Market Bulletin

25 February 2020

Monitoring the global impact of COVID-19

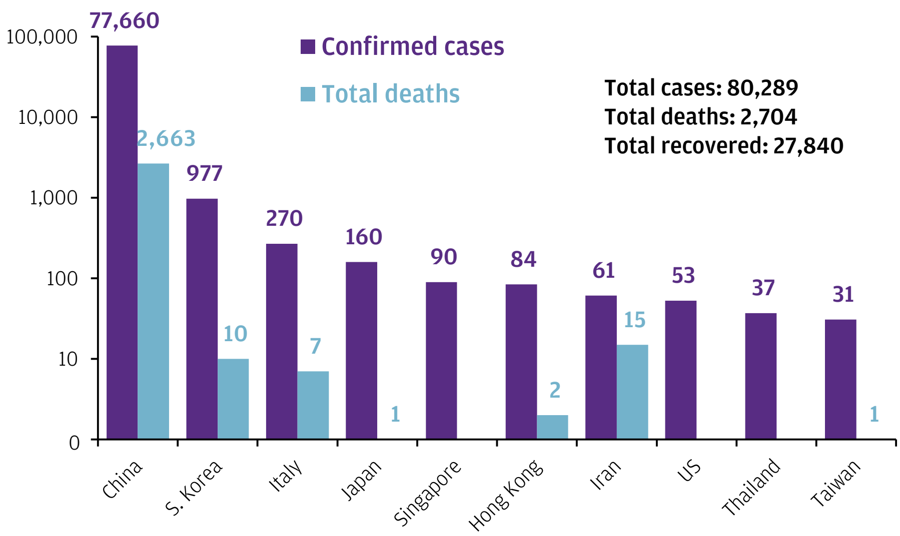
The spread of the coronavirus and its impact on global economic activity are increasingly troubling investors. Trying to predict the final outcome is a fool's errand. Instead, in this piece we provide a framework for tracking infection rates globally, monitoring the impact on economic activity using high frequency or daily data, and assessing the economic linkages that could serve to transmit economic stress. We then consider government and central bank interventions that might support the households and firms affected and facilitate an economic recovery, as well as providing an overview of the market reaction to date.

The clear investment implication is that, even more than usual, a well-diversified portfolio is essential. This includes diversification by region but also by asset class. Once again, we see the use of core government bonds in cushioning the value of a portfolio, despite those bonds starting from historically low, and seemingly unattractive, yields.

What are the latest virus statistics?

Exhibit 1 provides the latest data on the spread of coronavirus. The daily rate of infection has showed some initial signs of slowing in China, though it has taken significant restrictions on travel. Whether a loosening of travel restrictions leads to a resurgence is yet to be seen. Troublingly, in recent days there has been a notable pickup of cases in Japan and South Korea, as well as the first major clustered outbreak in Europe, in a region close to Milan in Italy.

EXHIBIT 1: COVID-19 confirmed cases and deaths by country
Log scale



Source: Johns Hopkins CSSE, J.P. Morgan Asset Management. Data as of 25 February 2020.

