

Market Insights: Novel Coronavirus

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Frontier Advisors

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AUTHOR

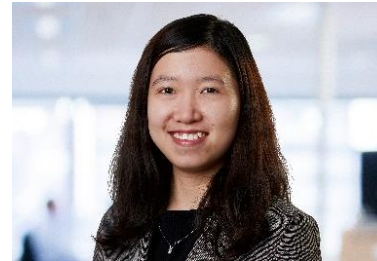


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Kuek Chyuan (KC) Low is a Senior Consultant, having joined Frontier as an Associate in 2012. His responsibilities at Frontier include providing analytical support to clients, asset allocation advice, plus investment research. KC is a member of Frontier's Capital Markets and Asset Allocation team. KC was previously employed at Fairfax Media as the Head of Research and Valuation Analyst for BRW Magazine. He has also published business articles in print and online for Fairfax's various mastheads. KC has also interned in the Advisory division of PricewaterhouseCoopers. KC holds a Bachelor of Commerce, majoring in Accounting and Finance at Monash University with the Dean's Commendation. He also holds a Master of Applied Finance from Monash University. KC is a CFA Charter holder.

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Ann Tran joined Frontier as an Associate in July 2019. She is a member of Capital Markets and Asset Allocation team and is responsible for applying econometric modelling to contribute to the preparation of Frontier's analytical reports and undertaking relevant economic and financial market research. Prior to joining Frontier, Ann worked as a lecturer and tutor for Economics and Finance courses at RMIT University. She has also published academic journal articles on Empirical Economics and Journal of Policy Modelling. Ann holds a PhD in Economics from RMIT, majoring in Applied Macroeconomics and Time Series Econometrics. She also holds a Master of Economics from University of Leeds (United Kingdom).

Novel Coronavirus and Investment Implications

Uncertainty around the scale and duration of the outbreak and the economically disruptive measures in place
Historical analysis of pandemics shows the economic impact can be large but temporary

The ongoing spread of the coronavirus since it broke out at the start of this year is a tragedy with significant human and social cost. Our thoughts are with those affected by this pandemic.

We do not hold ourselves out to be experts in infectious diseases and the outbreak is rapidly evolving making any analysis difficult. However we have created a framework to consider the investment implication of the coronavirus for clients. These factors being:

- Scale and duration of disease outbreak before it is stabilised;
- Scale and duration of economically disruptive measures imposed;
- Scale of stimulus response by authorities; and
- Financial market response.

Scale and duration of disease outbreak before it is stabilised

The first confirmed case of the Novel Coronavirus occurred on 31 December 2019 in Wuhan, China. Since then, the number of confirmed cases has overtaken the 2002 SARS. However, current evidence suggest the Wuhan Coronavirus is less deadly compared to SARS. Research on a vaccine for the Coronavirus is still ongoing.

There is significant uncertainty around the scale and duration of the outbreak, however, as a guide, there was around a six-month period between the first confirmed case of SARS and the World Health Organisation (WHO) declaring it was contained. The Coronavirus may take a similar timeframe to be contained.

Increased urbanisation/travel within China and Chinese New Year celebrations makes containment of the Coronavirus more difficult. However, it appears the Chinese authorities have been proactive in their response this time compared to SARS. Constructing a 1,000 bed hospital

in ten days and quarantining the Wuhan region putting around 50 million people in lockdown, are examples of China's ability to respond to the outbreak.

The expectation is that ultimately this outbreak will be contained but there is the small probability this becomes a global pandemic, causing a much larger longer lasting negative human and economic impact.

Scale and duration of economically disruptive measures imposed

In trying to limit the spread of the Coronavirus, economically disruptive measures have been implemented such as private businesses announcing temporary closures, quarantine of several Chinese cities and restriction of global air travel to/from China. Examples of the global disruption includes Chinese suppliers of Apple delaying the return to work after Chinese New Year and Hyundai shutting down its South Korean factories due to running out of Chinese car components.

Although Chinese New Year (25 January to 8 February) coinciding with the outbreak may have increased the risk of the Coronavirus spreading, it also meant that Chinese economic activity was already going to be halted over this period. Another mitigating factor is the greater access to e-commerce compared to 2002 which may lessen the negative impact on consumer demand in China.

As a comparison, economic estimates of the 2002 SARS outbreak suggest that it had a large but temporary impact on Chinese economic growth (around -1%) but the overall impact on global growth was small. That said, these historical comparisons are likely to underestimate the impact of the current situation. China is now a much more important part of the global (and Australian) economy than in 2003. China's proportion of global GDP was 9% in 2003 compared to 19% in 2019.

