



# Perspective on the Coronavirus

February 25, 2020 Update



# Perspective on the Coronavirus

- U.S. stocks fell on Monday, joining a global equity selloff, as the spread of coronavirus beyond China raised worries that the impact to overseas economic growth could be more persistent than investors expect. The number of confirmed coronavirus cases outside of China continued to increase over the weekend, sending fear across financial markets as investors were forced to reassess their view that the effect of the outbreak will be short-lived. China has reported a decline in the growth rate of confirmed cases, but South Korea, Singapore, Japan, Iran and Italy have now seen an increase in cases.
- On Saturday, the International Monetary Fund warned the virus outbreak could reduce global economic growth by 0.1% this year and drag China's annual growth 0.4 percentage points lower than January estimates. As of now, the World Health Organization does not view the coronavirus as a pandemic, but rather epidemics in different parts of the world.
- Markets could struggle to rally due to the uncertainty surrounding the coronavirus and its impact to both human life and the economy. The world's integrated supply chains have investors worried about potential disruptions among companies based far away from the areas that have been hit hardest by the virus. The declines in the U.S. on Monday follow steep losses in Asia and Europe as investors take in the risks to corporate profits and economic growth posed by the virus' spread.
- Many economists and strategists believe that the coronavirus will be contained in the coming weeks and that China will put forth a plan to cushion to blow. Already, China is offering stimulus to hard-hit companies. However, if the outbreak turns into a pandemic, it could cut \$1.1 trillion from the global economy in 2020, Oxford Economics estimates.
- The consensus view among investors is that there could be a sharp downturn followed by a swift, sharp rise after the outbreak is contained. Investors believe the Federal Reserve will move faster to cut interest rates, amid growing expectations that coronavirus will slow global growth. Markets are now pricing in a 95% chance of at least one interest rate cut by the end of 2020, according to the CME FedWatchTool.
- We understand that the latest developments and high level of uncertainty surrounding the coronavirus can be unsettling. While the spread of this virus is certainly concerning, underlying economic fundamentals in the U.S. remain strong and, unless the outbreak substantially worsens, we believe that investors are likely to be well-served riding out these virus issues and remaining focused on their long-term investing strategy.
- Similar to the trade war induced volatility of 2019, we believe that the financial markets will overreact to both bad news and good news and there will be additional periods of volatility in the future (5% corrections are common and occur, on average, over three times per year). Recognizing this point helps to ensure we do not make a reactionary decision in the short-term and stay focused on fundamental economic analysis, academic research and technical market analysis.

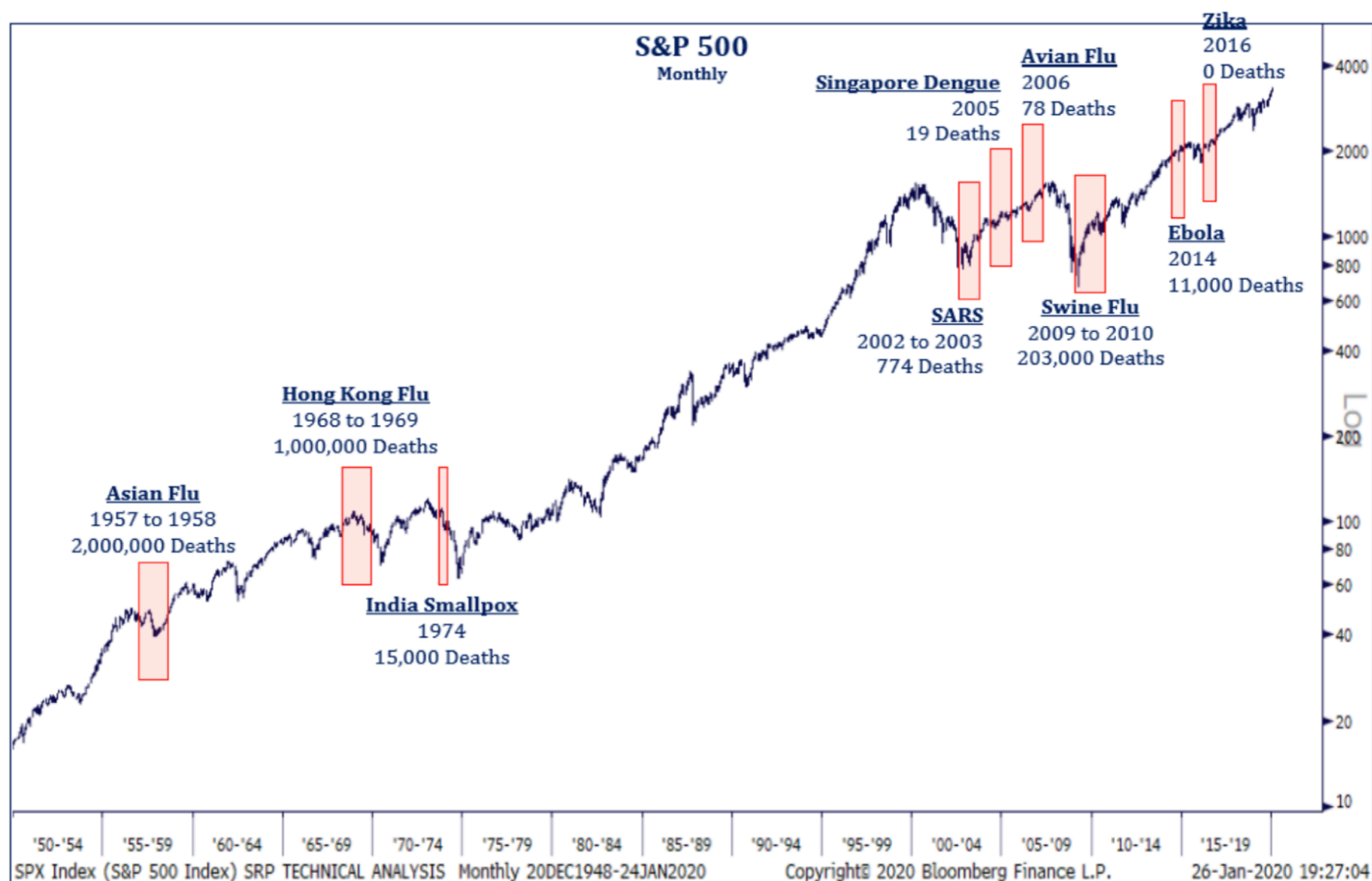


# Perspective on the Coronavirus

Although there are short-term negative reactions to epidemics, ultimately, the health of the global economy and magnitude of monetary & fiscal stimulus dictate the direction of equity markets.

Both SARS and Swine flu coincided with global stimulus measures to combat recessions. As a result, markets rallied after initial volatility.

## History of Epidemics / Pandemics



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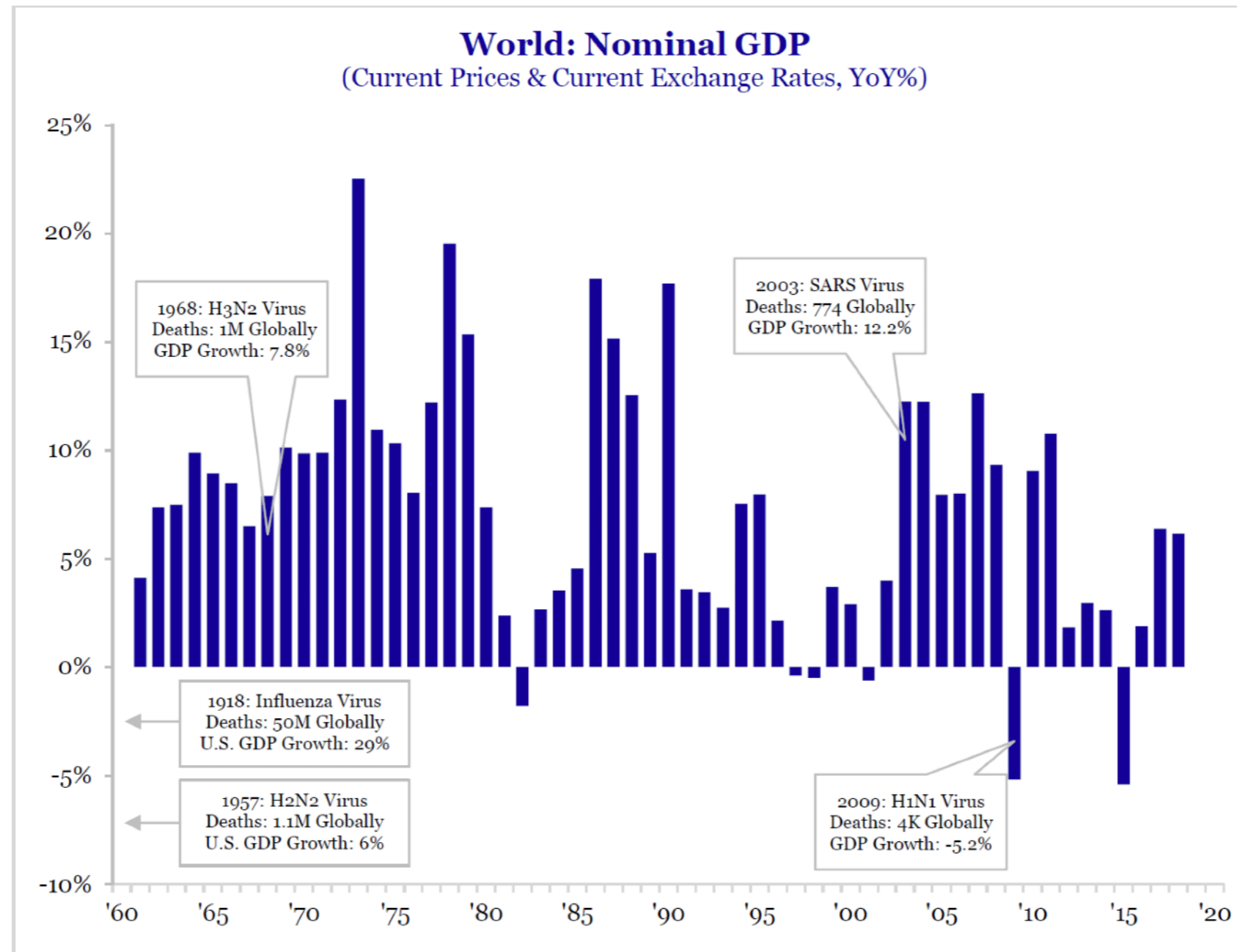
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Epidemic	Month Virus First Appeared	S&P 500 Performance +1 Months	S&P 500 Performance +3 Months	S&P 500 Performance +6 Months
West Africa Ebola Virus	Mar. 2014	0.0%	5.6%	6.5%
Avian Flu (H7N9) China	Mar. 2013	1.9%	2.9%	8.3%
MERS Coronavirus	Jun. 2012	3.3%	11.7%	9.2%
Swine Flu (H1N1)	Apr. 2009	3.8%	10.1%	30.1%
SARS Coronavirus	Nov. 2002	0.2%	-7.8%	4.8%
West Nile NYC	Aug. 1999	-5.8%	3.6%	0.6%
Avian Flu (H5N1) Hong Kong	May 1997	7.4%	11.2%	11.0%