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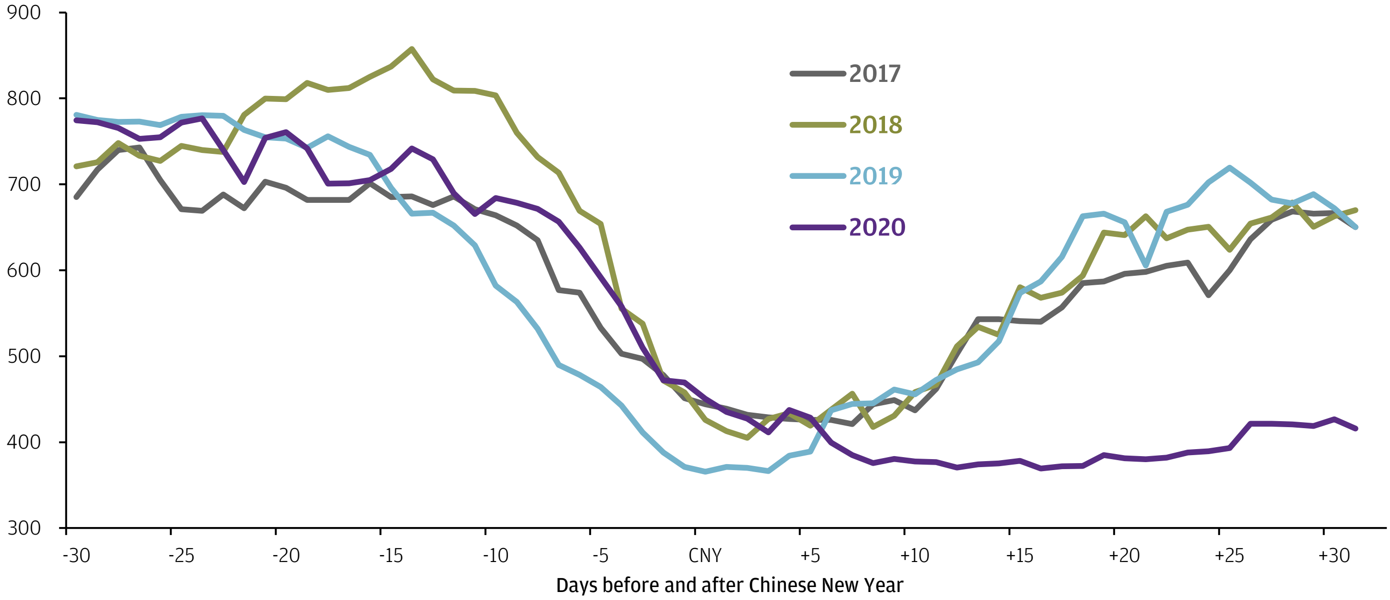
How is current production being affected in China and elsewhere?

The outbreak in China coincided with the Chinese New Year period. To reduce the spread of infection, there have been significant restrictions on travel and production in China. Some key manufacturing provinces, such as Guangdong, Jiangsu and Zhejiang (which together account for 27% of China's GDP and 55% of China's exports), have seen new infection numbers come down significantly. Yet quarantine policy and travel restrictions mean workers are struggling to return to work. This is impacting national and regional supply chains.

Monitoring the impact on Chinese activity is difficult in real time. Much of the data we rely on to monitor activity, such as the purchasing managers' index (PMI) surveys, is released monthly and at a lag. The following charts provide what we believe to be the timeliest daily indicators of activity. **Exhibit 2** shows daily coal consumption, which in turn reflects electricity and energy demand for broader economic activity. Clearly, the rebound that is usually seen after the New Year holiday has yet to materialize. **Exhibits 3-4** track migrant flows into and out of two of the key cities. Again, the flow of workers back to the cities after the New Year celebrations has been delayed, with only tentative signs of a recent pickup.

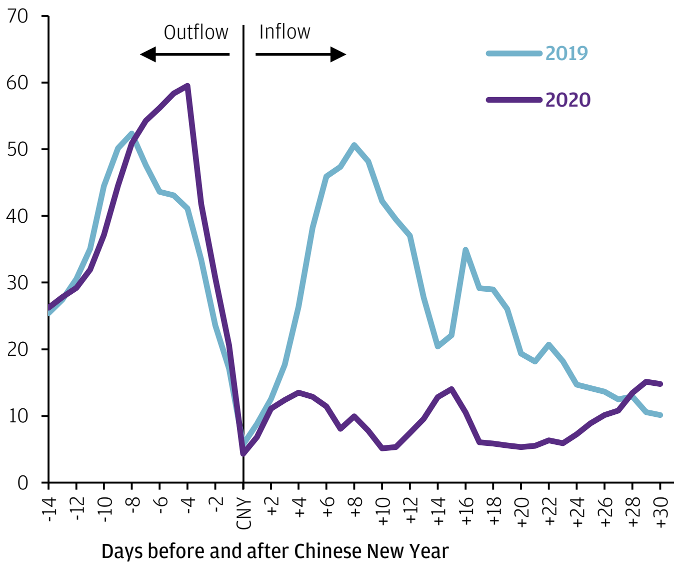
EXHIBIT 2: Coal consumption in China
Thousand tons per day