Novel Coronavirus and Investment Implications

Significant Chinese policy response to date and additional support can be expected
Historical analysis suggests negative impact on global equity markets are temporary

Scale of stimulus response by authorities

The Chinese government to date has been proactive in its financial market response to the Coronavirus outbreak. The People's Bank of China (PBOC) cut the 7-day and 14-day reverse repo rates by 0.1% on 3 February. The Medium Lending Facility rate was also adjusted downward by 0.1%. The PBOC injected a total of 1.7 trillion yuan (US\$243 billion) via reverse repos when the Chinese equity market re-opened after Chinese New Year.

Although the Chinese government at its annual *Central Economic Work Conference* continued to emphasise that authorities would not resort to 'flood-style' stimulus, it seems likely that the authorities will do whatever it takes to achieve its policy goal of doubling China's real GDP by 2020. This will require China to achieve around 6% economic growth this year.

Therefore a sustained economic slowdown/recession in China from the Coronavirus seems unlikely because authorities are likely to counter this with significant stimulus. However, we are conscious of the diminishing ability of authorities elsewhere in the world to stimulate.

Financial market response

Analysis of historical pandemic impact on financial markets are difficult due to other factors at play during that time. As examples, the Iraq war started in March 2003, the same month that WHO issued a global alert on SARS and the GFC occurred shortly before the 2009 Swine Flu episode.

However, using history as a guide, there have been no clear lasting negative impacts on equity markets from recent pandemics. In all five epidemic episodes (SARS, Swine Flu, Avian Flu, Ebola and Zika Virus) that we analysed, developed market equities were volatile in the initial period

of an outbreak but tended to finish positively 12 months after the initial case. At present, equity markets are off their peaks since reacting to the outbreak but by relatively small amounts except for a more material fall in China. Additionally, the Australian dollar (AUD) has depreciated and bond yields have fallen providing some protection for portfolios. Financial markets are now pricing in further easing by central banks in response to the outbreak.

Investment implications

There remains uncertainty around the scale and duration of the outbreak and the economic disruptive measures being imposed. Although historical analysis suggest that the economic impact of pandemics can be material but only temporary, there is a risk that the duration of the current outbreak reaches a tipping point to cause a sustained global slowdown particularly given the current fragile state of the economy. Similarly, historically, equity markets experience short-term volatility but are not materially impacted by pandemics over a 12 month period.

The Chinese government is expected to be aggressive in its stimulus response and authorities will do what is necessary to achieve their 2020 growth targets which reduces the likelihood of a sustained economic slowdown.

We are not altering our DAA advice due to the Coronavirus at this time. However, we will continue to monitor the situation closely assessing the spread of the disease and the change in asset valuations.

Previous pandemic outbreaks

Historic economic impact from SARS

Key Information On Pandemic Outbreaks

Epidemic Outbreak	First Reported Case	Global Health Emergency Declaration	Containment Declaration (By WHO)	Originated	Confirmed Cases	Deaths	Fatality Rate (%)	Infectiousness (R0) ⁴
SARS	16 Nov 2002	12 Mar 2003 ¹	5 July 2003	China	8096	774	9.6 ²	2-4
H1N1 Swine Flu	18 Mar 2009	25 Apr 2009	10 Aug 2010	Mexico	60.8 million ⁵	152,000 to 575,000 ⁵	-	1.2-1.6
H7N9 Avian Flu	29 Mar 2013	- ³	-	China	1,567	615	39.2	0.06-0.4
Ebola	31 Dec 2013	8 August 2014	14 Jan 2016	West Africa	28,616	11,310	39.5	1.7-2
Zika Virus	5 Jan 2016	1 Feb 2016	18 Nov 2016	Brazil	175,063	-	-	2.5
Novel Coronavirus ⁶	31 Dec 2019	31 January 2020	-	China	24,562	492	2.0	2-2.5

