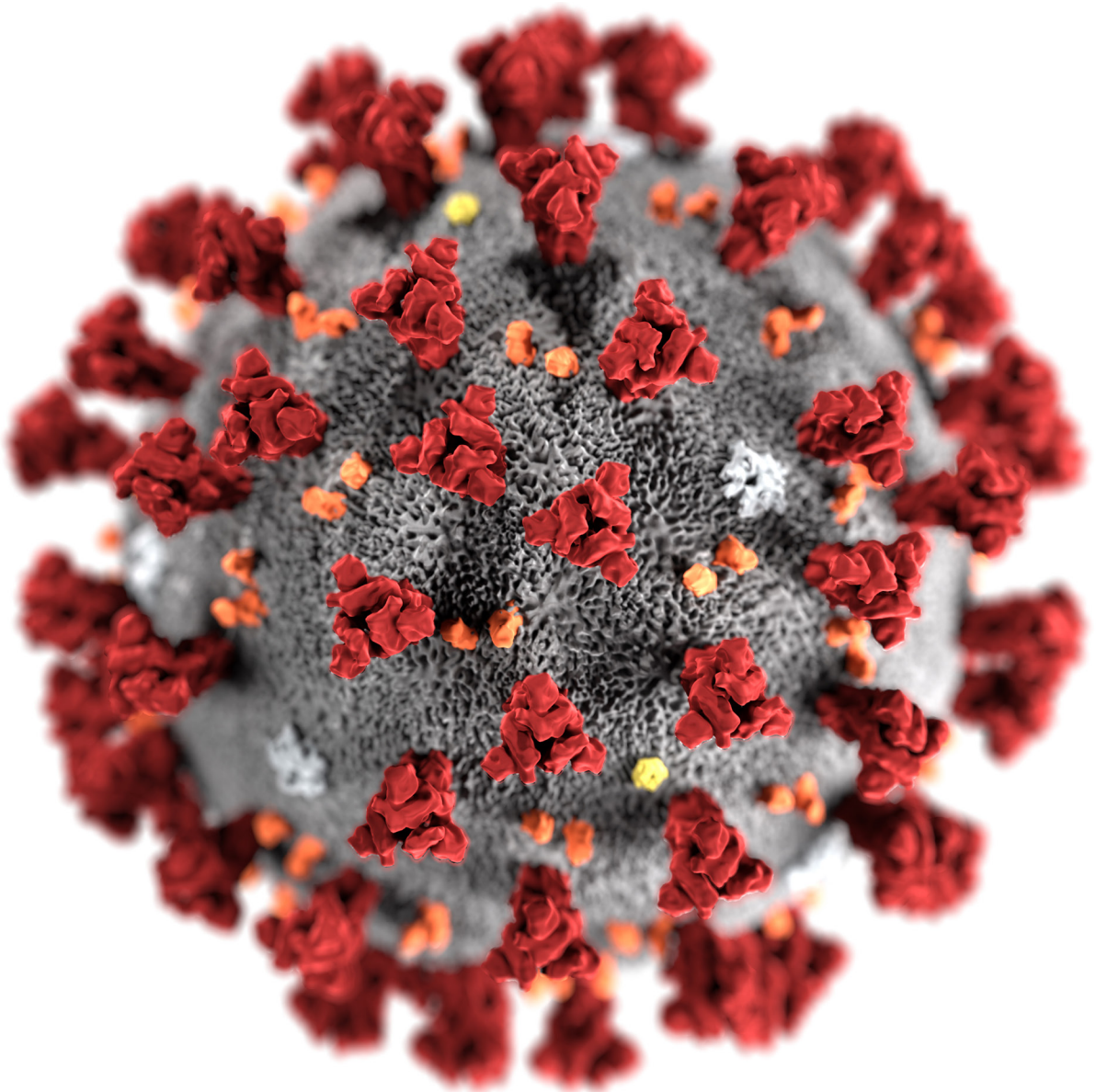


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COVID-19: The impact on industry

A report by The Economist Intelligence Unit



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COVID-19: the impact on industry

The outbreak of a novel coronavirus in China is not only a threat for public health, but also for economic and business growth in the country and other parts of Asia.

In January China confirmed reports that a novel coronavirus (COVID-19), originating in the central city of Wuhan, posed a serious threat to human health. The government announced several measures to contain the spread of the virus, including travel restrictions and bans on good shipments, while the World Health Organisation declared a global health emergency. While these measures may help to slow the rate of new infections and deaths, this report focuses on the possible economic and business impact of the disease for China and for the rest of the world.

- We forecast that the global tourism industry will suffer a loss of around US\$80bn in 2020.
- We have cut our forecast for China's retail sales growth in 2020 from 6.4% in real terms to 5.1%.
- Supply chains will be disrupted, particularly for automotive, technology and electronics companies.
- We have revised down our forecast for oil prices in 2020 to an average of US\$63/barrel for Brent crude, from US\$65/b previously.

Underpinning all of these forecasts will be the economic impact of the disease. The Economist Intelligence Unit envisages four scenarios for China's economy in 2020 based on when the public health emergency (defined by the Chinese government and the WHO) will be brought under control, although infections may continue after this time. We have based our assessment partly on China's experience with severe acute respiratory syndrome (SARS) in 2003-04 and partly on the few available scientific studies of COVID-19.

Scenarios for China's economy

Our baseline scenario is that the public health emergency within China will be under control by end-March. At this point the government will lift quarantine measures and economic activity will normalise. Even then, however, the impact on the economy of this coronavirus outbreak is set to be deeper than that of SARS.

Under this baseline scenario, we have cut our real GDP forecast for China in 2020 to 5.4%, from 5.9% currently. The slowdown will be concentrated in the first quarter of the year, when economic expansion could drop to as low as 4.1% year on year (from 6.1% in full-year 2019), and will still be strongly felt in the second quarter. The second half of the year, during which China typically produces most of its GDP, will see a recovery in economic growth.

Projected economic impact of coronavirus (COVID-19)

Scenario	Date by which the coronavirus outbreak comes under control within China	China's revised real GDP growth, 2020 (%)
Baseline	End-March	5.4
Pessimistic	End-June	4.5
Nightmare	The outbreak is not contained in 2020.	<4.5

Source: The Economist Intelligence Unit.

However, the progress of the disease remains uncertain and we encourage planning for scenarios other than our baseline scenario. These include the possibility that the outbreak will not be under control until end-June—thereby disrupting second-quarter economic activity as well as that of the first quarter—and that the outbreak may even prove to be uncontrollable. The latter could be a risk if the virus proves itself able to mutate and become more virulent or contagious. It already appears to be far more contagious, if less deadly, than SARS.

The impact on consumption

As a result of the outbreak, we expect private consumption spending to soften as households become more precautionary and store and facility closures limit consumer options. Surging food prices, exacerbated by disrupted logistics chains, will curtail household spending on non-food items even further. However, if the outbreak is contained virus concerns will dissipate by the second half of the year, followed by an increase in pent-up consumer spending. A full recovery is unlikely until 2021. Under our core scenario, we plan to trim our forecast for private consumption growth in 2020 by around one percentage point (in real terms) from 6.5% at present.

Investment will also be affected, with businesses facing a fresh period of uncertainty having struggled through the US-China trade war over the past two years. Costs associated with the Chinese New Year holiday extension—including ongoing wage payments and loss of production—will eat into capital that would otherwise have been used for investment. Property development investment will soften, with market demand for homes set to cool, while government-led investment into infrastructure could be affected by staffing challenges and the need to divert budgets into healthcare. Our investment forecast will be lowered by around 0.5 percentage points, from 4.2% currently, under our core scenario.

While private consumption will be hurt, public consumption is likely to be the one area of the economy that will not slow. Government spending on healthcare and medical supplies and facilities will surge in the coming months. As a result, we are likely to boost our government consumption forecast by around two percentage points under our core scenario, from 9.3% at present. We are likely to trim our goods and services export forecast from 1.7%, while softer domestic demand will also result in a lowering of forecast import growth from 2.4% at present.