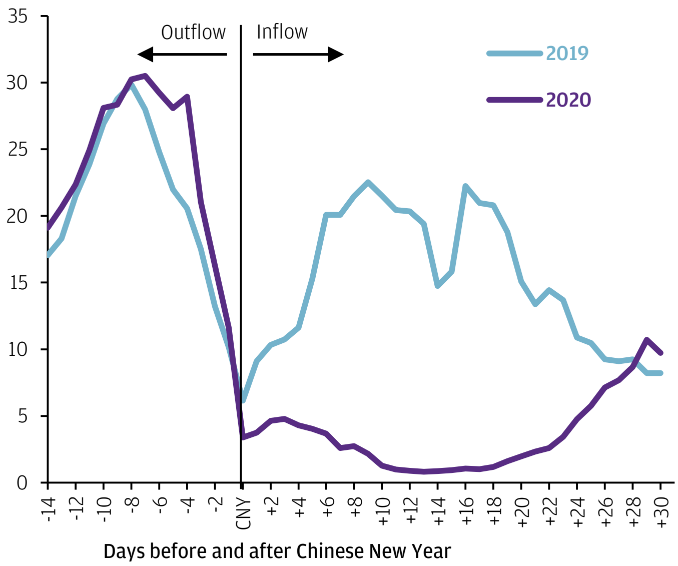
Source: Wind, J.P. Morgan Asset Management. CNY = Chinese New Year. Data as of 25 February 2020.

EXHIBITS 3 - 4: Chinese migration patterns
Index level

Baidu migration index - Guangdong



Baidu migration index - Zhejiang



Source: Baidu, J.P. Morgan Asset Management. CNY = Chinese New Year. Data as of 24 February 2020.

Consensus forecasts for Chinese GDP for the first quarter have been cut from the 5.9% year on year (y/y) expected at the beginning of the year to 3.9%. It should be noted that analysts currently expect a sizeable bounce back in Q2 of 5.2% y/y, though calling for a V-shaped recovery at this stage seems premature given the slower-than-expected pace of manufacturing recovery.

Travel restrictions are now in place in Italy and South Korea in response to the weekend's news. In Italy, fifty thousand people in the worst-affected towns have been asked not to travel, certain public social activities have been cancelled in Milan, and schools and universities have been closed. As a result, we are likely to see economic downgrades in both regions, although the magnitude is unclear at this stage.

How might economic weakness spread to other regions?

There are three channels by which we should assess economic contagion. One is the impact on the growth of those countries reliant on crisis-hit areas for demand. The second, and more difficult to assess, is supply chain disruption. Finally, there is the risk of financial contagion if a country's stock market is reliant on other regions for corporate earnings.

In terms of final demand, China is an increasingly important engine of global growth. In 2018, growth in China accounted for 28% of total global growth.

Exhibit 5 captures the export connections between countries. The Asian countries most exposed to a Chinese slowdown, when considering the importance of their exports as a percent of their total output, are Hong Kong, Singapore, South Korea and Malaysia. The transmission differs by country. In Latin America, while the region has had no reported virus cases, links with Asia via exports and commodities are likely to impact high-beta markets such as Brazil.

EXHIBIT 5: Global goods export linkages

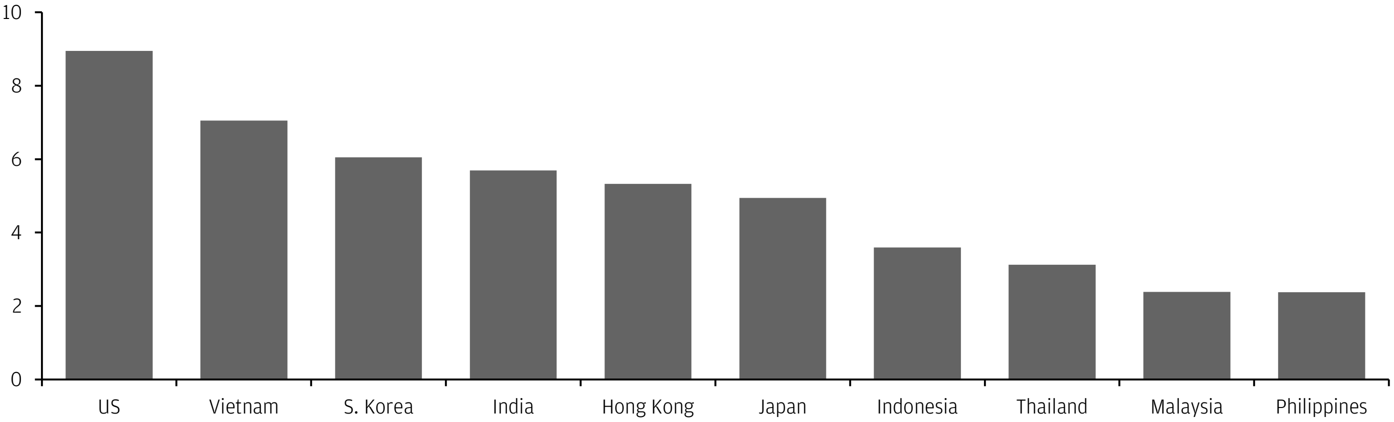
Goods exports as % of origin country nominal GDP, 2018