Source: WHO, CDC, Baize et al (2014), Wang et al (2016), PAHO

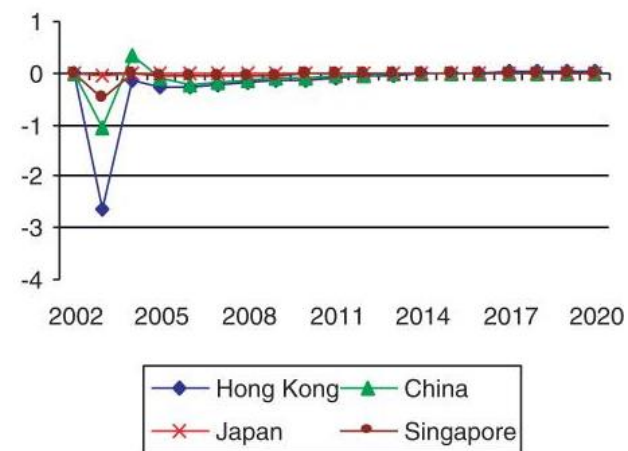
1. Before existence of global health emergency protocol, WHO issued a global alert. 2. Initial rate was 3-4%. 3. Not deemed a global health emergency. 4. R0 measures the infectiousness of a disease. Higher number indicates more infectious. Seasonal flu has a R0 of around 1.3. 5. CDC estimated 60.8 million cases in the US in the first year alone and 151,700-575,400 deaths globally. 6. Information as at 5 February 2020.

Estimated Real GDP Impact from SARS (%)

Countries	Estimated Real GDP Impact (%)
Hong Kong	-2.6
China	-1.1
Taiwan	-0.5
Thailand	-0.2
Malaysia	-0.2
Australia	-0.1
Japan	-0.1
United States	-0.1
OECD	-0.1

Source: Lee and McKibbin (2004)

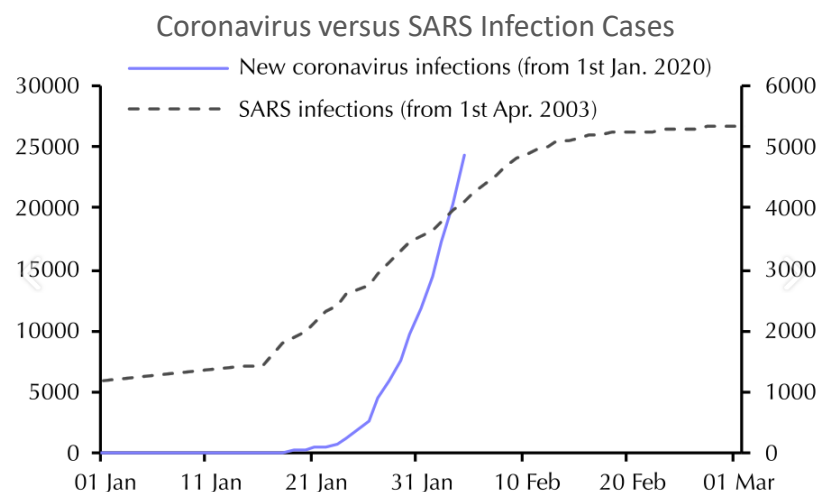
Estimated Real GDP Impact from SARS (% deviation)



Source: Lee and McKibbin (2004)

Spread of Coronavirus and estimated economic impact from flu pandemics

China share of economy and estimated impact from the Wuhan Coronavirus



Source: Capital Economics

Estimated GDP Impact From an Influenza Pandemic Scenario

	Mild (%)	Moderate (%)	Severe (%)
Hong Kong	-1.2	-9.3	-26.8
China	-0.7	-2.1	-4.8
Taiwan	-0.8	-2.9	-7.1
Thailand	-0.4	-2.1	-5.3
Malaysia	-0.8	-3.4	-8.4
Australia	-0.8	-2.4	-5.6
Japan	-1.0	-3.3	-8.3
United States	-0.6	-1.4	-3.0

Source: McKibbin and Sidorenko (2006). Mild scenario: similar to Hong Kong flu (1968-69), modelled 1.4 million deaths globally (0.02% mortality); Moderate: similar to Asian flu (1957), 14.2 million (0.2%); Severe: similar to Spanish flu (1918-19), 71.1 million (1.1%)

Chinese Share of Economy During SARS versus Now

Chinese Share of...	SARS (2003) (%)	Wuhan Coronavirus (2019) (%)
Global Economy	9	19
Australian exports	8	34
Australian iron ore exports	32	82
Australian tourist arrivals	4	15
Australian student commencements	20	24

Source: CBA, ABS, IMF

Estimated Impact on 2020 China Real GDP from Wuhan Coronavirus

Research	Estimated Impact (%)
AMP	-2.0 to -3.0
HSBC	-1.0 to -2.0
ANZ	-0.9
Goldman Sachs	-0.4
Citi	-0.3