Stimulus options

Differing levels of stimulus will be applied under the various scenarios we set out. Our working baseline forecast of 5.4% economic expansion in 2020 assumes relatively assertive stimulus actions. Without them, annual growth would be substantially lower. Already, the authorities have moved to extend deadlines for tax and social security payments for firms.

The government's priority in its stimulus approach will be to ensure labour market and income stability; we do not think that it will implement measures for the sake of hitting the assumed real GDP growth target of "around 6%" in 2020. For most of our scenarios, this would imply an embrace of the sort of extremely loose monetary and fiscal policies that the authorities have disavowed in recent years. Despite the national emergency, the government has reaffirmed it can meet its economic and social development targets in 2020. However, with the National People's Congress now delayed, a GDP target has not been set.

An initial policy priority will be to support companies that are struggling with cash flow issues caused by the effect of quarantine policies on businesses. This likely means liquidity injections by the People's Bank of China (the central bank) to give banks space to extend corporate debt repayment schedules. The authorities may also call upon state-owned enterprises to buy back stock market shares to further boost private firms' liquidity levels. Under our core scenario, we believe that the authorities will look to push the benchmark one-year loan prime rate downwards, to under 4% this year (from 4.15% currently).

In terms of fiscal policy, in 2020 the authorities are likely to abandon their traditional official budget deficit floor of the equivalent of 3% of GDP. Tax and fee cuts will likely be forthcoming for firms, while the authorities will look to stabilise household consumption through the provision of subsidies for selected goods. A loosening in property market restrictions will probably also be considered on a city-by-city basis, in a partial reversal of the existing tight policy stance.

To watch for

However, much depends on how soon both the government and citizens feel the situation is under control. As this report is finalised, the extended holiday has come to an end and many people have returned to work across much of China. However, production delays are not yet resolved and it will take some time for normality to return. A stimulus programme will only be effective once quarantine measures can safely be lifted and consumer and business confidence starts to return. Making this move prematurely could backfire, if an unexpected reappearance of the disease sets back confidence badly.

Supply chain disruptions by the outbreak are an immediate and important concern. Hubei is home to significant automotive, steel and biopharmaceutical manufacturing industries. It could also become increasingly difficult to transport goods between the country's coast and interior, owing to Wuhan's status as an important regional transport hub.

Of additional concern are the coastal Guangdong and Zhejiang provinces, both major export manufacturing hubs, which have confirmed the highest number of infections after Hubei. These provinces are drivers of economic activity, accounting for 35.3% of China's nominal GDP in 2018. They are also key export manufacturing hubs, having contributed 38.2% of the country's total exports in value terms that year. These regions are also at high risk given their reliance on migrant labour. Should local production levels fall, this would have significant economic ramifications at the national level.

The impact on the global economy

The impact of COVID-19 will not be confined to China, with neighbouring countries already caught up in the crisis.

So far China's quarantine measures have helped to stop the disease spreading much beyond its borders. Of the 80,289 cases reported worldwide as of February 25th, only 2,629 are outside mainland China, along with only about 41 of the 2,704 deaths. Even so, 27 countries have already detected cases of the disease, and even more are starting to feel the economic impact from China's self-imposed quarantine.

There are four major routes whereby China's crisis will impact the global economy. The first route will be via China's role as an international supplier of goods, particularly intermediate goods vital for global production. Factory closures, an extended break for the Chinese New Year and ongoing lockdowns in several major Chinese cities are already affecting Chinese output.

China and the city of Wuhan in particular play an important role in international shipments of intermediate manufactured components, disrupting supply chains. In the automotive sector, some component supplies are already being affected in countries as far apart as South Korea and Germany. China also accounts for 30% of new oil demand each year, while Asia more broadly accounts for roughly 50% of new demand. As a result, a decline in Chinese demand will have a direct impact on prices.

The second route is via China's role as a major consumer of imported goods and commodities. An expected sharp slowdown in Chinese growth (at least in the first quarter of 2020 and possibly for longer) will depress global commodity prices, including for oil and minerals. Resource-dependent economies in Latin America and the Middle East, as well as Russia will be most impacted.

China's third route for impacting the global economy is through its role as the world's biggest source of tourists. Domestic and international travel restrictions will have immediate consequences for destination countries across the world, weighing on airlines, hotels, restaurants and retailers. Within Asia, Chinese visitor arrivals make up a particularly large percentage of tourism figures for Hong Kong and Macau, and for many ASEAN countries, including Thailand, Vietnam and Cambodia. Tourist inflows to Europe from China have tripled over the past decade—to 1.45m in 2018—with the top destinations being Italy, France, Germany and the UK.

Finally, the public health crisis could have an impact on business and market sentiment globally. This had stabilised after the signing of the US-China first-phase trade deal in January, and has proved resilient even as news of the disease emerged, with US markets reached multiple record highs. Nevertheless, if the crisis worsens investor and business confidence will weaken, increasing volatility across international financial markets.

Quantifying the impact

As a result of all these effects, we are reviewing our GDP growth forecasts for every country, with many expected to fall in the first half of 2020. After all, China not only accounts for around 16% of global GDP

but is also the major source of new business demand in multiple sectors. Taking into account China's weaker demand, as well as the potential economic disruption in other countries should the coronavirus outbreak spread, our forecast for global real GDP growth (at market exchange rates) could dip below 2%, from 2.3% at present. However, the impact will be particularly strong within Asia, where China is the main driver of growth.

Thailand, Taiwan and Hong Kong stand out as the economies likely to be the most severely affected by the outbreak outside of mainland China. Thailand's huge tourism sector accounts for around one-fifth of GDP, and China is its largest source of visitors. The country is also heavily exposed to China through the trade channel. In Taiwan, the local manufacturing sector will face major supply-chain disruption amid extended factory closures in China. As for Hong Kong, the coronavirus could scarcely have come at a worse time: it will extend many of the economic effects seen during the height of the recent political demonstrations, curtailing visitor arrivals, consumer spending by residents and the return of investment that was deferred in 2019.

Macau too will face significant disruptions in the near term, given its heavy reliance on the casino industry that itself is driven by large numbers of visitors from the mainland. The virus has already inflicted a significant shock on tourism flows from mainland China to Macau, which fell by 83.3% year on year over the seven-day Chinese New Year period in January. We expect more disruption under our assumption that the viral outbreak will not be controlled until end-March. The decision to close the territory's casinos will put further strain on Macau's gambling sector, which might have otherwise attempted to offset the shock of lost Chinese tourists by pivoting to arrivals from Hong Kong or South Korea instead.

South Korea is another economy with dual exposure and where recent economic growth has been insipid. Thanks to the government expansionary fiscal policy, the economy is in a reasonable position to withstand a period of weak demand, but the large external sector is a major vulnerability. **Singapore** is highly reliant on China for both trade and tourism: Chinese visitors account for around 20% of total arrivals. But it is the city-state's role as a trade and logistics hub that will be most at risk.

Elsewhere in South-east Asia, some of the damage will be offset by opportunities. **Malaysia** is a major producer of medical equipment and supplies, demand for which is likely to strengthen around the region. That said, Malaysia relies on a handful of countries, including China, for raw materials. **Vietnam** has been perhaps the biggest beneficiary of the US-China trade war, with US firms sourcing supplies from and relocating premises to Vietnam to avoid import tariffs. Nevertheless, the country's long land border with China means there is a high risk of contagion, while the country is also vulnerable to supply-chain disruption. **Indonesia** is less exposed, given the comparatively larger role of private consumption and smaller trade exposure in that economy.

Medical emergencies are a particularly fast-moving form of economic shock. With this in mind, we are prepared to make a larger number of forecast revisions than usual in order to best reflect the latest reliable information on the scale of the outbreak, the restrictions imposed by governments in the region and the guidance issued by the WHO. We have already downgraded our outlook for global GDP growth in 2020 to 2.2%, from 2.3% previously.