Exports from \ Exports to	Brazil	China	France	Germany	Hong Kong	India	Indonesia	Italy	Japan	Malaysia	Philippines	Russia	Saudi Arabia	Singapore	South Korea	Thailand	UK	US	Vietnam
Brazil	-	3.4%	0.1%	0.3%	0.1%	0.2%	0.1%	0.2%	0.2%	0.1%	0.0%	0.1%	0.1%	0.2%	0.2%	0.1%	0.2%	1.5%	0.1%
China	0.2%	-	0.2%	0.6%	2.2%	0.6%	0.3%	0.2%	1.1%	0.3%	0.3%	0.3%	0.1%	0.4%	0.8%	0.3%	0.4%	3.5%	0.6%
France	0.2%	0.9%	-	3.0%	0.3%	0.3%	0.1%	1.6%	0.3%	0.1%	0.0%	0.2%	0.2%	0.4%	0.2%	0.1%	1.4%	1.6%	0.1%
Germany	0.3%	2.8%	3.2%	-	0.2%	0.4%	0.1%	2.1%	0.6%	0.2%	0.1%	0.8%	0.2%	0.2%	0.5%	0.2%	2.5%	3.4%	0.1%
Hong Kong	0.4%	86.6%	1.3%	2.7%	-	4.9%	0.9%	1.0%	4.6%	1.2%	1.1%	1.0%	0.3%	3.4%	2.2%	3.7%	1.8%	12.7%	2.9%
India	0.1%	0.6%	0.2%	0.3%	0.5%	-	0.2%	0.2%	0.2%	0.2%	0.1%	0.1%	0.2%	0.4%	0.2%	0.2%	0.4%	1.9%	0.2%
Indonesia	0.1%	2.6%	0.1%	0.3%	0.2%	1.3%	-	0.2%	1.9%	0.6%	0.7%	0.1%	0.1%	1.2%	0.8%	0.7%	0.1%	1.8%	0.4%
Italy	0.2%	0.7%	2.8%	3.3%	0.3%	0.2%	0.1%	-	0.4%	0.1%	0.0%	0.4%	0.2%	0.1%	0.3%	0.1%	1.3%	2.4%	0.1%
Japan	0.1%	2.9%	0.1%	0.4%	0.7%	0.2%	0.3%	0.1%	-	0.3%	0.2%	0.1%	0.1%	0.5%	1.1%	0.7%	0.3%	2.8%	0.3%
Malaysia	0.3%	9.6%	0.4%	2.0%	5.2%	2.5%	2.2%	0.4%	4.8%	-	1.2%	0.2%	0.3%	9.6%	2.3%	3.9%	0.6%	6.3%	2.4%
Philippines	0.0%	2.6%	0.3%	0.8%	2.9%	0.2%	0.3%	0.1%	2.9%	0.6%	-	0.0%	0.0%	1.3%	0.8%	0.8%	0.2%	3.2%	0.3%
Russia	0.2%	3.4%	0.5%	2.1%	0.1%	0.5%	0.1%	1.0%	0.8%	0.1%	0.0%	-	0.0%	0.2%	1.1%	0.0%	0.6%	0.8%	0.1%
Saudi Arabia	0.3%	4.9%	0.6%	0.1%	0.1%	3.4%	0.4%	0.7%	4.2%	0.4%	0.3%	0.0%	-	1.5%	3.4%	0.7%	0.2%	3.3%	0.1%
Singapore	0.3%	13.6%	1.3%	1.7%	13.0%	3.3%	8.9%	0.2%	5.4%	12.0%	2.1%	0.2%	0.2%	-	4.2%	4.2%	1.5%	8.5%	3.2%
South Korea	0.3%	9.4%	0.2%	0.5%	2.7%	0.9%	0.5%	0.3%	1.8%	0.5%	0.7%	0.4%	0.2%	0.7%	-	0.5%	0.4%	4.3%	2.8%
Thailand	0.3%	5.9%	0.4%	1.0%	2.5%	1.5%	2.0%	0.3%	4.9%	2.3%	1.5%	0.2%	0.3%	1.8%	1.0%	-	0.8%	5.5%	2.5%
UK	0.1%	1.0%	1.1%	1.7%	0.4%	0.2%	0.0%	0.5%	0.3%	0.1%	0.0%	0.1%	0.2%	0.2%	0.3%	0.1%	-	2.3%	0.0%
US	0.2%	0.6%	0.2%	0.3%	0.2%	0.2%	0.0%	0.1%	0.4%	0.1%	0.0%	0.0%	0.1%	0.2%	0.3%	0.1%	0.3%	-	0.0%
Vietnam	0.9%	17.2%	1.6%	2.9%	3.3%	2.7%	1.5%	1.2%	7.9%	1.7%	1.4%	1.0%	0.1%	1.3%	7.6%	2.3%	2.4%	19.8%	-