Source: AMP, HSBC, ANZ, Goldman Sachs, Citi

China policy stimulus announcements

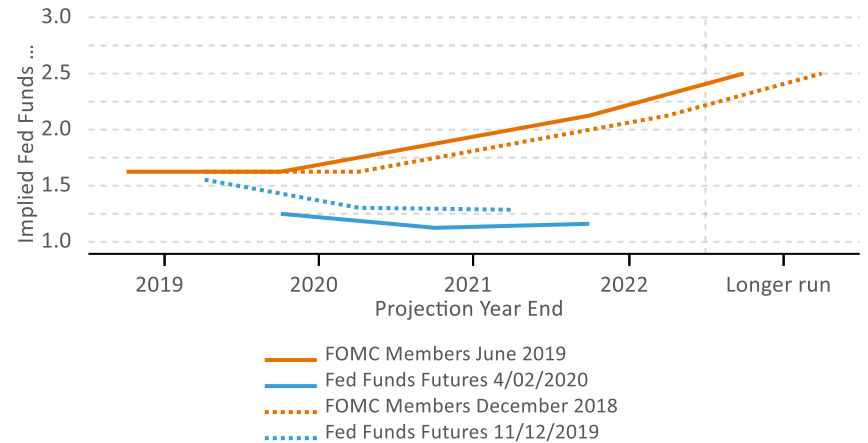
Market expectations of US and Australia interest rates

China Policy Stimulus Announcements Since Start of 2019

Date	China Policy Stimulus Announcements
Jan 2019	Announced 100bps cut to RRR
Jan 2019	Consumption stimulus package
Feb 2019	Tax deduction for individuals who starts a business or hire the needy
Mar 2019	National People's Congress (NPC) announcements: Plans to sell general and special local government bonds totalling RMB 930bn; Central government to spend RMB 577.6bn on infrastructure; Invest RMB 800bn in railway construction; RMB 1.8tn in road and waterway projects
Mar 2019	Cuts to tax, fee and social security contributions by businesses
Mar 2019	VAT rate cut for imports: 16% VAT rate to 13%, 10% VAT rate to 9%
Apr 2019	Top 5 SOE banks to increase lending to SMEs by over 30% and cut financing costs by 1% in 2019; RMB 200bn (~USD 30bn) of loans guaranteed by state financing guarantee fund for SMEs in 2019
Apr 2019	More optimistic tone from politburo meeting announcement put in doubt further government stimulus measures
May 2019	PBOC announced RRR for mid- and small-banks to be reduced to 8%
Jun 2019	Ministry of Finance (MOF) announcement on Special Local Government Bonds (SLGBs) issuance and facilitate financing for major projects. Expected to support fixed asset investment (particularly infrastructure)
Aug 2019	PBOC implement new Loan Prime Rate (LPR) to improve monetary policy transmission and effectively resulted in a rate cut
Sep 2019	PBOC cuts RRR by 50bps for all banks and additional 100bps for urban commercial banks at provincial level
Sep 2019	PBOC lowers 1 Year LPR from 4.25% to 4.2%. 5 Year LPR (more likely to be used as the benchmark rate for mortgages) was left unchanged
Nov 2019	PBOC lowers one-year medium-term lending facility rate (MLF) by 5bps to 3.25%
Nov 2019	PBOC lowers seven-day reverse repurchase rate by 5bps to 2.5%
Dec 2019	The Central Economic Work Conference has decided "prudent monetary policy should be pursued with moderate flexibility to maintain market liquidity at a reasonably ample level for 2020" however "would not resort to flood-style stimulus while facilitating counter-cyclical adjustments"
Jan 2020	PBOC cuts RRR by 50bps
Feb 2020	PBOC reduces the 7-day and 14-day repo rates by 0.1% to 2.4% and 2.55% respectively
Feb 2020	PBOC injected RMB 1.7tr (US\$243bn) in liquidity to money markets. The largest single day open market operation since 2004 in response to the Coronavirus outbreak