An international emergency

When the WHO declared coronavirus an international emergency, its main concern was that the disease could spread to countries that are far more vulnerable than China. That vulnerability has two dimensions. The first is the probability of the disease taking hold, because the country has close trade or tourism links, or lacks effective mechanisms to prevent infections. The second dimension is the likely intensity of a pandemic if it did take hold. This intensity is likely to be higher in countries with large urbanised populations, but weak healthcare systems.

Confirmation of this comes from the Global Health Security Index (GHSI), a pandemic-preparedness report published in October 2019 by The Economist Intelligence Unit, the Nuclear Threat Initiative and the Johns Hopkins Center for Health Security. Using data across 140 categories, the GHSI assessed how prepared 195 countries are to fight a pandemic or other biological threat, whether by detecting, preventing and reporting the disease, or by treating and quarantining those already affected. It makes uncomfortable reading for some of China's neighbours.

China itself ranks 51st on the index, with its ranking brought down by its poor adherence to international norms over reporting and monitoring pandemics – particularly during the SARS epidemic. China scores much better when it comes to preventing epidemics or treating those affected. It was quicker to respond to COVID-19 than it was to SARS, and its speed in setting up quarantines and constructing specialised hospitals will help to minimise the impact.

Not far below China in the overall ranking is India, in 57th place. With a population of over 1bn, many of them in crowded cities, it will struggle to prevent the virus spreading. Fortunately, the three cases India has reported so far are in the comparatively well-governed state of Kerala. Even if the disease spreads further, India does score well in the GHSI on its ability to treat the illness, given its fairly robust urban health services

and plentiful medical supplies. In Myanmar (ranked 72 overall), Pakistan (ranked 105) or Sri Lanka (ranked 120) patients will have a much harder time getting good treatment if coronavirus spreads. The typically warm climate of these countries will help prevent the spread of the virus as well.

Down at the bottom of the GHSI rankings are countries such as Somalia, Equatorial Guinea and North Korea, which are all extremely ill-prepared to fight off a pandemic. China has diplomatic and business links with all three countries. Equatorial Guinea's government has even voted to donate US\$2m to help China to combat coronavirus. While the probability of the disease spreading to these countries is low, the intensity of any pandemic could be very high indeed.

Global Health Security Index, country ranking

	Overall	Prevention	Treatment
US	1	1	1
UK	2	10	11
Thailand	6	3	2
S Korea	9	19	13
France	11	6	8
Germany	14	13	22
Malaysia	18	35	15
Japan	21	40	25
Singapore	24	23	38
Indonesia	30	38	42
Vietnam	50	39	74
China	51	50	30
Philippines	53	71	47
India	57	87	36
Russia	63	62	50
Cambodia	89	110	146
Pakistan	105	136	107
Sri Lanka	120	135	122
N Korea	193	164	145
Equatorial Guinea	195	195	193

From outbound to bedbound

A decline in Chinese outbound tourism will primarily affect Asia, but will also have an impact in the US, Europe and beyond.

Key takeaways:

- The Association of South-East Asian Nations (ASEAN) will see the greatest impact, but the US and Europe will also be affected.
- We expect China's outbound tourism flows to recover from the epidemic only by the second quarter of 2021, if the virus is contained by end-March.
- We forecast that the global tourism industry will suffer a loss of around US\$80bn in 2020 as a result.

China's outbound tourism has surged in the past decade, rising to 140m trips in 2019, from just 48m in 2009. Chinese tourists now account for the largest share of foreign tourists in the Asia-Pacific region and have an increasing presence in Europe and North America. However, the travel restrictions that have been imposed on mainland Chinese visitors by many countries, as well as the suspension of international flights to and from China, will generate significant economic challenges for countries that depend on Chinese tourists.

Tourism dependency on China

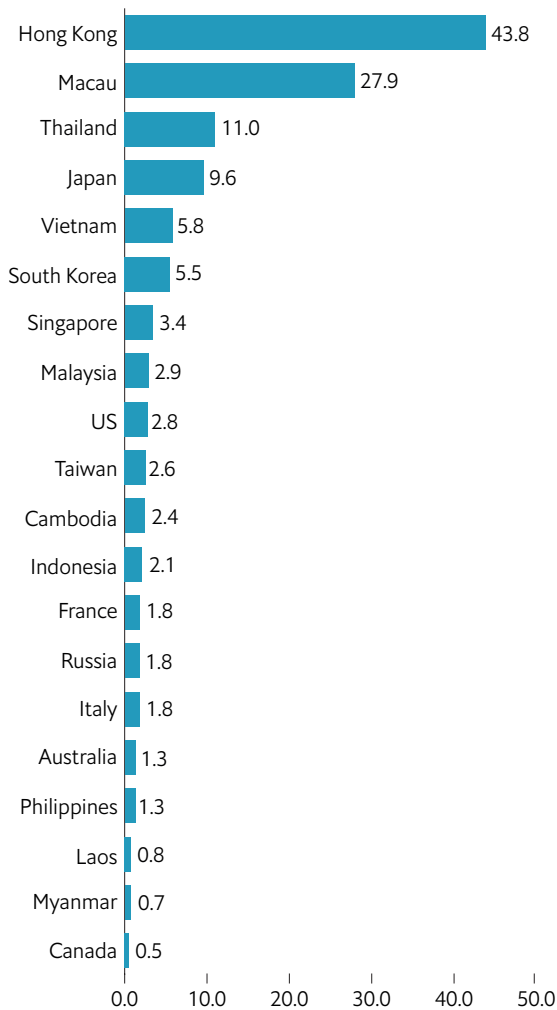
We expect tourism in Hong Kong and Macau to take the biggest hit of any regional markets. The two Chinese special administrative regions proportionally receive the largest numbers of mainland travellers, who constituted 78% and 71% of their tourist arrivals in 2019. However, the number of mainland visitors to Hong Kong had already dropped by 40.8% year on year in the second half of last year, owing to the political turbulence in that territory. So the shock from the coronavirus will be difficult to isolate from existing trends.

Following the viral outbreak, both territories have partially closed their borders with the mainland. Hong Kong additionally suspended a previous medical fee waiver for non-Hong Kong residents suspected or confirmed as having the virus, to avoid incentivising mainland Chinese to enter the territory to seek treatment. Macau also announced the closure of all 41 of its casinos—its pillar industry—for two weeks.

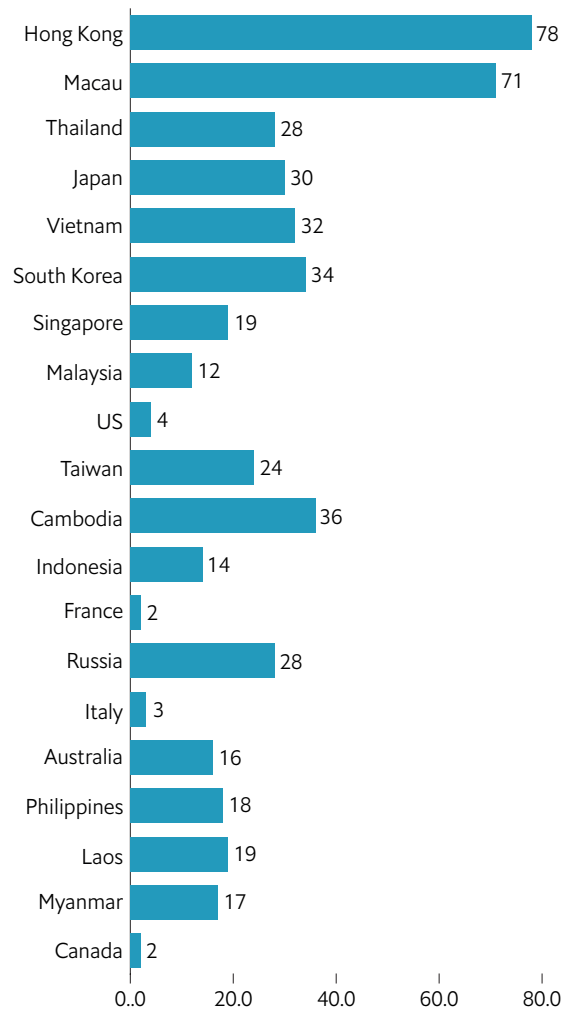
South-east Asia is also very vulnerable. ASEAN countries are the fastest-growing destination for Chinese visitors, particularly amid China's efforts to prioritise ties with these countries under the Belt and Road Initiative (BRI). Tourism infrastructure in Myanmar and Laos is much less developed than in other destinations in Asia, but massive numbers of Chinese tourists are taking day trips from Yunnan province in the south-west of China, using improved crossborder transport links. Singapore is among the top destinations for Chinese tourists, for both leisure and business purposes.