Source: IMF, Refinitiv Datastream, J.P. Morgan Asset Management. Green shading indicates low economic dependence for origin country on exports to destination country and red shading indicates high economic dependence for origin country on exports to destination country. Data as of 24 February 2020.

Supply chain links are much harder to evaluate given data limitations. Indeed, the experience of the Japanese tsunami in 2011 provided a prime example of how analysts underestimated the economic disruption due to a lack of reliable data on supply chains. We do know that China is the top exporter of intermediate goods (9.4% of global exports of intermediate goods). While US economic growth tends to be domestically generated, the supply lines of many of its largest firms are reliant on Asian economies (**Exhibit 6**). There may be some impact to valuations in the short term as investors seek safer assets; however, over the medium term, investors should remain focused on any disruption to earnings growth in the coming quarters.

EXHIBIT 6: What are the destinations for China's intermediate goods exports?
% share of total Chinese intermediate goods exports, 2018



Source: World Bank, J.P. Morgan Asset Management. Data as of 24 February 2020.

What will the policy response be?

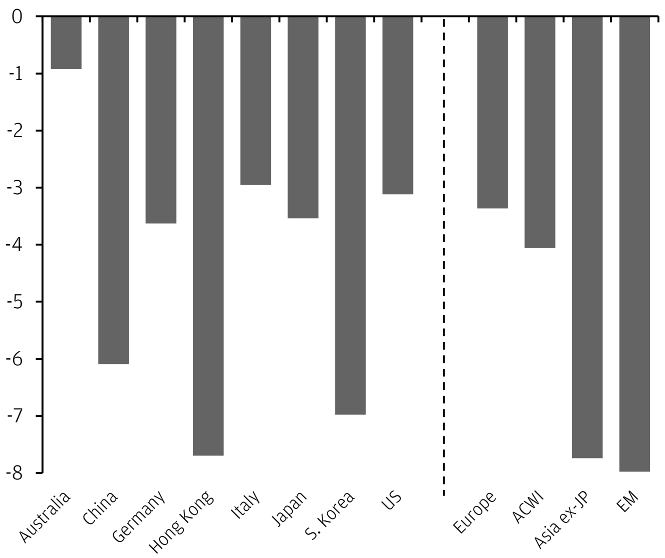
Markets have taken some comfort from the signs that policymakers will be quick to respond with supportive policies. In Asia, the worst-affected regions have so far focused their policy efforts on supporting businesses with targeted relief measures. Fortunately, much of the region has positive real rates so has scope for further policy easing if required.