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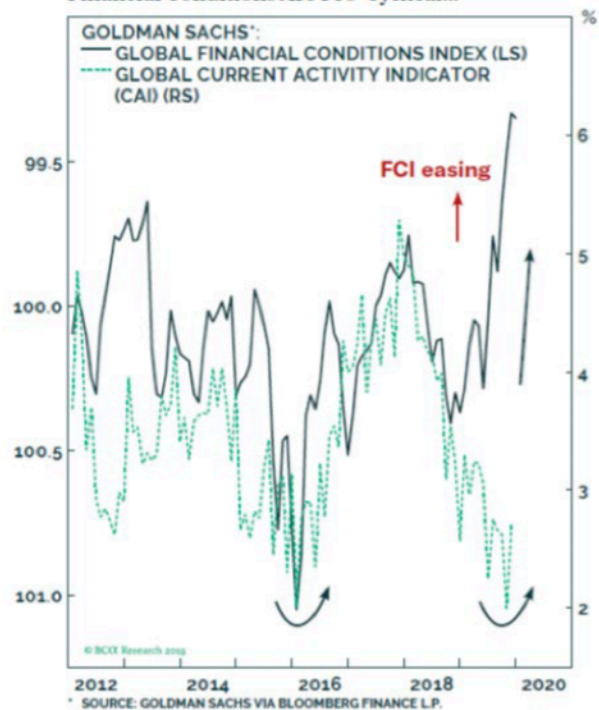


Sources: Haver, Centers for Disease Control and Prevention

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Central banks will likely provide ample liquidity in the event of worsening market conditions due to Coronavirus fears.

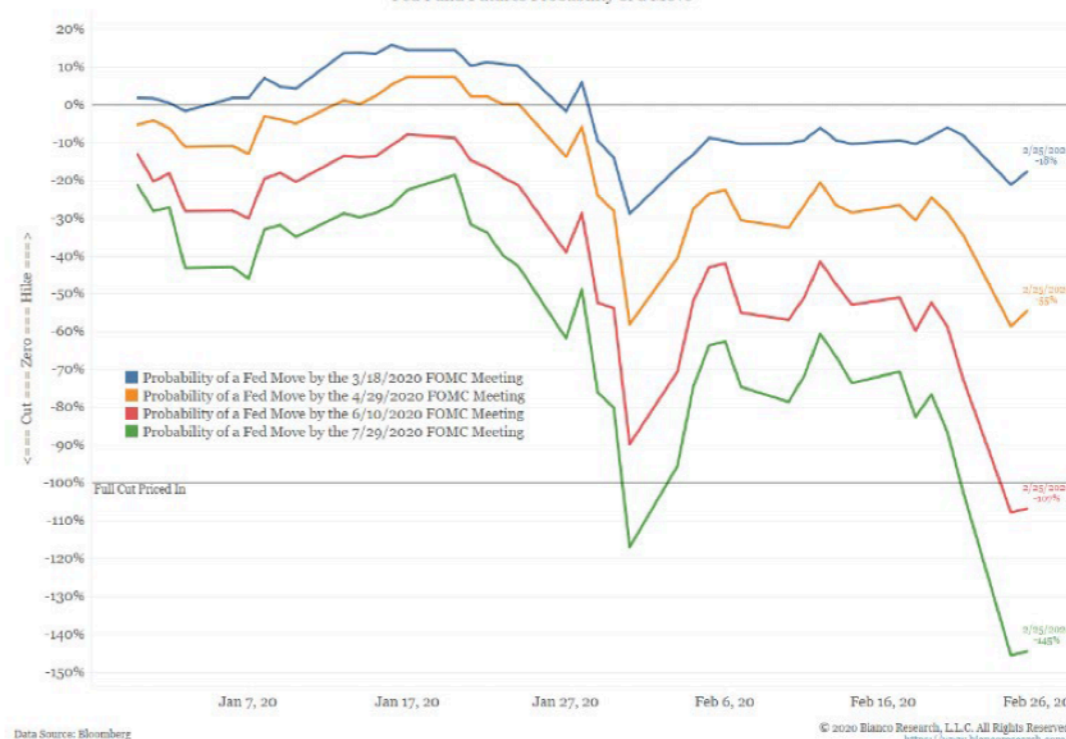
Financial Conditions Are Pro-Cyclical...