The impact of reduced Chinese tourism inflows into ASEAN may be significant. According to a study by a state-affiliated think-tank, the Chinese Tourism Academy, Chinese visitors on average spent US\$800 per overseas trip. Assuming that the number of Chinese outbound travellers drops

Mainland Chinese tourist visits, 2019
(m)



Mainland Chinese tourist visits as share of total tourist visits, 2019
(%)



Note. Owing to limited data availability, data for the first 11 months of 2019 were used for South Korea, Singapore, Taiwan, Australia and Canada. Data for 2018 were used for Malaysia, Indonesia, Italy, France, Russia and Laos.
Sources: CEIC; WIND; national statistics bureaus; The Economist Intelligence Unit.

by 30% in 2020 (a similar level to that registered during the outbreak of severe acute respiratory syndrome, or SARS, in 2002/03), we estimate that ASEAN countries could lose up to US\$7.3bn in annual tourism revenue.

Other neighbours to China have benefited from their geographical proximity. Russia has seen explosive growth in Chinese tourists, particular among elderly travellers. According to a Chinese online travel agency, Ctrip, more than half of Chinese visitors to Russia were over 60 years old, drawn by the country’s socialist history. The elderly, however, are the most vulnerable group to the coronavirus. Russia has stated that it will close its borders with China, and we similarly expect a strong rebound in crossborder tourism flows to remain elusive this year.

Among developed economies, the sharpest pain will be felt by Japan and South Korea, each of which receives around one-third of their visitors from China. Both countries have experienced a thaw in bilateral relations with China since early 2019, which accompanied a strong rebound in Chinese tourist arrivals. However, the coronavirus is dampening the hard-earned rapprochement, which remains vulnerable to sways in geopolitical tensions.

There are adjacent risks that the viral spread could also disrupt tourism activities that are not dependent on Chinese arrivals; it is not our core forecast, but if the virus remains uncontained by June 2020, the Olympic and Paralympic Games scheduled to be held in Japan could have to be rescheduled. The virus will exert further pressure on Taiwan's tourism industry as well, although separate political tensions have already dampened tourism flows across the Taiwan Strait.

The tourism industry in Europe and North America is much less dependent on China, and thus the direct impact of the coronavirus outbreak will be lighter than that affecting their Asian counterparts. The US and Canada respectively receive only 3.6% and 1.9% of their total visitors from mainland China, while that proportion in France—the favourite European destination of Chinese tourists—is only 2.4%. The impact on those countries will be mostly felt in retail, the preferred activity of Chinese visitors. Because retail goods are usually manufactured elsewhere, their contribution to local GDP is not as significant as accommodation or dining, upon which Chinese visitors spend less than Western tourists. Nonetheless, an absence of Chinese tourists will dampen European growth in services exports, which could have consequences for local employment. Moreover, Italy now has its own Covid-19 crisis to deal with.

The viral impact

The airline industry has already felt the pain of reduced travel to and from China, with all major foreign carriers having at least partially suspended services to mainland China in the wake of the coronavirus.

There are risks that these bans may be politicised. Both Italy and the Philippines have issued a flight ban to all regions of China, which they specified also includes Taiwan, while other countries' travel bans have just been aimed at mainland China. Similarly, the International Civil Aviation Organisation and the World Health Organisation have been criticised for not acknowledging the separate healthcare and customs systems in Taiwan, which have thus far allowed it to avoid a major outbreak (and which might justify its exclusion from travel bans targeting China).

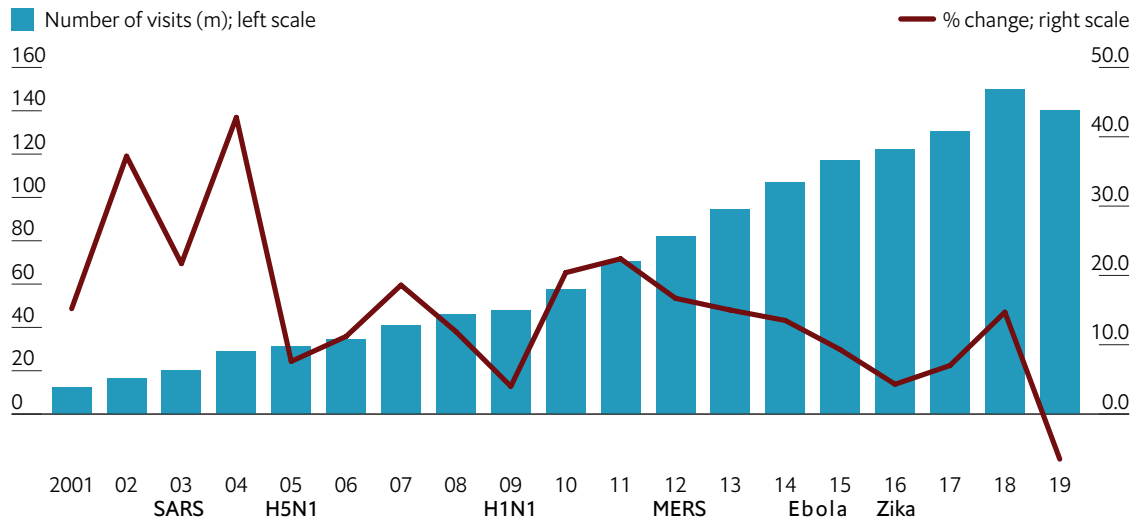
The speed at which the US and Australia banned entry by Chinese nationals—their response was faster than the travel measures they adopted during the SARS epidemic—may reflect shifting political attitudes in those countries. Domestic airlines, especially those based in Wuhan and Chengdu, are exposed to significant losses owing to investments made in recent years to build up their long-haul capacity.

Global travel bans also pose a risk to universities that are reliant on Chinese students, especially those in Australia and UK, with language testing suspended in China and visa approvals postponed. Student exchange programmes with BRI countries have also been halted, as airlines cancel flights and schools delay their spring semesters.

The recovery timeline

The global recovery in tourism will depend on how long it takes to contain the virus. There has been a strong correlation between a decline in Chinese outbound tourist growth and global epidemics, suggesting that Chinese tourists are sensitive to such health risks.

Chinese outbound tourist visits and global pandemics, 2001-19



Note. SARS (severe acute respiratory syndrome) originated in China in 2003; H5N1 (bird flu) originated in Vietnam in 2005; H1N1 (swine flu) originated in Mexico in 2009; MERS (Middle East respiratory syndrome) originated in Saudi Arabia in 2012; Ebola originated in sub-Saharan Africa and had a major resurgence in 2013-16; Zika originated in Brazil in 2015.

Sources: Ministry of Culture and Tourism; The Economist Intelligence Unit.

The last epidemic that caused similar damage to Chinese tourism was SARS. The full outbreak started in January 2003 (although the first case was found in November 2002) and peaked in May of that year; during that period most airlines cancelled their flights to and from mainland China. The Chinese authorities lifted their own travel ban in July 2003, but it was not until April 2004 that outbound tourism return to precrisis levels—around 16 months after the outbreak started. The SARS panic is an enduring memory for Chinese tourists, however, which caused an exaggerated drop in outbound tourist numbers when H5N1—a small-scale viral outbreak that mostly affected Vietnam—occurred in 2005.