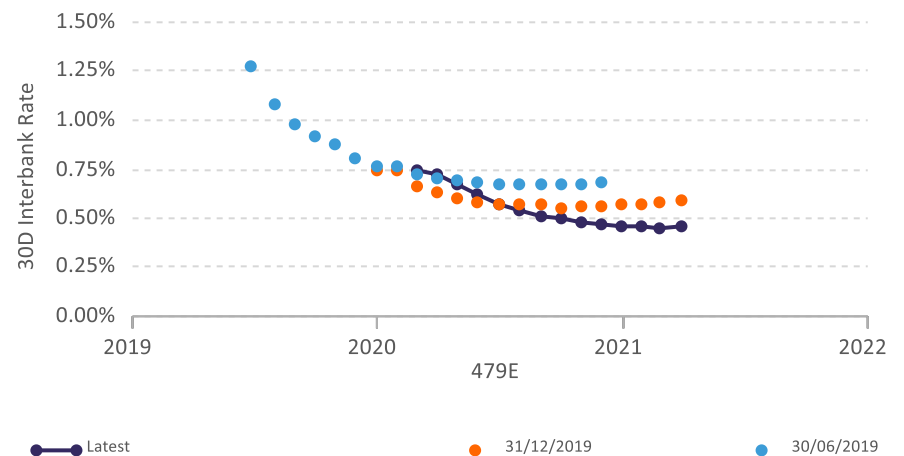
Source: Frontier

US Federal Funds Rate Futures



Source: Refinitiv Datastream

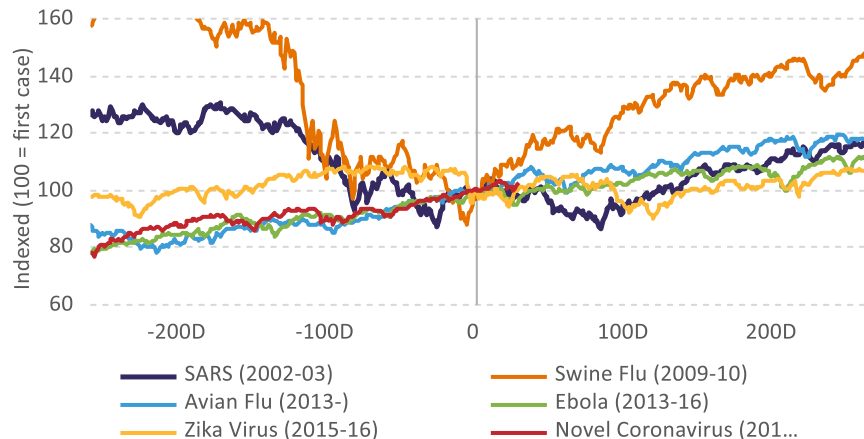
RBA Futures Curve at 06 Feb 2020



Source: Refinitiv Datastream

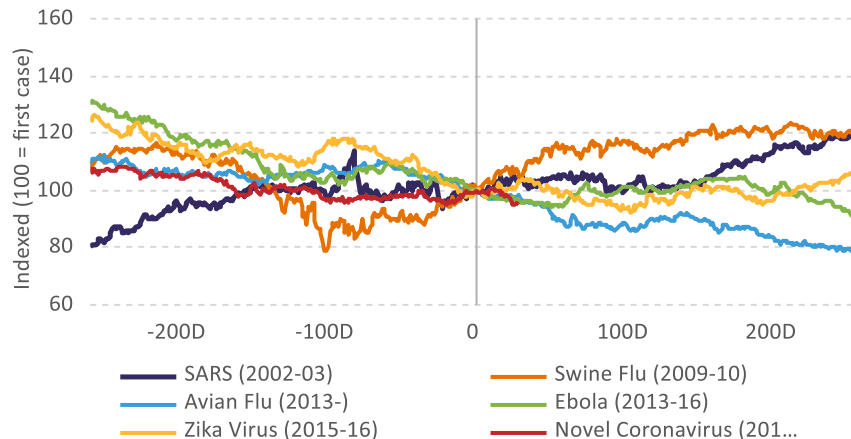
Historical analysis of pandemic impacts on equity markets

Historical Impact of Pandemic on MSCI World (LC)