Thanks To Central Banks' Dovish Pivot



When Will the Fed Move Again?  
Fed Fund Futures Probability of a Move



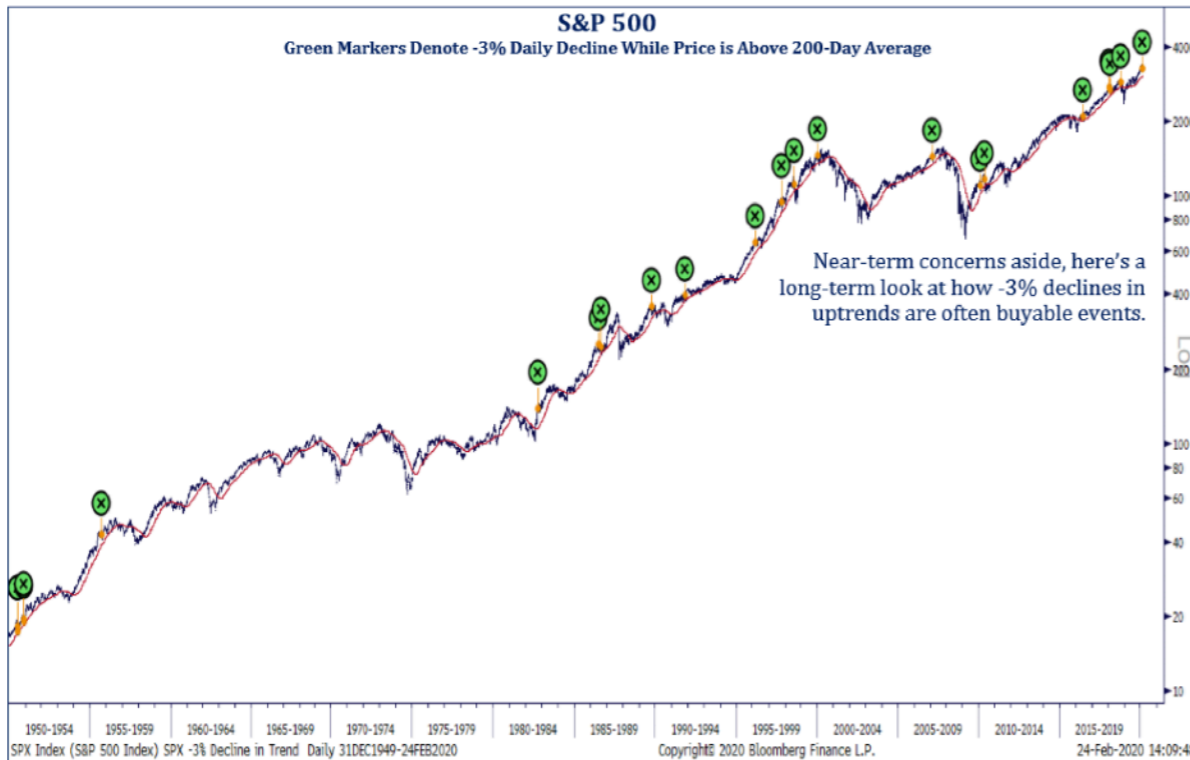
Interest Rates in the Developed World

As of 2/21/2020

Country	Policy Rate	6-Month	1-Year	2-Year	3-Year	4-Year	5-Year	6-Year	7-Year	8-Year	9-Year	10-Year	15-Year	30-Year
Switzerland	-0.75	-0.86	-0.83	-0.85	-0.87	-0.86	-0.85	-0.84	-0.82	-0.84	-0.81	-0.76	-0.61	-0.45
Denmark	-0.75	-0.78	-0.68	-0.68	-0.68	-0.65	-0.59	-0.61	-0.58	-0.54	-0.49	-0.43	-0.32	0.05
Germany	-0.50	-0.59	-0.63	-0.65	-0.66	-0.65	-0.62	-0.61	-0.58	-0.54	-0.49	-0.43	-0.32	0.05
Netherlands	-0.50	-0.60	-0.63	-0.63	-0.64	-0.64	-0.59	-0.54	-0.50	-0.45	-0.41	-0.35	-0.22	0.03
Finland	-0.50	-0.60	-0.64	-0.64	-0.62	-0.60	-0.58	-0.49	-0.45	-0.36	-0.32	-0.25	-0.03	0.21
Austria	-0.50	-0.60	-0.63	-0.63	-0.63	-0.59	-0.53	-0.48	-0.41	-0.39	-0.34	-0.28	-0.02	0.28
Japan	-0.10	-0.15	-0.17	-0.17	-0.18	-0.18	-0.17	-0.18	-0.18	-0.16	-0.11	-0.06	0.09	0.35
Belgium	-0.50	-0.59	-0.57	-0.60	-0.61	-0.56	-0.50	-0.46	-0.39	-0.32	-0.28	-0.21	0.03	0.54
France	-0.50	-0.58	-0.58	-0.63	-0.61	-0.57	-0.50	-0.46	-0.40	-0.37	-0.28	-0.20	0.03	0.53
Ireland	-0.50	-0.55	-0.55	-0.52	-0.52	-0.46	-0.40	-0.34	0.00	0.00	0.00	-0.16	0.19	0.59
Sweden	0.00	-0.19	-0.34	-0.34	-0.41	-0.38	-0.35	-0.30	-0.22	-0.12	0.06	0.06	0.06	0.06
Sweden	0.00	-0.19	-0.34	-0.34	-0.41	-0.38	-0.35	-0.30	-0.22	-0.12	0.06	0.06	0.06	0.06
Portugal	-0.50	-0.47	-0.47	-0.46	-0.34	-0.30	-0.14	-0.08	-0.03	0.08	0.13	0.23	0.46	0.98
Spain	-0.50	-0.49	-0.48	-0.46	-0.45	-0.34	-0.26	-0.10	-0.01	0.06	0.15	0.22	0.55	1.01
Italy	-0.50	-0.36	-0.31	-0.22	-0.03	0.08	0.29	0.40	0.56	0.67	0.78	0.91	1.35	1.90
United Kingdom	0.75	0.67	0.62	0.51	0.45	0.46	0.46	0.41	0.44	0.46	0.51	0.57	0.78	1.00
Australia	0.75	0.93	0.79	0.67	0.64	0.64	0.67	0.71	0.75	0.84	0.89	0.94	1.14	1.53
New Zealand	1.00	1.73	0.94	0.94	1.02	1.02	1.02	1.16	1.16	1.25	1.25	1.25	1.65	1.65
Canada	1.75	1.63	1.59	1.42	1.38	1.34	1.30	1.30	1.30	1.28	1.28	1.28	1.39	1.39
United States	1.63	1.52	1.42	1.35	1.32	1.32	1.32	1.40	1.40	1.47	1.47	1.47	1.91	1.91

# Perspective on the Coronavirus

## -3% Declines in Uptrends Often Buyable Events



## % of Stocks Above 50-Day Not Washed Out Yet Either



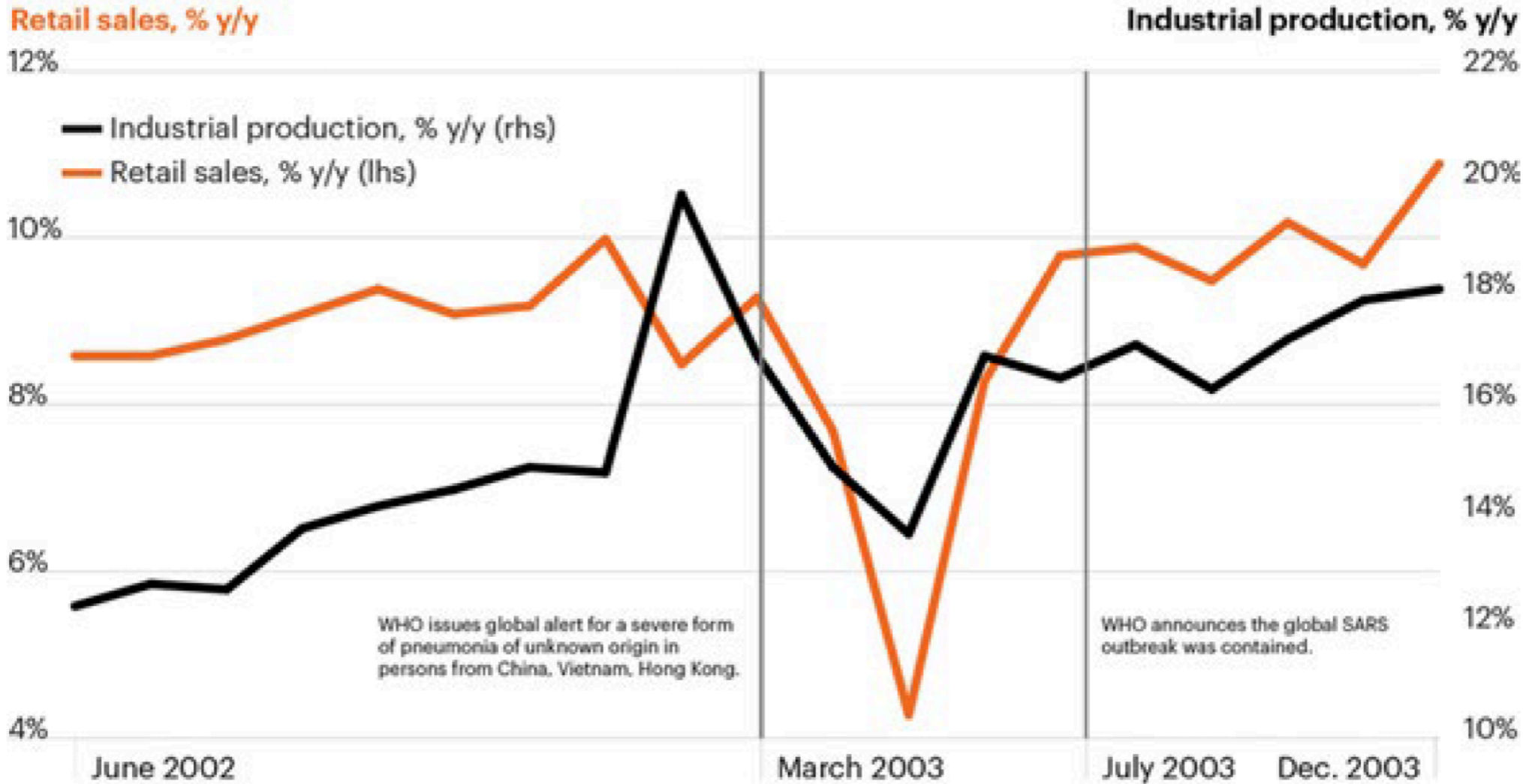
- Globally, equities are two standard deviations below their 50-day moving averages.
- Six different developed markets that have seen a very rapid expansion in volatility are even more extremely oversold at more than 3 standard deviations from their 50-DMA: Australia, Japan, France, Germany, Spain, and the UK. For those six countries, this is the most oversold for the average since China let the yuan float in August of 2015.

(Bespoke Investment Group)

# Perspective on the Coronavirus

Markets have shown a tendency to overestimate the impact on GDP and global growth. Historically, markets and economies have recovered a quarter after the pandemic's growth rate slows.

## SARS IMPACT ON CHINESE ECONOMY



Source: China National Bureau of Statistics, Macrobond, CDC and FS Investments.