The coronavirus episode has thus far been similar in its timeline to SARS. According to the State Administration of Foreign Exchange, China spent US\$251bn on outbound tourism (in balance-of-payments terms) in 2019. Modelling against the trends during the SARS outbreak, we estimate that the global tourism industry may suffer a total loss of up to US\$80bn in 2020.

Nonetheless, as local incomes continue to rise over the long term, Chinese consumers will continue to be a major driving force behind global tourism. The impact from the coronavirus will only be transitory and concentrated in the first quarter. Once the situation normalises, those countries that restore their flight connections (while also highlighting the robustness of their domestic healthcare systems) will probably be able to lure Chinese tourists back first.

However, the coronavirus episode offers a reminder of the risks that come with relying solely on the Chinese market. Countries should continue to diversify their tourism services to cater for different markets, such as tourists from South-east Asia, Taiwan, Japan, South Korea and Hong Kong. These may offer promising prospects, as well as a cushion against future downward corrections in Chinese outbound tourism growth.

Retail will reel as consumption weakens

The public health emergency will hit spending on non-food products, especially on luxury goods.

Key takeaways:

- The decline in consumption and demand, particularly for non-food products, will significantly impact the retail market in China.
- If the virus is brought under control, we expect the impact to last only for the first and second quarters, similar to the short-lived downturn caused by SARS.
- E-commerce sales may receive a boost as people shop from home.
- We have cut our forecast for China's retail sales growth in 2020 from 6.4% in real terms to 5.1%.

The most immediate impact from COVID-19 is being felt in shopping streets and malls across China. Consumer confidence across the eastern provinces (which thrive on manufacturing output) is already taking a significant hit from the lockdown in Hubei province, which prevents people from entering shopping districts of the cities. We estimate retail sales of consumer goods in Hubei and Hebei were Rmb2.1trn and Rmb1.8trn, respectively, in 2019. Together they account for over 10% of the country's total retail sales.

Non-food products such as clothing and cosmetics sold via high-traffic malls are most affected. These account for around 30% of China's retail market. We also expect demand for alcoholic beverages, especially in the mid-market and premium range, to decline as people across the country abstain from visiting public places such as bars and restaurants. However, spending on healthcare, food and other essentials is likely to have risen in the short term, as people stock up to survive the lockdown. E-commerce sales may also receive a boost as people shop from home – although deliveries are difficult.

While food sales will be fairly resilient, three government agencies have issued a ban on sales of wild meats and game, after warning of a possible link between the coronavirus and local wet markets. Even without the warning, there is likely to be a drastic fall in demand for all types of meat sold in wet markets. Consumers are expected to choose packaged food over fresh meat and perishable goods.

Travel stalemate

The biggest drag on retail sales, however, will stem from a steep fall in both domestic and international travel. Within China this will reduce spending on non-food items sold at retail stores in railway stations and bus stands, as well as luxury goods sold at duty-free stores at airports. The disease outbreak has come in at a crucial time for the Chinese retail and tourism sectors: the week of the Chinese New Year. Retailers in the country took in Rmb1trn (US\$144.16bn) in sales during the same week of 2019, or about 7% of their annual total. The week is also estimated to have accounted for 8% of annual tourism spending in 2019.

Retail sales, particularly for luxury goods, will also be affected in other countries. China accounts for 35% of the global luxury goods market. The outbreak is expected to undermine sales at companies

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such as France's LVMH and Kering or Switzerland's Richemont, which had already been grappling with rising operating costs and import duties in China. Countries that depend on Chinese tourism, such as Thailand, Singapore, Malaysia, Vietnam, and Cambodia, are also likely to be impacted.

If the virus is brought under control, we expect the impact to last only for the first and second quarters, similar to the short-lived downturn caused by SARS in 2003-04. Even so, the outbreak will weigh on consumer spending on non-food items, particularly jewellery, clothing and footwear. As a result, we will cut our forecast for China's retail sales growth in 2020 from 6.4% in real terms to 5.1%.

Supply chain disruptions will hurt telecoms and technology

The global telecoms and technology sector is already grappling with the fallout from the novel coronavirus.

Key takeaways:

- Wuhan had become a hub for technology and electronics companies, which will face significant disruptions from the outbreak.
- The suspension of production to contain the outbreak and worker shortages will slow down the significant growth that Wuhan—and China—enjoyed in the sector since 2018.
- China's lead in the race to 5G will be hurt by the outbreak, but it will be sustained under our baseline scenario.
- Subscription growth and 5G smartphone shipments are likely to be more heavily hit.

While the impact on the retail and tourism sectors is immediate, there are other industries that will see a broader challenge from the coronavirus crisis. Wuhan plays a key role in the “Made in China 2025” initiative, a government-backed plan aimed at boosting China's capabilities in the manufacturing of higher value products and services. Under this initiative, Wuhan has become a hub for technology and electronics companies, particularly those producing semiconductors and LCD screens. According to the Milken Institute, Wuhan was China's ninth-best performing city in 2019, having attracted investment from 230 Fortune 500 companies and housing some 1,656 high-tech enterprises.

Wuhan ranked 18th in 2018 (up from 59th in 2017) according to the Economist Intelligence Unit's Access China service, owing to improved prospects for GDP growth and strong FDI inflows. Traditionally an automotive manufacturing hub, the city is now investing heavily in the semiconductor sector. Wuhan's satellite city of Xiangyang also did well in the rankings, rating fourth overall, helped by some industry overspill from its larger neighbour.

For instance, Tsinghua Unigroup, a major semiconductor company, announced the construction of one of China's most advanced chip fabrication plants in Wuhan in March 2016, launching mass production of its 3D NAND flash memory for use in computers and smartphones. Wuhan is also home to two other major Chinese semiconductor manufacturers, Wuhan Xinxin Semiconductor Manufacturing and Yangtze Memory Technologies, as well as production facilities belonging to Foxconn (a major electronics supplier for Apple). Other companies with significant operations in Wuhan include South Korea's Samsung, Taiwan's TSMC (the world's largest contract chipmaker), and local technology companies Lenovo and Xiaomi.

Indeed, Xiaomi only opened its second headquarters in Wuhan in December 2019, just as the coronavirus crisis began. The smartphone maker was lured to the city by the provincial government in 2017, as part of a US\$1.8bn investment drive aimed at attracting tech companies. Xiaomi now has an R&D centre in Wuhan, focusing on artificial intelligence, internet of things, big data and software research. The centre is located in Wuhan's High-tech Development Zone, also known as Optics Valley, along with several other high-tech start-ups.

Production impact

The coronavirus outbreak comes at a time of significant growth in Wuhan's - and China's - development. Before the outbreak, China as a whole was on course to produce around 5% of the world's memory chip output by the end of 2020, from a base of virtually zero in 2018. The global technology sector has therefore been monitoring the production stoppages in Wuhan closely.

Samsung, TSMC, Yangtze and Xinxin Semiconductor Manufacturing all claim that production at their plants have not been affected, as does Changxin Memory Technologies, which operates a plant close to Wuhan. Foxconn, however, says that around 13,500 workers have been affected; in line with government regulations its China-based workforce did not to return to work until February 10th. Fortunately operations in Wuhan accounted for just 1.75% of Foxconn's consolidated revenue in 2018, which stood at around US\$5.29trn.

Despite ordering its workforce to stay at home, Foxconn also claims it has put in place measures to ensure that it can meet all its manufacturing obligations. Even so, iPhone shipments are expected to drop by up to 10% in the first quarter of 2020, with the launch of the iPhone 9 and the iPhone SE2 devices likely to be delayed. Samsung too has cautioned that the outbreak could delay the production of various Galaxy S20 accessories, including screen protectors and cases.

The impact on Lenovo, whose Wuhan plant is the largest in China and ships to more than 60 countries, is less clear. The plant is capable of producing around 30-40m phones per year, but the company has not clarified how output will be affected. Smaller domestic smartphone manufacturers, such as Lenovo, Oppo and Xiaomi, will face significant operating issues and business continuity planning challenges as a result of the outbreak.