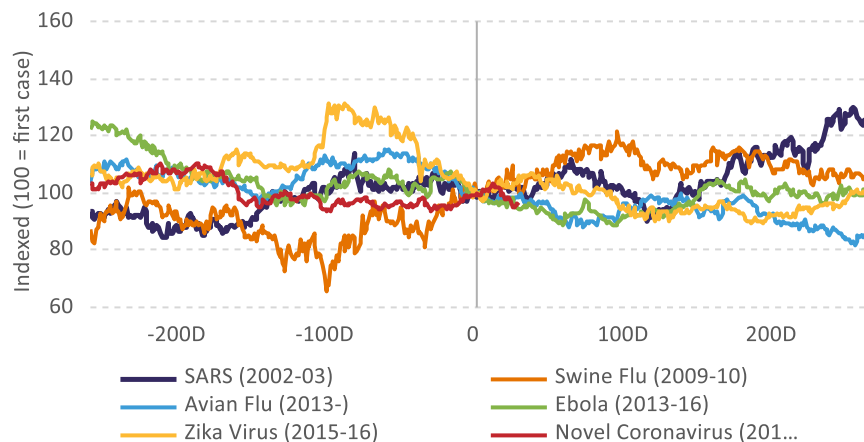
Source: Refinitiv Datastream

Historical Impact of Pandemic on Relative MSCI EM/World (US\$)



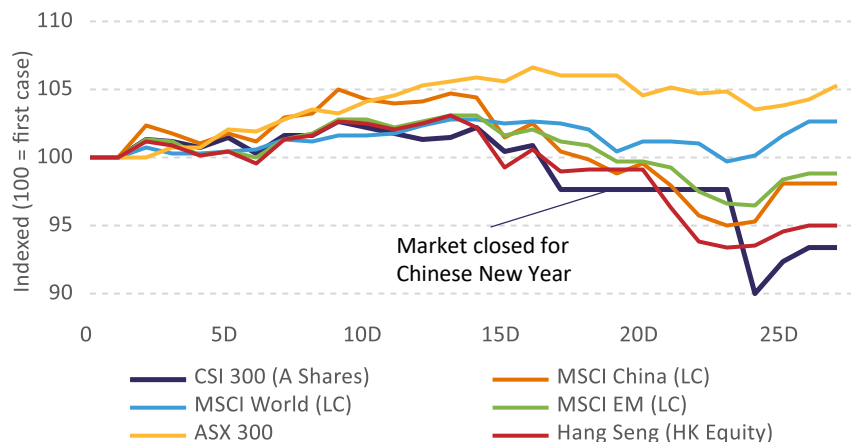
Source: Refinitiv Datastream

Historical Impact of Pandemic on MSCI China/World (US\$)



Source: Refinitiv Datastream

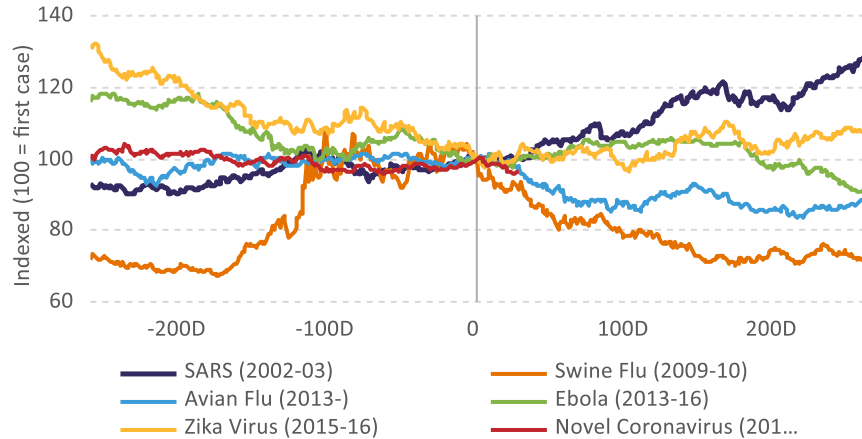
Coronavirus Impact on Equities (31 Dec 19 to 5 Feb 20)



Source: Refinitiv Datastream

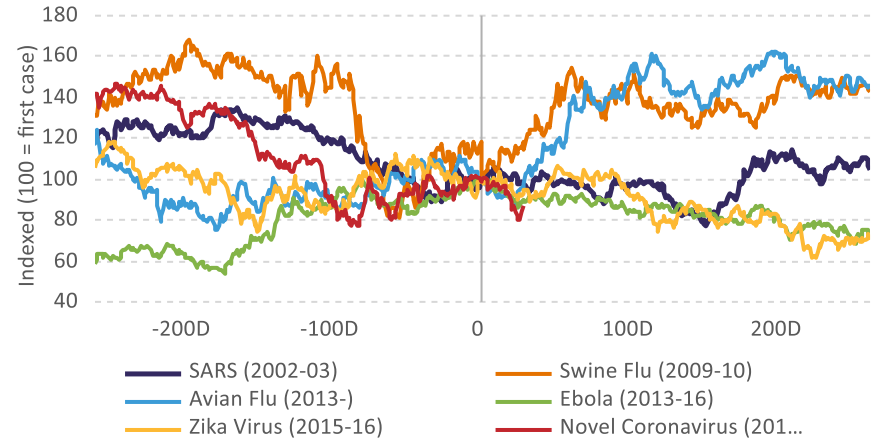
Historical analysis of pandemic impacts on AUD, bonds and commodities