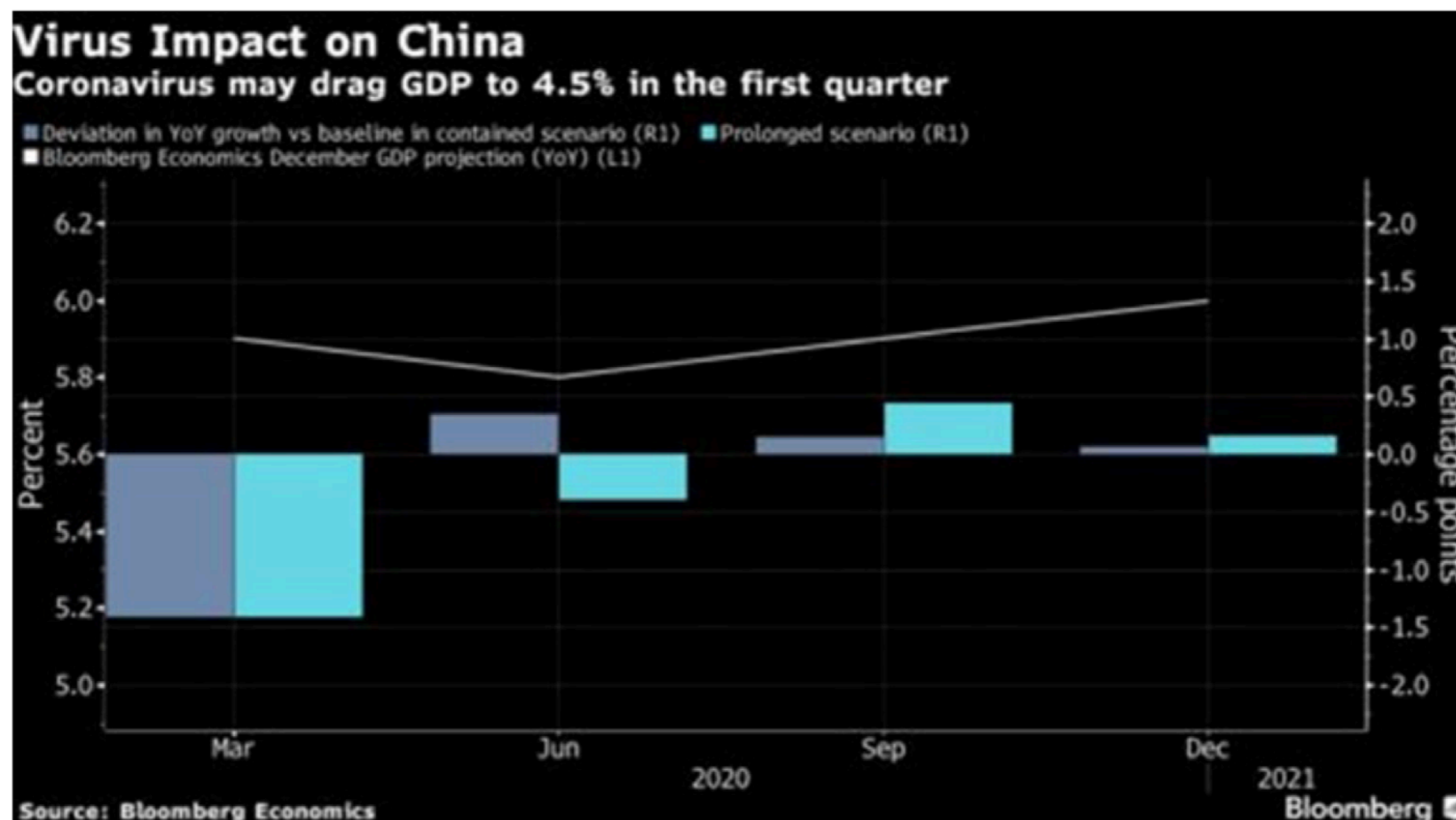
# Perspective on the Coronavirus

- Is this time different? Wuhan was a central rail hub during Chinese New Year festivities.
- Goldman Sachs forecasts a 0.4% drag on US GDP for a quarter and the Street is forecasting a 1.5% hit to Chinese GDP this quarter. SARS represented a similar drag on the Chinese economy.
- It is too early to tell; however, the path appears similar to SARS and MERS.
- Sources: Matthews, Bloomberg, Bianco Research.



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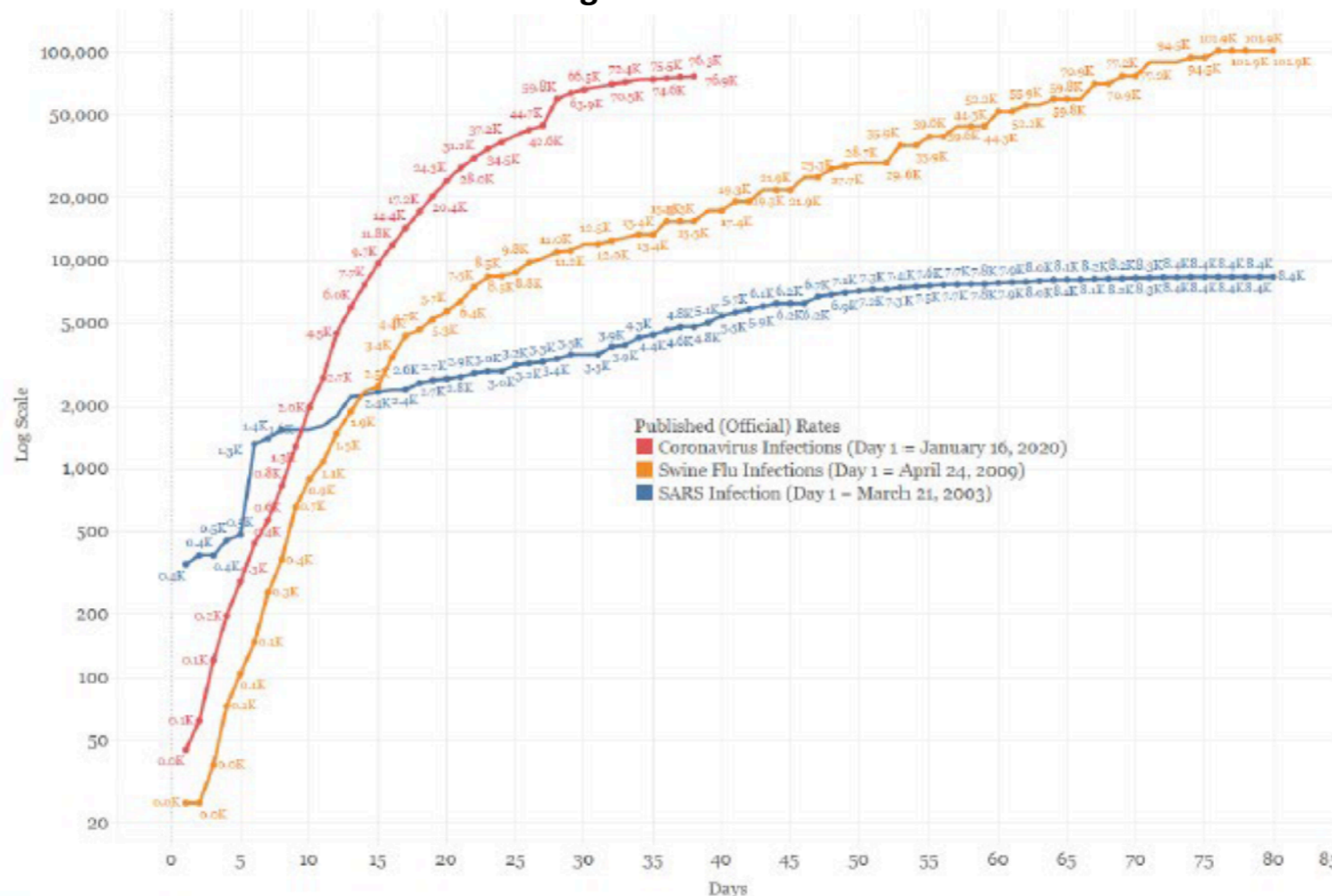
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Tracking Infection Growth



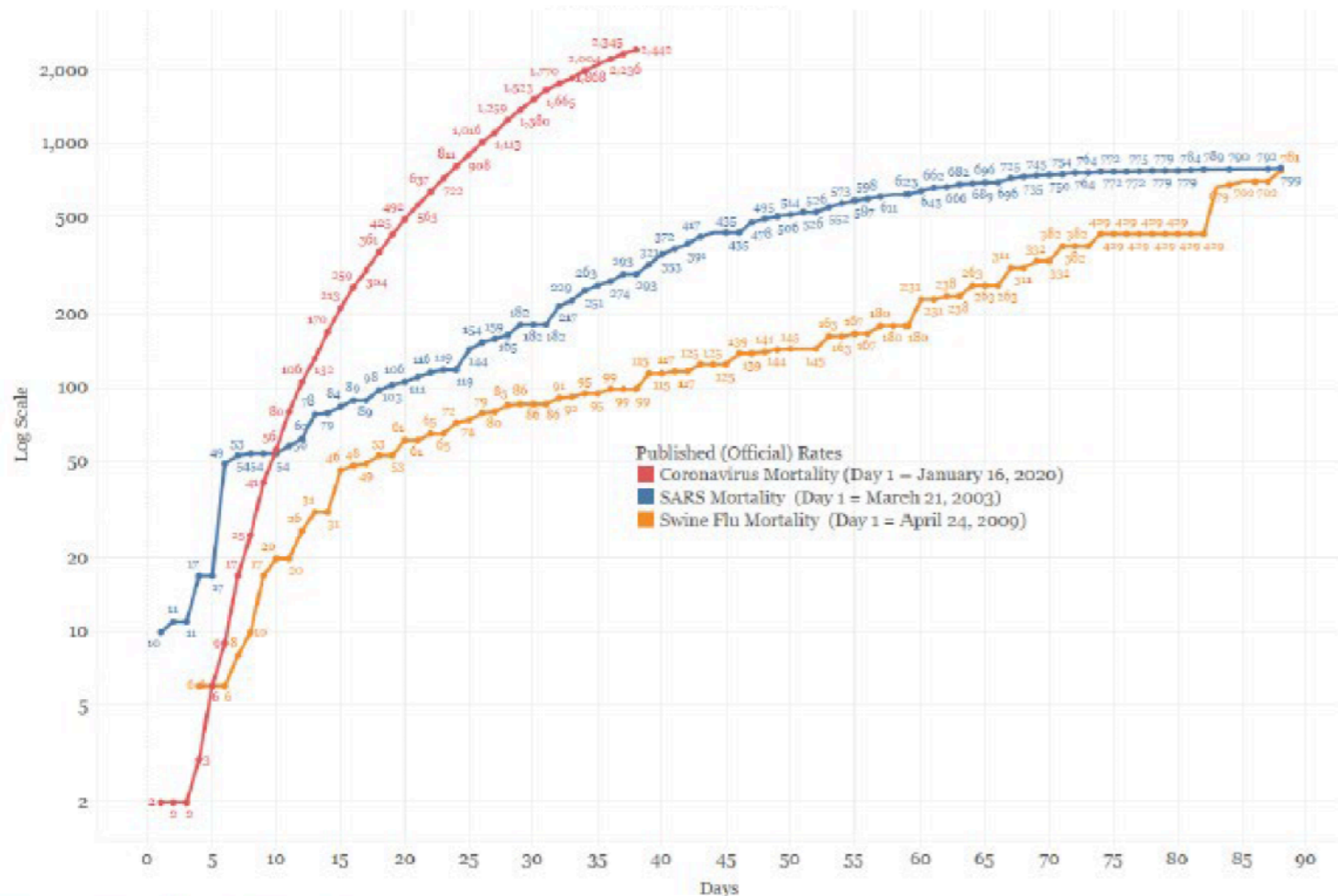
Source: China National Health Commission Daily Reports  
<http://www.dhs.gov/r/nr/health/sars/Total.html>  
[https://en.wikipedia.org/wiki/2009\\_H1N1\\_pandemic\\_tables](https://en.wikipedia.org/wiki/2009_H1N1_pandemic_tables)