Containment efforts

Given the fast-changing situation in China, the short to medium term impact on the tech and telecoms sector is difficult to predict. The implications for the sector may still be limited if the virus is brought under control by the end of March (our core scenario). Even so, Chinese smartphone shipments could decline by up to 30% in the first quarter of 2020, before a recovery kicks in. The biggest fear, however, is that a major slowdown in China's 5G deployment programme will hand the US a brief, but potentially crucial, advantage in the 5G race.

Those fears may be unfounded. China already has a certain degree of 5G capacity, having installed around 130,000 5G base stations by the end of 2019. China Telecom and China Unicom alone have reportedly installed shared base stations in around 24 provinces and municipalities so far. In testing, these stations have registered peak speeds of 2.5Gbps, said to be the highest 5G speed registered in the world as of November 2019. This existing capacity should help China weather any suspension of its rollout programme.

Subscription growth and 5G smartphone shipments are likely to be more heavily hit. Before the virus, uptake was soaring: China registered around 870,000 5G subscribers within the first 20 days of commercialisation of the technology in October 2019. But with smartphone shipments down, adoption will slow. However, again the coronavirus impact should not be overstated. Growth in 5G, even in a first-adopter nation such as China, is likely to be gradual regardless of the virus. 5G is expected to account for just 28% of overall mobile connections in China by 2025, partly on account of the coverage challenges involved in catering to a dispersed population.

Automotive production could be stalled

Coronavirus is affecting output of vehicles and automotive components, at a time when new vehicle markets are fragile.

Key takeaways:

- Wuhan, the epicentre of the coronavirus outbreak, is a major automotive manufacturing hub.
- As such, the outbreak immediately impacts supply chain and production lines for domestic and international automakers.
- A dip in demand will also worsen the slowdown for the sector, which already had a less-than-ideal year in 2019.
- Supply chain disruptions will normalise as the outbreak is contained, and we still expect new car sales in China to rise by 4% in 2020 despite other continued market pressures.

As soon as the quarantine measures and production shutdowns were announced, it was clear that they were going to have an impact beyond China's border. Wuhan is a major automotive manufacturing hub, producing more than 1m vehicles a year, or around 5% of China's total output. It also plays a central role in automotive supply chains for China and for much of the Asian region.

Japan's Nissan and Honda, France's PSA and Renault and US carmaker General Motors have multiple plants in and around the city. In the case of Honda, PSA and Renault these include joint venture (JV) plants with Dongfeng—one of the China's "big four" state-run automakers—which is headquartered in Wuhan. Following government directives, all of these automakers have had to keep their plants shuttered during the extended holiday period, not reopening until February 10th at the earliest.

Renault makes the Kadjar sport utility vehicle (SUV) at the Wuhan plant, which is co-owned with Dongfeng and has an annual capacity of 150,000 vehicles. PSA has told local media that it will delay reopening its 300,000-car JV facility if the Chinese government enforces an extension to business closures. GM and Honda have not set a date to resume production at their JV facilities in Wuhan. The Japanese automaker's three plants can produce about 600,000 units of the Civic sedan and CR-V SUV every year. GM employs about 6,000 at its Wuhan assembly facility, which it co-owns with SAIC, China's biggest automaker.

The closures are not restricted to Hubei province. In the southern city of Chongqing, Ford (US) closed its plant during the extended holiday. Ford employs about 5,000 workers at its facility, which it runs as a JV with Changan, another state-owned automaker. Chongqing, although not directly affected by the lockdown, is seen as the next potential hotspot for coronavirus given its close links with Wuhan.

The plant closures follow an 8.2% year-on-year decline in China's new passenger car registrations in 2019, and are likely to delay a market recovery. Car dealerships will see a sharp decline in visitors until the lockdown ends. However, our core forecast is that the public health emergency will be contained by end-March, and will be followed by government stimulus to revive demand. We therefore still expect China's new car sales in 2020 to rise by more than 4%, if production normalises after the first quarter.

Wider effects

However, the effects on automotive production are not limited to China. In South Korea, Hyundai has shuttered assembly lines and cancelled overtime at a plant in Ulsan city that makes sedans and sport utility vehicles (SUVs), after its suppliers in China suspended production amid the public health emergency. The South Korean automaker has seven domestic plants and 10 overseas facilities, including four in China. Their combined capacity reportedly reaches 5.5m vehicles a year.

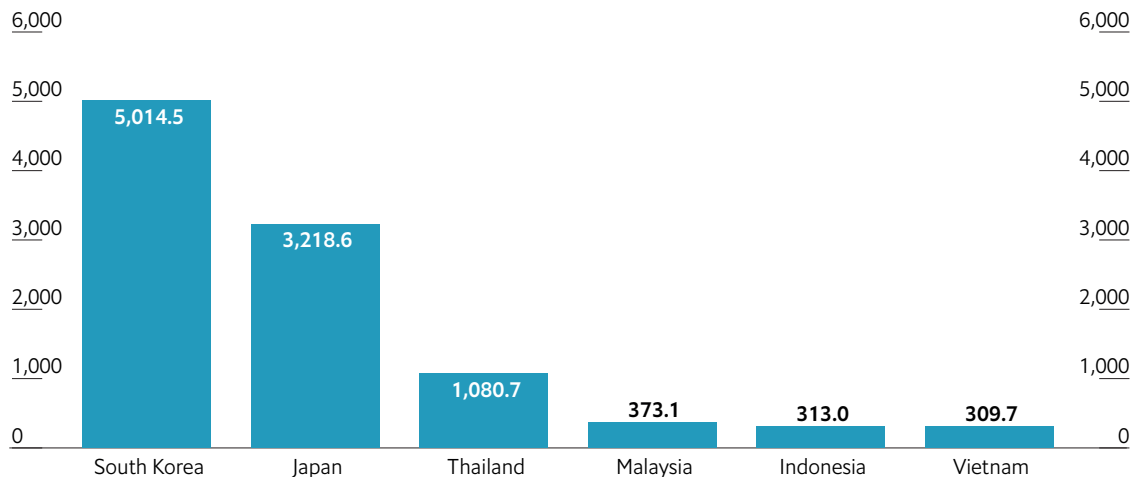
Kia, Hyundai’s sister company, has also been restricting output at two South Korean plants. It has seven domestic plants and seven foreign facilities, including three in China. Their total capacity is reportedly pegged at 3.8m cars a year. Hyundai and Kia did not say how long the stoppage is likely to last or how much it will cost. Meanwhile, SsangYong, owned by India’s Mahindra & Mahindra, suspended production at its South Korean plant for a week starting from February 4th.

The closures underline the importance of China, and especially Wuhan, in Asia’s automotive supply chain. The South Korean automotive sector is deeply integrated with that of China owing to a portfolio of free trade agreements that South Korea has been building since the early 2000s. In 2018 China was South Korea’s largest import partner for the automotive sector, according to UN Comtrade data, supplying US\$1.5bn-worth of components such as electric motors, batteries and metal sheets.

Automotive production hubs such as Japan, Vietnam, Thailand, Indonesia and Malaysia also have strong trade links with China, which is their largest source of imports. In 2018 China’s total automotive component exports topped US\$35bn, according to UN Comtrade, of which more than US\$5.2bn went to these five countries. Fewer vehicle-makers in these countries have curtailed production – most say they have enough components in stock – but have warned that they will be affected if the crisis continues.

Auto component imports from China, by recipient, in 2018

(US\$ m)



Note: Covers HS codes 8707 and 8708.
 Source: UN Comtrade.

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As in China, these warnings come at a time when the regional automotive sector is fragile. Several countries, including Japan, South Korea, Indonesia and India, saw new car sales fall last year and were hoping for a stronger 2020. Vehicle makers have already had to struggle with the impact of the US-China trade war, which has affected both demand and supply chains. Combined with the coronavirus crisis, this is already encouraging Asian automakers to reduce their dependence on their Chinese plants and suppliers. Vietnam and Thailand are among the countries that are benefiting.