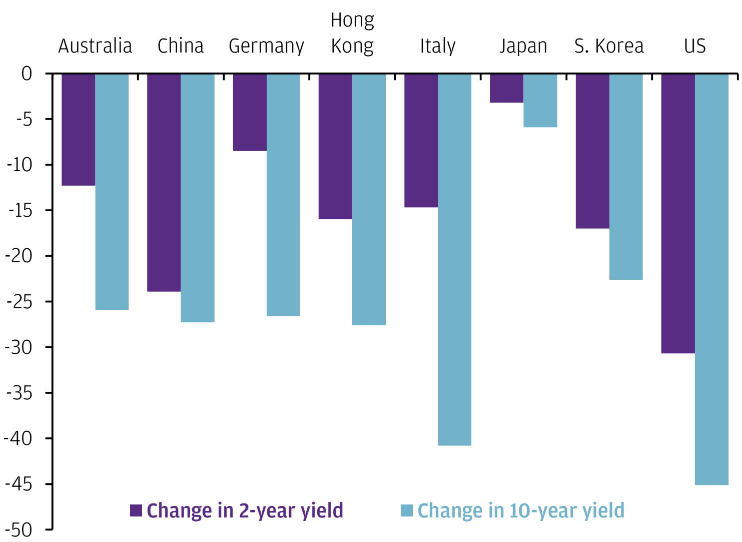
In the developed world, markets also expect the central banks to act with force to counter the downside risks. The Federal Reserve now has around 60 basis points of rate cuts priced in for the remainder of the year. The Bank of Japan and European Central Bank have much less scope for lowering policy rates, but markets expect some degree of further easing. In both Europe and Japan, a fiscal response is likely to be the first line of defence should activity weaken materially further. Although Italy has high levels of debt and has had some disagreements with the European Commission on fiscal policy in recent years, Europe's fiscal rules have escape clauses to cope with such unexpected events.

How have the markets reacted?

Up until very recently, stock markets appeared relatively resilient, particularly outside of the worst-affected areas. The likelihood of decisive action on the part of the world's policymakers no doubt helped support expectations of a strong rebound in activity once the spread of the virus was contained. There has been a meaningful increase in both short- and long-dated government bond prices since the fears emerged in mid-January. In recent days, with the news of the increase in cases in South Korea and Italy, there has been more of an impact on global equity markets (**Exhibits 7-8**).

EXHIBITS 7 - 8: Market reaction
Stock market price returns (local currency unless specified) and government bond yield (in basis points) changes since 17 Jan 2020





Source: (Left) Bloomberg, DAX, FTSE, Hang Seng, MSCI, Standard and Poor's, TOPIX, J.P. Morgan Asset Management. MSCI indices are used for Australia, China, S. Korea, Europe (EUR), ACWI (USD), Asia ex-JP (USD), EM (USD). Other indices used: Germany: DAX; Hong Kong: Hang Seng; Italy: FTSE MIB; Japan; TOPIX; US: S&P 500. (Right) Bloomberg, J.P. Morgan Asset Management. Past performance is not a reliable indicator of current and future results. Data as of 24 February 2020.

Conclusion

It is far too early, and too unpredictable in its nature, to assess the ultimate impact of the coronavirus on economic activity and corporate earnings. The sooner the virus is confidently contained, the quicker the recovery in economic activity will be particularly given policy stimulus will no doubt be deployed to assist in that recovery. However, the more the virus affects activity in other regions, and the longer the period of reduced travel to restrict the transfer of the infection, the greater will be the impact on corporate earnings.

For now, investors should maintain a balanced approach to asset allocation given the uncertain nature of the outbreak. Risk aversion is likely to prevail if more countries see the number of cases rise in the weeks ahead. The rising number of cases in Italy is also focusing the minds of European and US investors on the global impact from rising infections.

Projecting the market reaction from China in recent weeks onto the global markets, consumer staples, real estate and healthcare are expected to show more resilience. Consumer discretionary, industrials, materials and energy could see greater vulnerability as infection undermines consumer confidence and economic activities. In fixed income, investors are likely to continue to seek yield and income given exceptionally low risk-free rates. Emerging market and Asian central banks have more room to cut interest rates and this would benefit emerging market and Asian fixed income. A low yield environment would also benefit developed market corporate debt, despite tight corporate credit spreads indicating rich valuations. Potential growth concerns from the outbreak could harm high yield corporate debt more than high grade papers.

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