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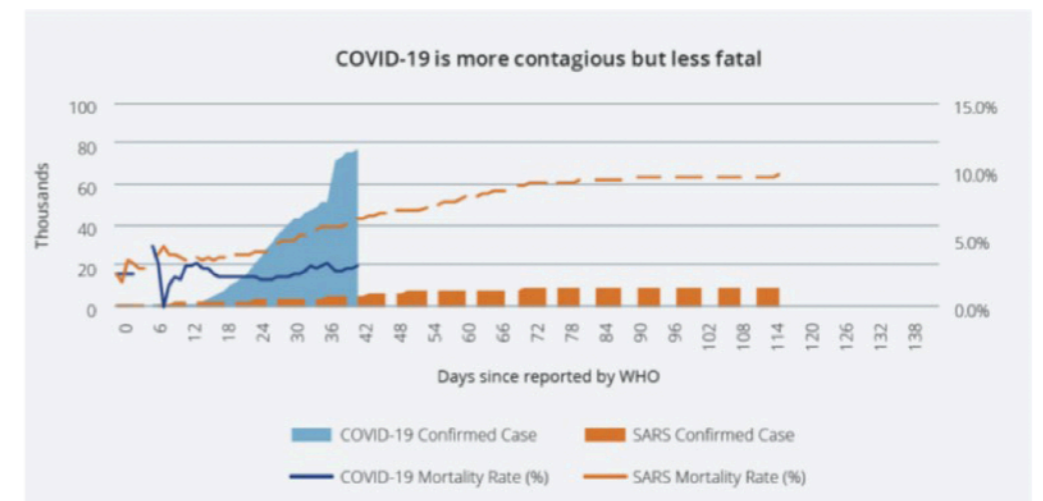
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Tracking Mortality



Source: China National Health Commission Daily Reports  
<http://www.chinapicr.net/health/sars/total.html>  
[https://en.wikipedia.org/wiki/2009\\_H1N1\\_pandemic\\_table](https://en.wikipedia.org/wiki/2009_H1N1_pandemic_table)

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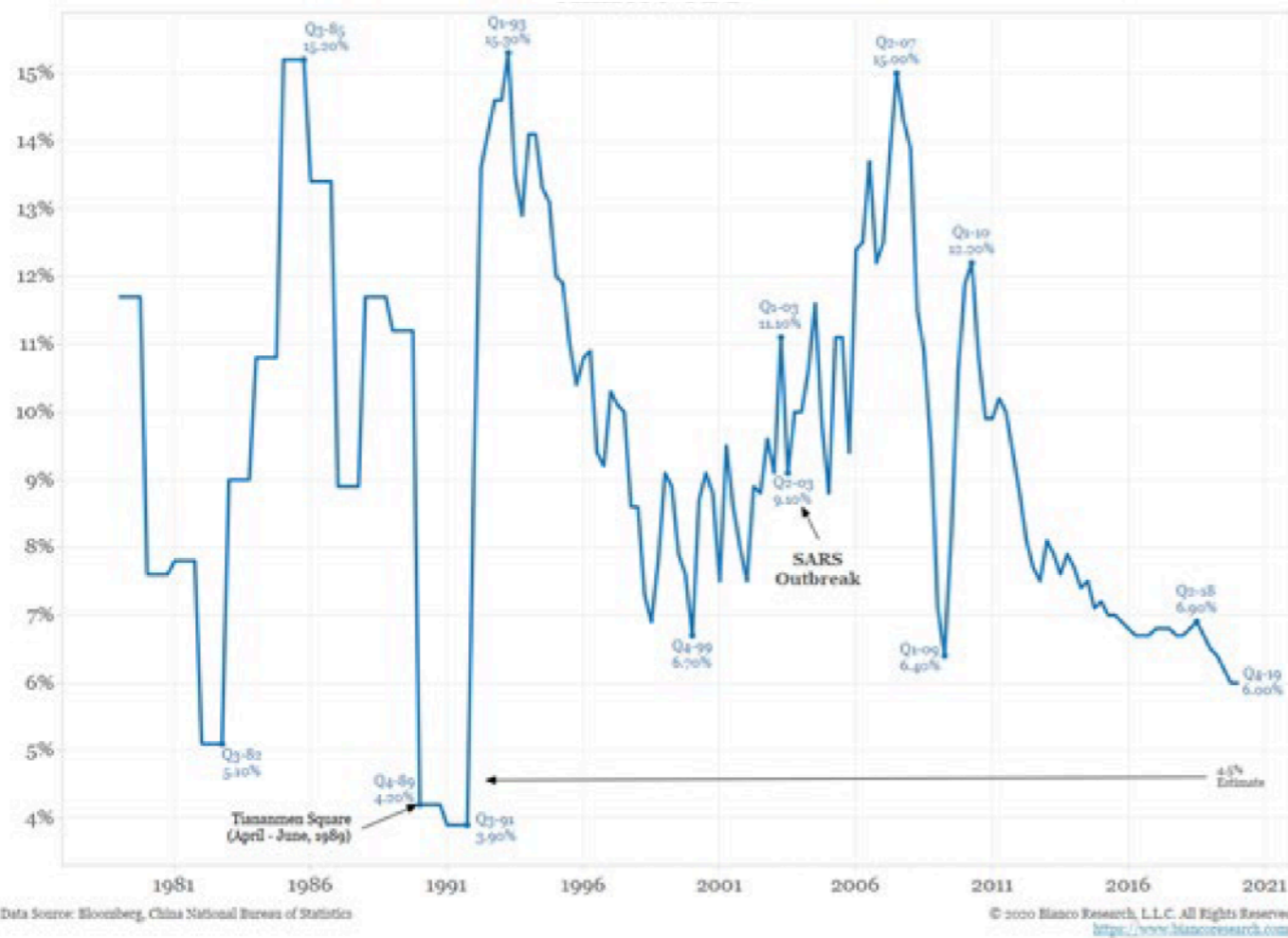
Source: Bianco Research, Great West Investments

# Perspective on the Coronavirus

Could this be more impactful than SARS?

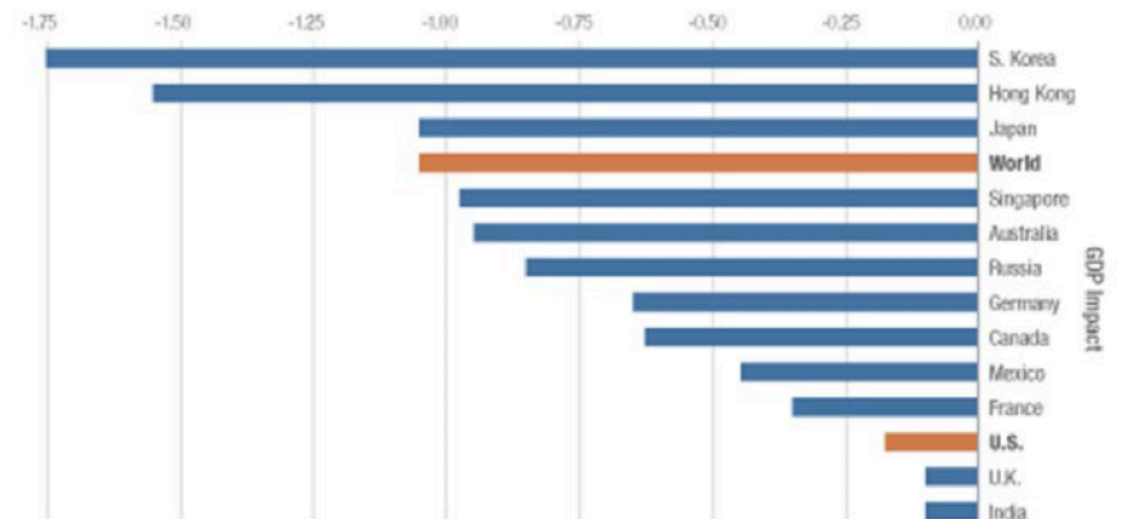
China has a larger impact on the global economy today than in 2003.