Historical Impact of Pandemic on AUD/USD



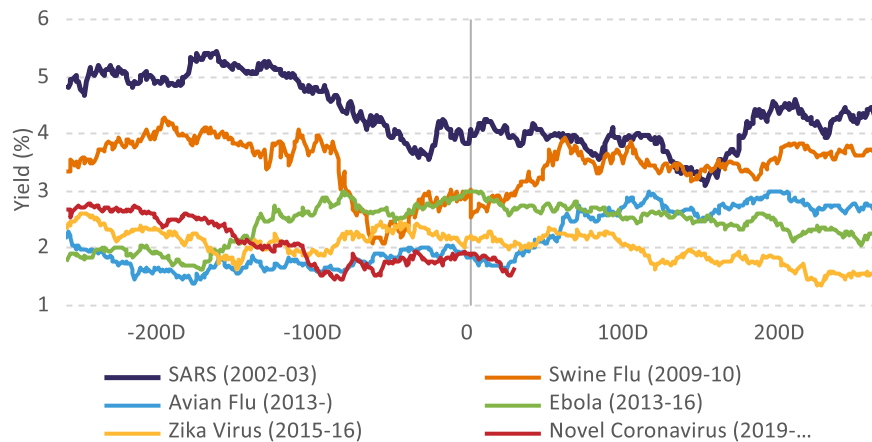
Source: Refinitiv Datastream

Historical Impact of Pandemic on US10Y



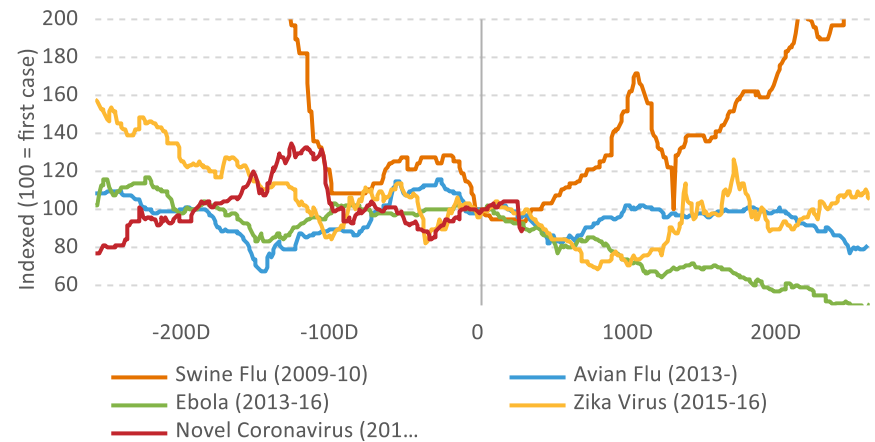
Source: Refinitiv Datastream

Historical Impact of Pandemic on US10Y



Source: Refinitiv Datastream

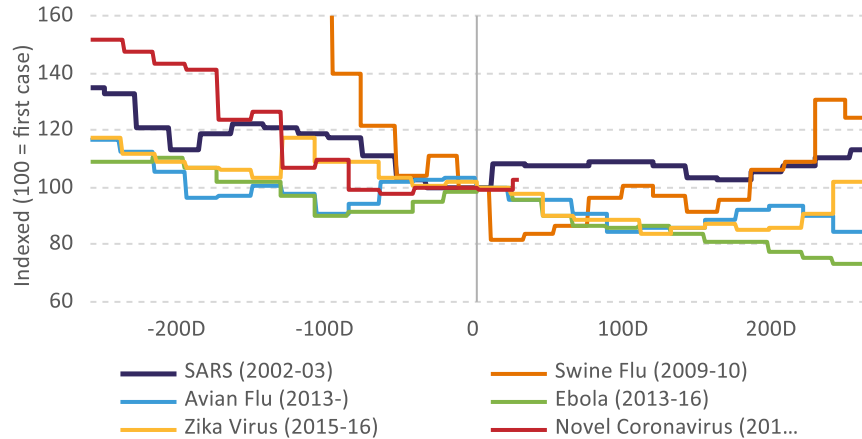
Historical Pandemic Impact on Iron Ore Prices