The energy sector is vulnerable to shocks

The outbreak will add to the troubles for the oil and gas industry, which is facing significant political shocks as well at the moment.

Key takeaways:

- The outbreak has exacerbated an already troubled oil and gas sector, hurt by US-Iran tensions and concerns over Brexit.
- Softened oil demand will be the immediate risk factor for the industry, given China's significant role in global oil consumption.
- We expect oil prices to recover once Chinese growth rebounds as the outbreak is contained.

The global oil market has already experienced several shocks thus far in 2020. In early January, the Trump administration's move to assassinate General Qassem Suleimani, the commander of Iran's Islamic Revolutionary Guard Corps, in Iraq has significantly increased geopolitical risks in the Middle East. Then in late January news emerged of a novel coronavirus in China. The fight against the disease risks denting GDP growth and energy demand in China, the main source of new oil consumption growth.

We now expect concerns over softening global oil demand to be the dominant factor influencing oil prices in 2020. China contributes around one-third of new oil consumption each year, and collectively, Asia contributes around 50% of new consumption. Given China's dominant position as an oil buyer, we now expect Brent crude oil prices to average US\$60/barrel in the first quarter of 2020 (from US\$68/b previously). Prices will recover to around US\$64/b by mid-2020. A rebound in Chinese growth in the second half of 2020 will give more support to oil prices, bringing the full-year average to US\$63/b.

Oil prices lost more than 10% of their value between January 20th and the start of February, as the extent of the virus' spread became clearer. We expect them to stabilise around this level US\$60/b in the coming weeks, as Chinese authorities work to contain the virus and as OPEC considers even steeper production cuts in the near-term. However, if China fails to stem the spread of the virus by end-March, we will revise down our forecast for global oil prices in the first half of the year, anticipating a larger hit to Chinese and global GDP growth.

Also at stake is the LNG purchases promised under the latest US-China trade deal. China has promised US\$52.4bn in LNG sales over two years under the first-phase trade accord signed on January 15th. The outbreak has likely already impacted the timeline for a second-phase deal, which would deal with the more pressing issues of Chinese industrial policy (including subsidy programmes, state-owned enterprise reform and controversial development plans).

We forecast a modest recovery in global oil prices later in the year, to an average of US\$65/b in the third quarter, reflecting the anticipated rebound in China and continued production restraint by OPEC producers. However, we forecast oil prices to dip again in the fourth quarter, to an average of US\$62/b, as China's recovery stabilises and as US GDP growth remains much softer than it was in 2019,

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dampening global market sentiment. This will bring full-year oil prices to an average of US\$63/b (from US\$65/b previously).

We expect global economic growth to accelerate slightly from 2021 onwards, as the global economy begins to pick up after two years of sluggish growth. That said, global oil demand growth in 2021-24 will remain below the growth rate seen over the past decade as China's oil consumption moderates and as energy efficiency improves. As a result, we expect modest growth in oil prices over the remainder of the 2020-24 forecast period.

Windfalls for pharma, but challenges abound

The outbreak has directly driven higher demand for medical products and devices, but pharmaceutical companies will struggle to bring a vaccine into market to arrest the spread.

Key takeaways:

- The healthcare industry will see some clear positives from the outbreak, most immediately from an increased demand for medical equipment and products.
- The more pressing concern among pharmaceutical companies will be the development of a vaccine; several businesses, institutions and non-government organisations are racing to develop one.
- Supply chain concerns will hurt the healthcare industry just as much as the other industries.
- The industry will also have to grapple with a potential shortage in essential medical supplies if demand soars and supply chains struggle to cope with it.

Both public and private organisations worldwide are already working on finding a vaccine against the novel coronavirus, which emerged in Wuhan, China and has already led to more than 1,300 deaths worldwide. China released the genetic code of the virus, which differs from that of the previous MERS and SARS strains, on January 10th, soon after it declared the health emergency. This was followed two weeks later by a database of information. Laboratories in both China and Australia have already managed to grow the strain, to assist in vaccine preparations.

However, senior officials from companies including Novartis (Switzerland) and Johnson & Johnson (J&J; US) have warned that developing and testing a vaccine could take at least a year. J&J has already mobilised resources to develop a vaccine candidate, using its AdVac vaccinology development platform and PER.C6 biopharmaceutical platform to speed up the process. University researchers in Washington, Queensland and Massachusetts are racing to develop a vaccine, tapping into previous research into SARS and MERS and public funding from bodies such as the National Institute of Allergy and Infectious Diseases (NIAID) and the Coalition for Epidemic Preparedness Innovations (CEPI).

In China, a vaccine developer based in the epicentre of the outbreak, BravoVax, will jointly develop a vaccine with US drug developer GeoVax using genetic sequences of the new strain. Novavax, a US clinical-stage vaccine developer, is working from its MERS coronavirus vaccine candidate developed in 2013. San Diego-based Inovio is using RNA technology to help develop its potential vaccine, INO 4800, by identifying possible weakness in the virus.

Of the world's four largest vaccine-makers - GlaxoSmithKline (GSK; UK), Merck & Co (US), Sanofi (France) and Pfizer Inc (US) - two are in the throes of developing vaccines. GSK has announced a partnership with a Chinese biotech company, Clover Biopharmaceuticals, to test a vaccine candidate for Covid-19. Sanofi is working on a vaccine with the US Biomedical Advanced Research and Development Authority (BARDA), and hopes to tap into its work on a SARS vaccine.

The commercial case

With funding from public and private sources – as well as fast-developing techniques to analyse the virus genome - vaccine development may speed up. Yet vaccine developers face a commercial challenge in responding to COVID-19, as to any potential pandemic. It is not yet clear whether, even if they do manage to produce a vaccine, there will be much demand for it in future. If the disease is contained quickly, it may no longer be seen as a sufficient threat for routine vaccination. Under a more dangerous scenario, the virus may also develop and change rapidly, leaving vaccine-makers flailing.

More broadly, however, the coronavirus crisis presents a commercial opportunity for many companies in the healthcare sector. Sales of masks and protective clothing are already soaring: Malaysian rubber glove suppliers have been among the beneficiaries. In vitro diagnostics are also in demand, as laboratory testing for the disease increases. China and other countries have already announced new funding for public health measures, including hospital construction and treatment. In China, we have raised our forecast for healthcare spending in 2020 from 5.1% of GDP to 5.2%, although in nominal terms this increase is likely to be offset by a downgrade of China's GDP growth forecast this year.

However, there are also fears of shortages pushing up prices. Panic buying of masks in Hong Kong has already depleted stocks at a time when shipments have been interrupted. The pharmaceutical industry may also be impacted. China accounts for around 70% of the world's shipments of active pharmaceutical ingredients, vital for the manufacture of medicines. Although most pharmaceutical manufacturers claim to have sufficient stocks to ride out a short interruption in supplies, a longer crisis would carry risks. Already, India reports that prices for antibiotics and anti-inflammatory drugs have soared, along with those for much-needed respiratory medicines.

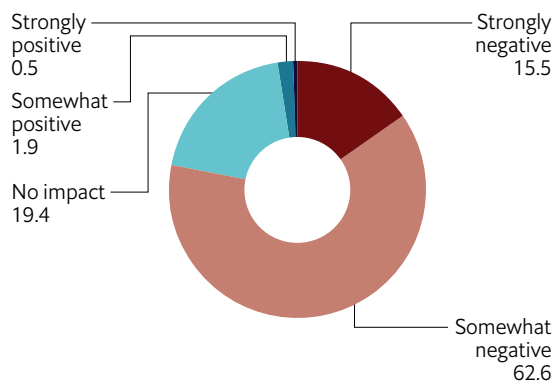
Coping with the coronavirus: what lies ahead for businesses

Companies that operate in or source from China will need to implement business continuity plans to mitigate the impact of the novel coronavirus.