Chinese GDP



Source: Bianco Research

Estimated Impact on GDP Based on a 5% Decline in Chinese Growth

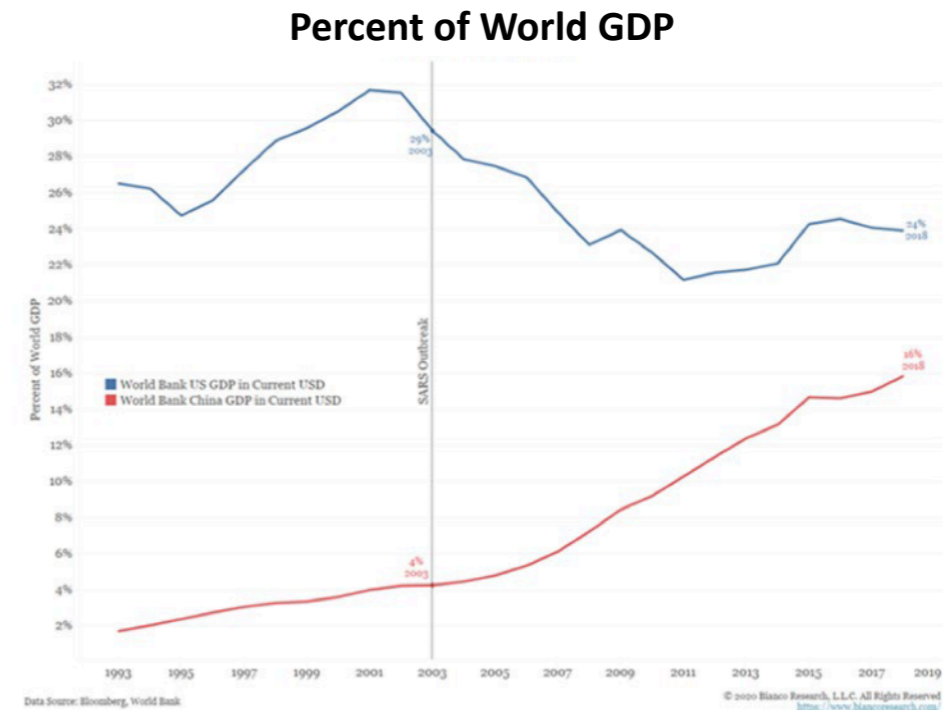


Source: International Monetary Fund (IMF), 1/31/20.

# Perspective on the Coronavirus

## Could this be more impactful than SARS?

- Economists' estimates currently show the coronavirus will have a smaller impact than SARS did in 2003. Many of these forecasts are predicated on the virus slowing in the next week or two.
  - ▶ It is impossible to assess the true economic impact until the growth rate begins to subside.
  - ▶ So far, the mortality rate is reported at 2%, but this is extremely premature as some existing patients may yet succumb to pneumonia or related illnesses (for reference, SARS had a 9% mortality rate). While so far this virus looks to be less fatal, it does appear to be more contagious.
- In 2003, the Chinese economy only accounted for 4% of world GDP and the US economy was 7.5x larger than China. Today China is 16% of global GDP and the US economy is only 1.5x larger.
  - ▶ China's economy was on steadier ground in 2003—unlike today.
- In 2003, global markets were in the nascent stages of recovery after a brutal recession, 50% equity decline over two years, and the aftermath of 9/11. Markets may be more vulnerable to selling pressure this time around:
  - ▶ The virus news struck after a decade without a recession and the second longest bull market in the history of the US. Further, most market indicators were well overbought after a 30% year when the virus news hit.



### China's Importance Now and in 2003

China's Annual Consumption As % Of Global		
	2002	2019
Crude Oil Consumption	6.6%	13.5%*
Crude Steel Consumption	22.6%	47.5%*
Copper Consumption	17.8%	53.3%**
Aluminum Consumption	16.5%	57.3%**
Nickel Consumption	7.2%	53.3%**
Zinc Consumption	21.0%	48.4%**
Iron Ore imports	21.0%	64.3%*
Semiconductors Sales	5.0%	34.6%**
Smartphone Sales	11.2%***	29.2%
Personal Computer Sales	2.4%	20.0%
Passenger Cars Sales	7.3%	34.5%*

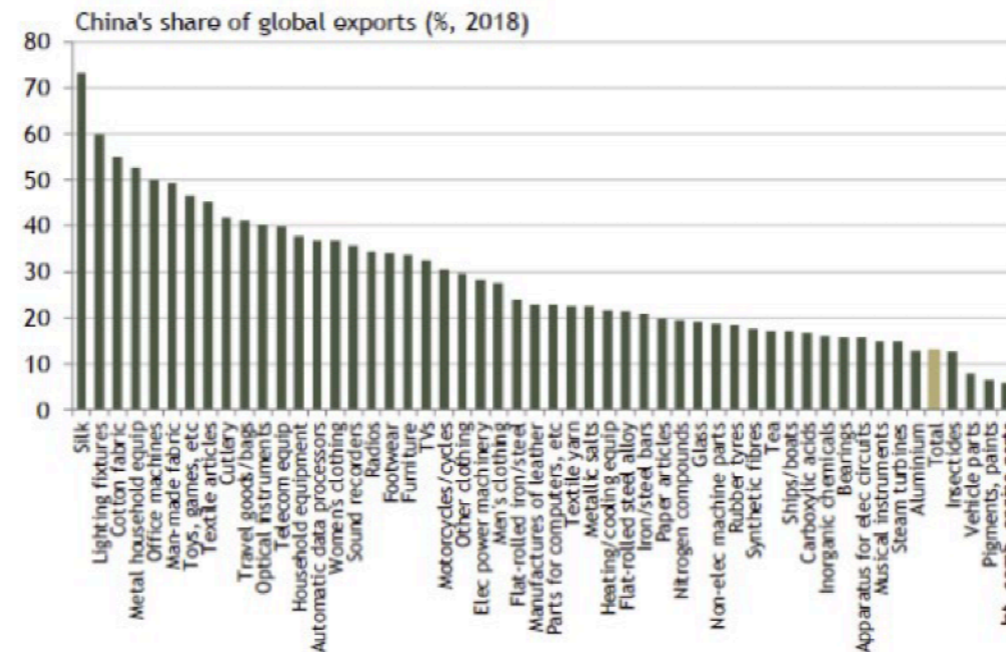
\*THE DATA IS FOR 2018;  
 \*\*THE DATA IS THE SUM OF DECEMBER 2018-NOVEMBER 2019.  
 \*\*\*THIS WAS FOR CHINESE MOBILE PHONE SALES. NO MODERN SMARTPHONE YET IN 2002.

# Perspective on the Coronavirus

Could this be more impactful than SARS?

China is substantially larger than 2003 (SARS) or 2010 (Swine flu) and more integral to global supply chains.