Source: Refinitiv Datastream

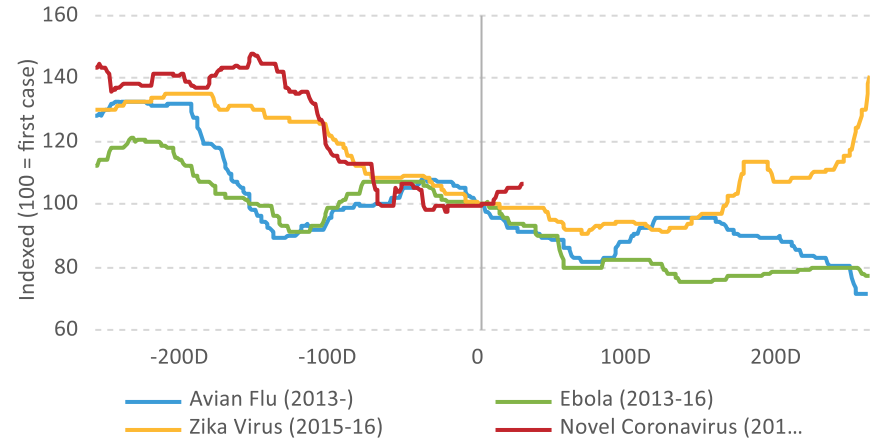
Historical analysis of pandemic impacts on commodities

Historical Pandemic Impact on Thermal Coal Prices



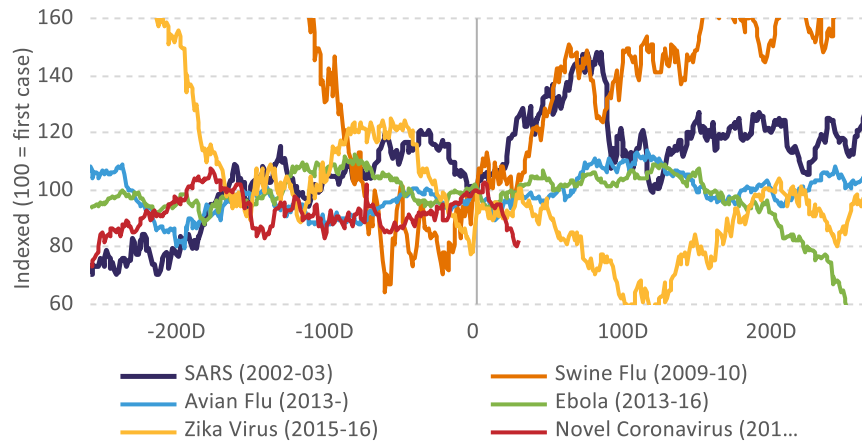
Source: Refinitiv Datastream

Historical Pandemic Impact on Coking Coal Prices



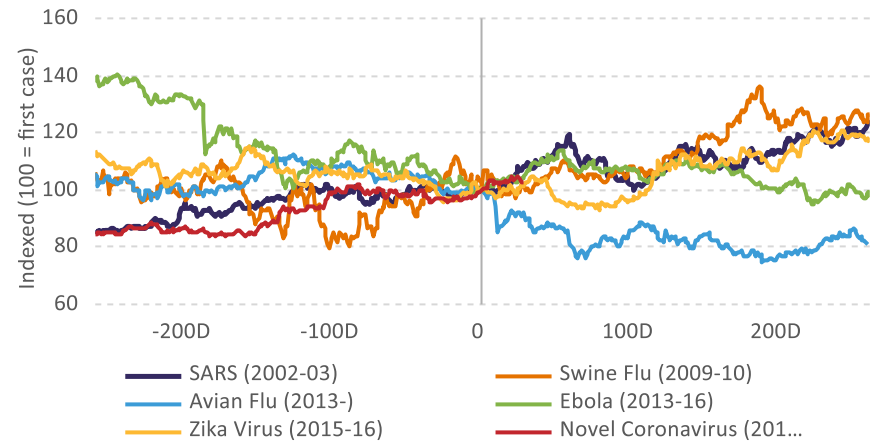
Source: Refinitiv Datastream

Historical Pandemic Impact on Crude Oil



Source: Refinitiv Datastream

Historical Pandemic Impact on Gold Prices



Source: Refinitiv Datastream

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