The economic and business effects of the coronavirus outlined in this report depend partly on how well the disease is contained. However, even if the crisis proved short-lived, it is already having an impact. According to a survey of Economist Corporate Network members across Asia between January 31st and February 6th, 76% said that the coronavirus outbreak had already had a negative impact on their

Impact of novel coronavirus on company operations to date

(%)



Source: Survey of 206 Economist Corporate Network members from January 31st to February 6th.

businesses, and 80% have or are working on a contingency plan.

Human resources

The most pressing concern for China-based businesses is to assess the whereabouts and health status of their employees. Not only are companies obliged to do so under Chinese law, but it is also critical for internal communications and operational planning.

Businesses are likely to remain understaffed throughout the public health emergency. Some employees may be stranded in severely affected areas owing to quarantine restrictions, which could be extended to other areas if the number of new cases rises sharply. Staff could also be stuck

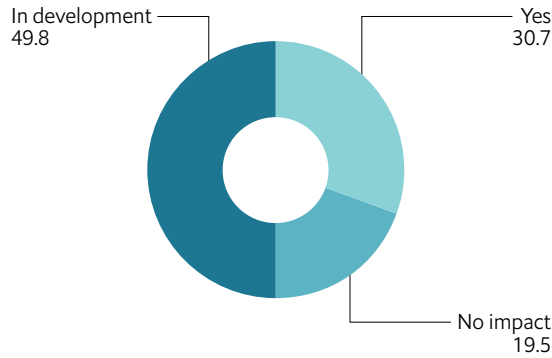
overseas owing to flight cancellations, while others will be reluctant to return to work out of fear of infection. Human resources (HR) departments should guarantee the safe custody of sensitive company property such as seals, chops and bank documents during this time.

Where possible, working remotely and flexible hours are advised until the emergency is contained. Meetings and travel are best avoided as long as there is a risk of infection. This will require investment into remote communication technologies like Ding Talk, Skype, WeChat Work and Zoom, as well as making information technology support teams available. HR may use WeChat, a widely adopted Chinese messaging platform, to ensure that everyone receives internal communication, as employee access to email may be limited. However, firms should review the security of third-party applications and avoid sharing sensitive information as a precautionary measure. Employees may need to install a virtual private network (VPN) to access certain websites.

Compliance with government-mandated extensions to the holiday period is mandatory. The return-to-work date varies across regions, and firms should pay close attention to both national and regional government updates. Employers have the option of offering staff overtime pay (double the rate of normal wages) or additional annual leave in lieu if working during the extended holiday period. Firms

Companies with contingency plan if outbreak lasts longer than several weeks

(%)



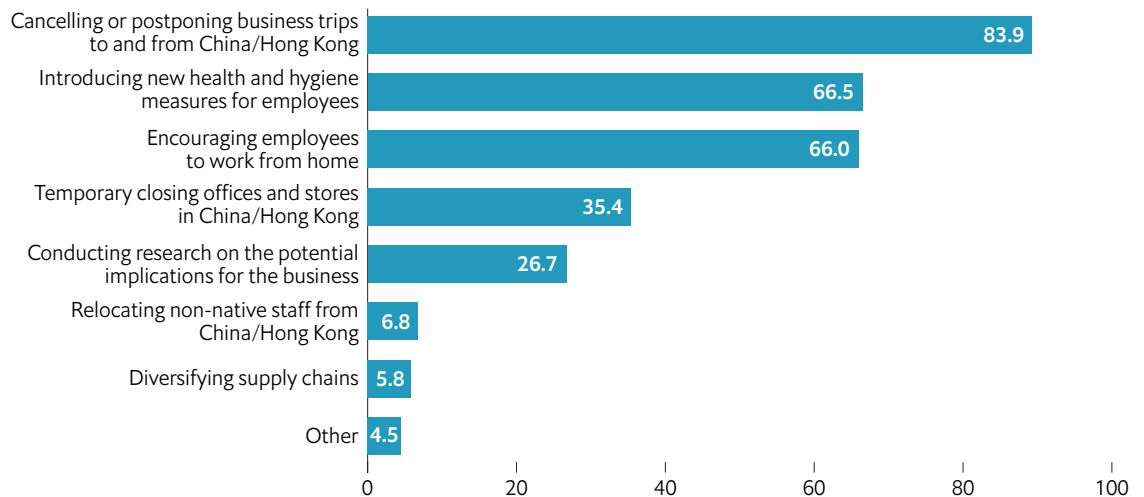
Source: Survey of 206 Economist Corporate Network members from January 31st to February 6th.

may be obligated to support the repatriation of foreign employees, and HR should review employment contracts in the first instance.

Businesses are legally obliged to report to the health authorities any suspected novel coronavirus patients among their employees. Chinese law also requires businesses to take effective infection prevention measures. Failure to comply could lead to a fine of up to Rmb200,000, the cancellation of business licences and even criminal liabilities. As a result, businesses should in the first instance carry out proper sterilisation of the workplace. This will also help to restore employee confidence in the safety of returning to work.

Measures being taken by companies to mitigate risk

(%)



Note: Multiple responses allowed.

Source: Survey of 206 Economist Corporate Network members from January 31st to February 6th.

Financial planning

Businesses should look to revise budgets for 2020, keeping in mind that their previous assumptions about the economy are no longer valid. These adjustments should be communicated in a timely manner to investors and other stakeholders. We advise factoring in a drop in domestic demand in at least the first quarter of 2020—we believe that economic growth will fall to around 4% in the first quarter, before rebounding in the second half of the year to average 5.4% as a whole. Firms should stay alert to announcements of government stimulus and be ready to take advantage of the commercial opportunities they may create, such as subsidies for consumer goods purchases.

In addition, firms will have to account in their revised budgets for continued wage payments over the extended holiday period (and wage increases in some cases to incentivise staff to return to work). Companies are legally permitted to reduce pay and shorten working hours if they obtain employees' agreement. A priority should be to ascertain who will be responsible for finances during the public health emergency, and whether they have sufficient funds to make emergency payments.

Firms should strive to protect their business revenues during this difficult period. This may mean that retailers that have been forced to close physical stores should more strongly embrace ecommerce, for example, or that firms should move into alternative business and product lines. Commercial strategy can focus on the parts of the country that are not subject to strict quarantine policies.

Companies may wish to pause investment plans to ensure ample liquidity during the public health emergency. Domestic private firms, especially smaller companies, could be at risk of going out of business due to liquidity issues. Businesses should therefore aim to clear receivables as soon as possible. Being prepared for requests from business partners for extended credit is also advised. Firms could sell off certain assets or cut headcount to improve liquidity levels, although companies in certain regions are not permitted to lay off staff if they are coronavirus patients or under quarantine, including in Beijing, Shanghai and Guangdong.

Firms may face interruption to business contracts due to parties citing force majeure, or "any objective circumstances which are unforeseeable, unavoidable and insurmountable" according to China's contract law. Legal teams should be on standby to review contractual rights and obligations.

Supply chains

Businesses should also consider sourcing alternative contractors, including those outside China where possible, given that the coronavirus outbreak poses a risk to domestic and international supply chains. Firms using domestic suppliers and distributors should expect disruption and increased transport costs, especially in severely hit areas like Hubei, which is a hub for automotive, electronics, steel and biopharmaceutical manufacturing. Although media reports indicate that some factories are still operating in that region, this cannot be guaranteed, and it is advisable to check with suppliers directly. Wuhan is also an important transport node for Central China, which could make it difficult to move goods between the interior and the coasts. Of additional concern are Guangdong and Zhejiang province, both major export manufacturing hubs, which have the highest number of cases after Hubei.

Corporate social responsibility

The Chinese government and consumers will pay close attention to companies' response to the novel coronavirus outbreak. Several large domestic companies have already made financial, food and medical supply donations to Wuhan. Many foreign companies have also made contributions. Enterprises may want to show support for China during the public health emergency, either via donations or targeted marketing campaigns.

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