## Market Concentration Increases Supply-Chain Risks

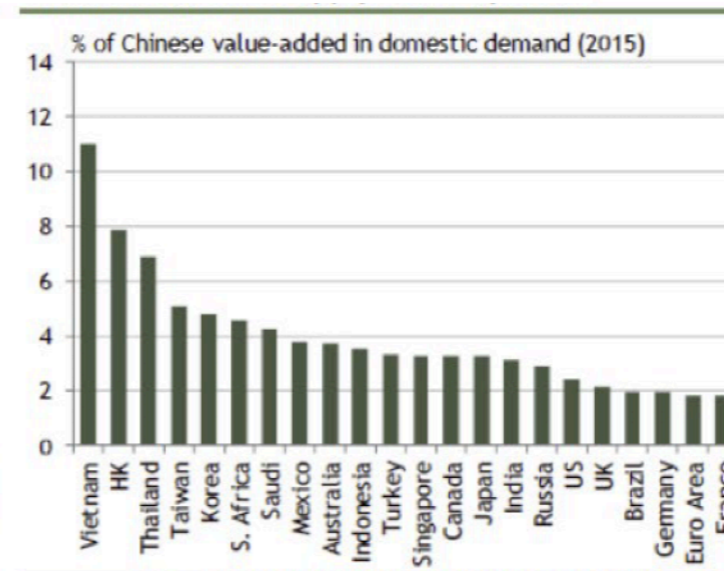


Source: ASR Ltd. / UNCTAD

## Relative Demand-Side Exposure



## Relative Supply-Side Exposure

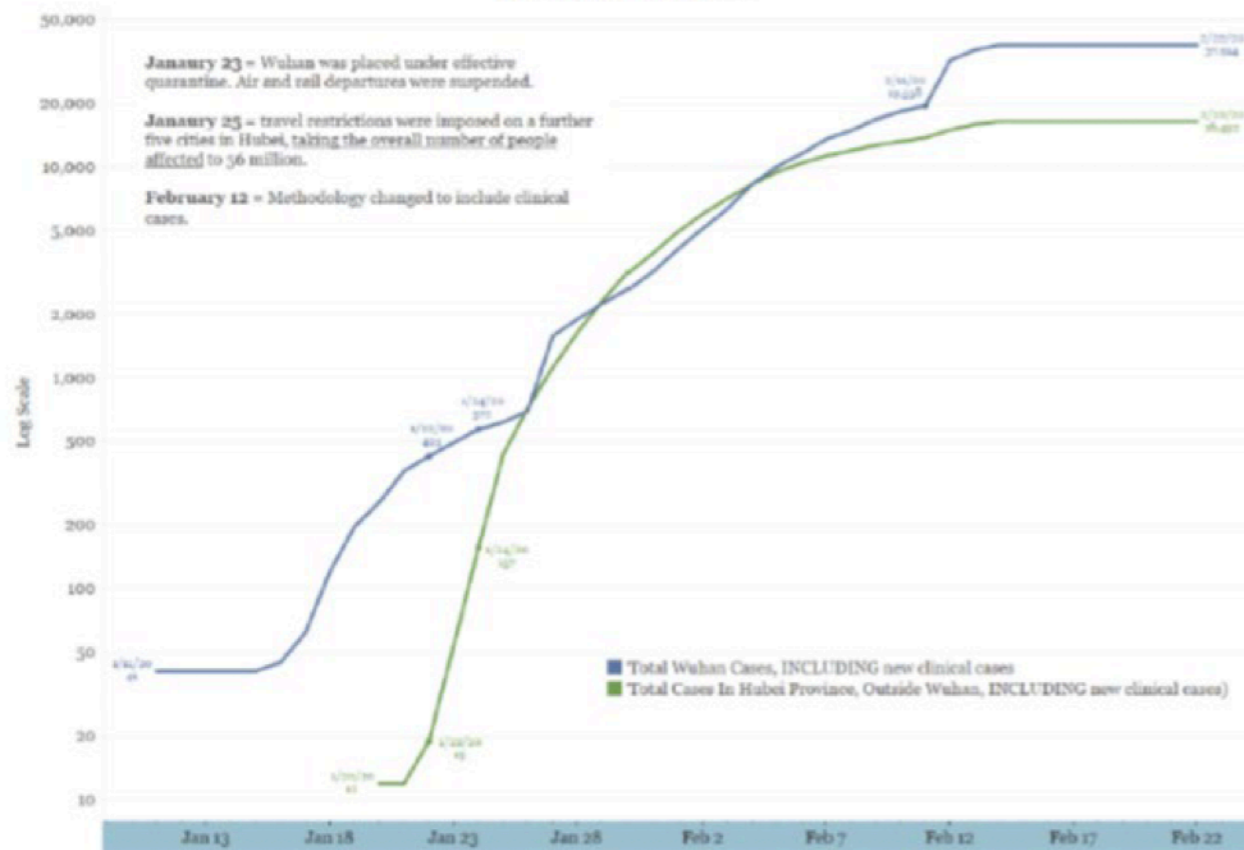


Source: ASR Ltd. / OECD Trade in Value Added Database

# Perspective on the Coronavirus

Despite positive news from China over the weekend, markets reacted violently (-3%) to the global spread of COVID -19 (February 24th) in Italy, Iran, and South Korea. Net new cases declined over the weekend for the first time since the virus story broke.

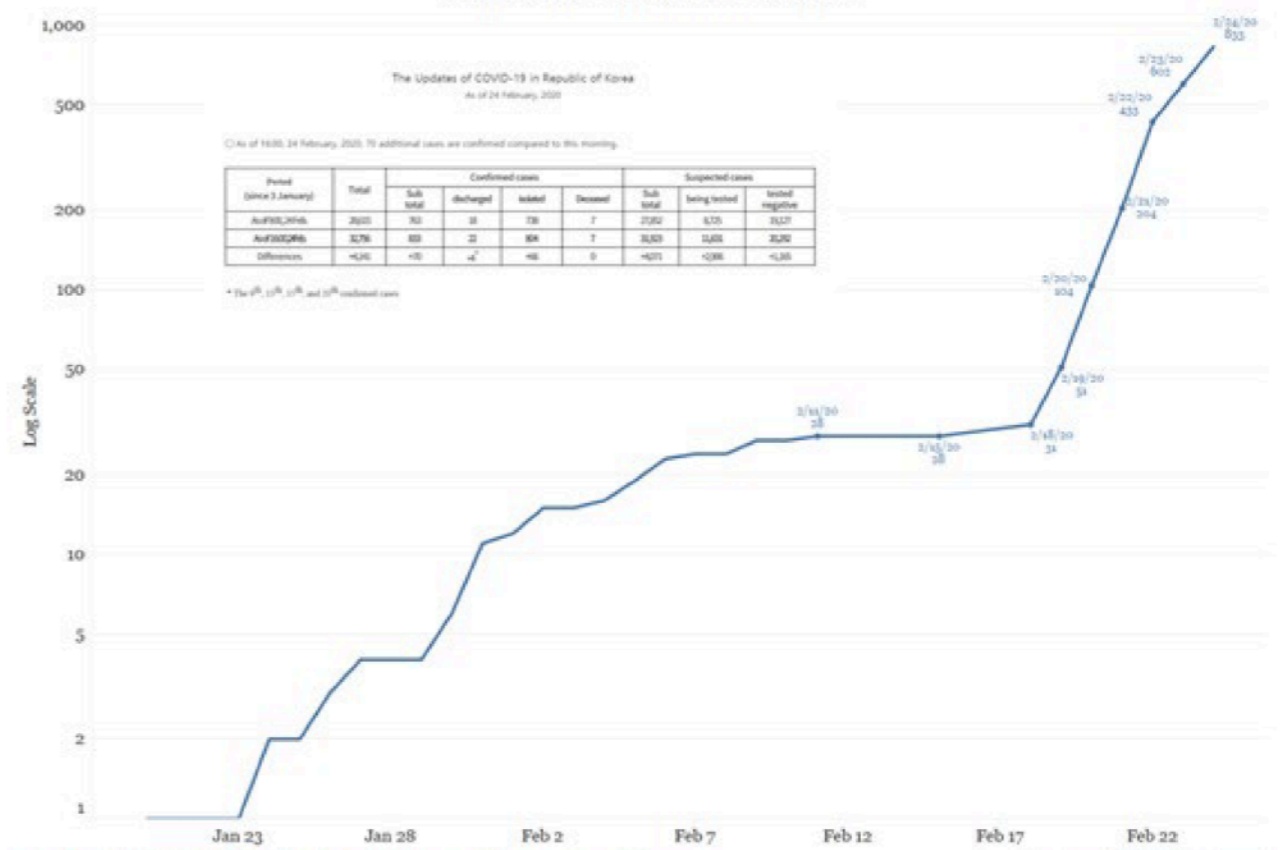
### China Confirmed Cases



Source: [https://en.wikipedia.org/wiki/Timeline\\_of\\_the\\_2019%E2%80%932020\\_Wuhan\\_coronavirus\\_outbreak](https://en.wikipedia.org/wiki/Timeline_of_the_2019%E2%80%932020_Wuhan_coronavirus_outbreak)

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### South Korea Coronavirus Infections



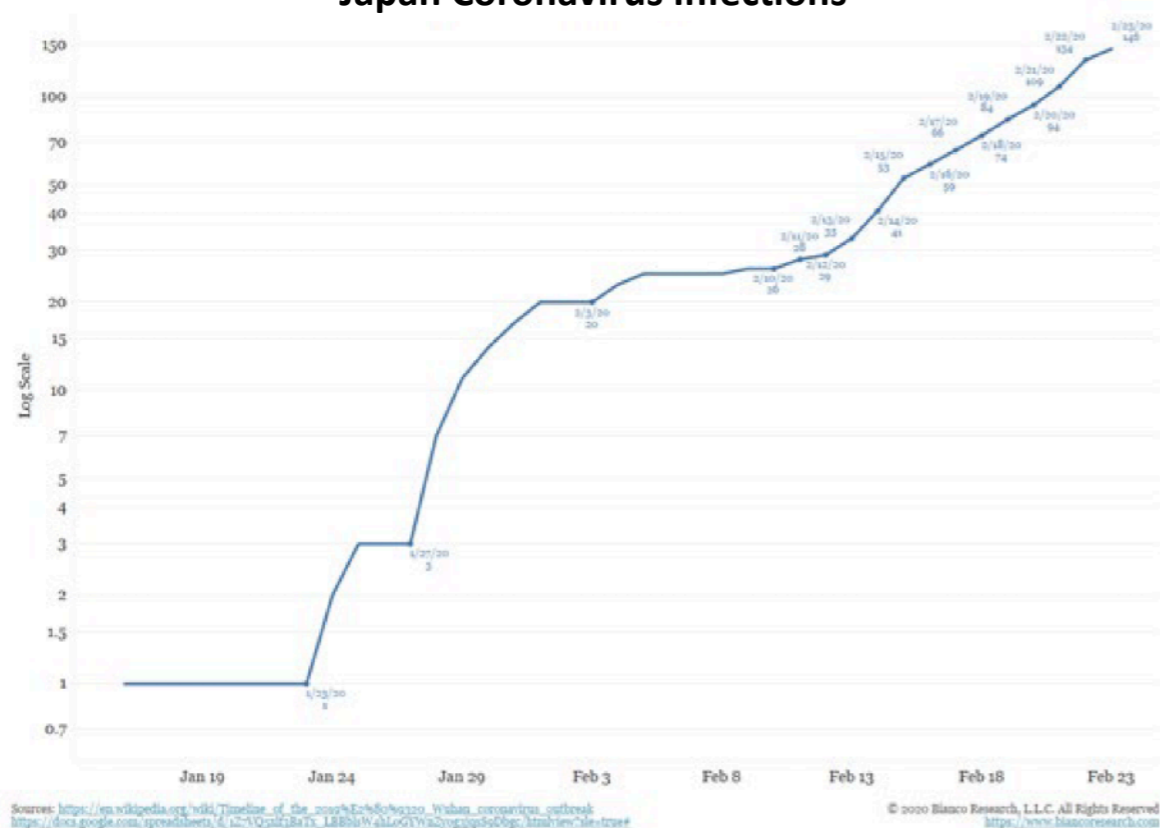
Sources: [https://en.wikipedia.org/wiki/Timeline\\_of\\_the\\_2019%E2%80%932020\\_Wuhan\\_coronavirus\\_outbreak](https://en.wikipedia.org/wiki/Timeline_of_the_2019%E2%80%932020_Wuhan_coronavirus_outbreak)  
[https://docs.google.com/spreadsheets/d/1G-Y0pU78a7X\\_1B8B8WAlLoG1Ww2yog1p050hg/edit#view=grid](https://docs.google.com/spreadsheets/d/1G-Y0pU78a7X_1B8B8WAlLoG1Ww2yog1p050hg/edit#view=grid)

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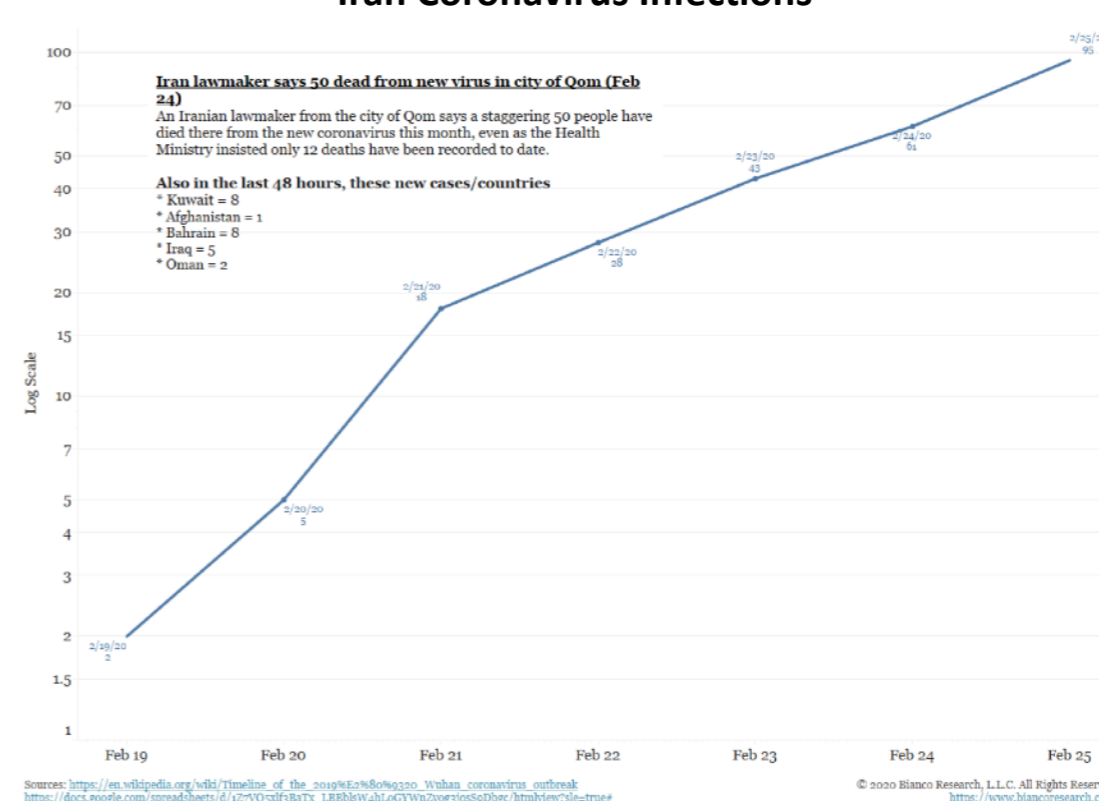
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Japan Coronavirus Infections



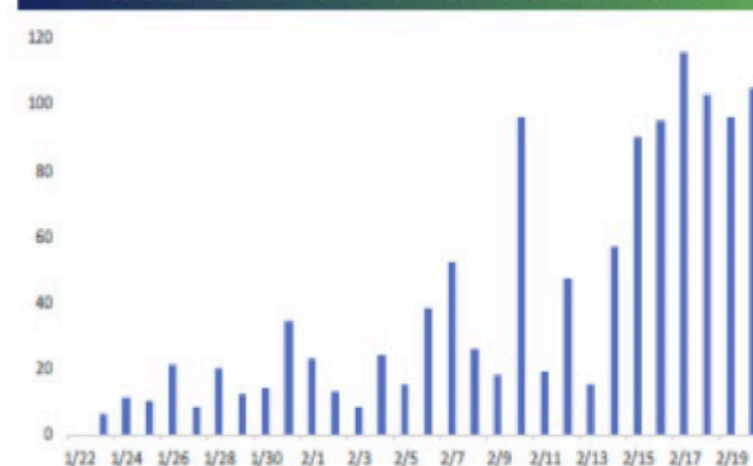
Iran Coronavirus Infections



- Instead of looking at it from a total confirmed case perspective, the number of total active cases provides a better look into what is happening. This measure takes total confirmed cases and subtracts deaths and recoveries. This gives the total amount of people who have the potential to spread the virus further.
- According to [Worldometer](https://www.worldometer.info/coronavirus/), which aggregates statistics from health agencies across the world, total active cases peaked about a week ago at 58,747 and have since been declining. Even with all the new cases we are seeing in South Korea, Italy and Iran (where data is suspect). There have been 30,597 cases with an outcome (2,699 deaths and 27,898 recovered). In other words, the total active cases now stand at 49,923, a drop of 15% from the peak on February 17th.

Source: Bianco Research, Bespoke Investment Group

Coronavirus: Number of New Patients Outside of China



# Perspective on the Coronavirus

Could this be more impactful than SARS? Stocks with heavier international sales exposure suffered disproportionately on February 24th and have lagged since January 30th. Historical evidence shows days like February 24th are overreactions to headline risk.

@CharlieBilello		S&P 500 Forward Total Returns following CNBC "Markets in Turmoil" Specials						
Markets in Turmoil	S&P 500 Close	1-Week	1-Month	3-Month	6-Month	9-Month	12-Month	Cumulative
5/6/2010	1128	2.7%	-6.7%	0.3%	7.2%	17.6%	20.7%	250.7%
5/7/2010	1111	2.3%	-4.2%	1.5%	11.0%	19.8%	23.0%	256.2%
5/9/2010	1111	2.3%	-4.2%	1.5%	11.0%	19.8%	23.0%	256.2%
6/4/2010	1065	2.6%	-3.3%	2.9%	15.9%	25.9%	24.5%	270.8%
8/4/2011	1200	-2.2%	-1.9%	3.7%	13.3%	16.0%	18.5%	221.6%
8/7/2011	1199	-1.6%	-2.6%	5.7%	13.4%	16.1%	18.9%	221.8%
8/8/2011	1119	7.7%	7.3%	12.5%	21.7%	23.9%	28.0%	244.7%
8/9/2011	1173	1.8%	1.4%	8.1%	16.5%	17.5%	22.3%	229.1%
8/10/2011	1121	6.6%	3.2%	14.5%	22.0%	23.2%	28.0%	244.2%
8/11/2011	1173	-2.7%	-0.7%	5.4%	15.8%	17.3%	22.6%	228.9%
8/12/2011	1179	-4.6%	-0.3%	5.8%	16.0%	15.4%	21.8%	227.2%
8/14/2011	1179	-4.6%	-0.3%	5.8%	16.0%	15.4%	21.8%	227.2%
8/18/2011	1141	1.6%	5.8%	9.0%	20.7%	15.5%	27.1%	237.9%
9/22/2011	1130	2.8%	9.8%	10.7%	25.1%	20.2%	32.2%	240.6%
6/3/2012	1278	3.8%	7.0%	10.1%	11.5%	22.7%	28.8%	196.3%
8/23/2015	1971	0.9%	-1.3%	6.2%	-1.4%	5.7%	13.2%	79.5%
8/24/2015	1893	4.2%	2.6%	11.0%	3.1%	11.5%	18.1%	86.8%
8/25/2015	1868	2.5%	3.6%	12.3%	5.7%	13.8%	19.1%	89.4%
8/26/2015	1941	0.5%	-0.3%	8.2%	1.5%	9.5%	14.5%	82.2%
9/1/2015	1914	1.5%	0.7%	10.5%	5.4%	11.9%	16.0%	84.7%
1/18/2016	1880	-0.2%	2.7%	12.0%	16.5%	15.3%	23.3%	86.5%
2/5/2018	2649	0.3%	3.2%	1.4%	8.7%	4.3%	5.2%	26.9%
2/8/2018	2581	5.9%	8.1%	6.0%	11.6%	10.6%	7.1%	30.2%
10/11/2018	2728	1.5%	2.1%	-4.8%	7.6%	11.8%	11.0%	21.5%
10/24/2018	2656	2.1%	-0.7%	0.1%	12.0%	15.5%	16.1%	24.8%
12/27/2018	2489	1.8%	6.2%	14.5%	19.4%	20.8%	32.8%	32.6%
8/5/2019	2845	1.4%	3.5%	8.3%	17.1%	?	?	14.7%
8/14/2019	2841	-2.9%	6.1%	9.3%	19.9%	?	?	14.7%
2/24/2020	3226	?	?	?	?	?	?	?
<b>COMPOUND</b>	<b>Average</b>	1.4%	1.7%	6.9%	13.0%	16.0%	20.7%	161.5%
	<b>% Positive</b>	75%	57%	96%	96%	100%	100%	100%

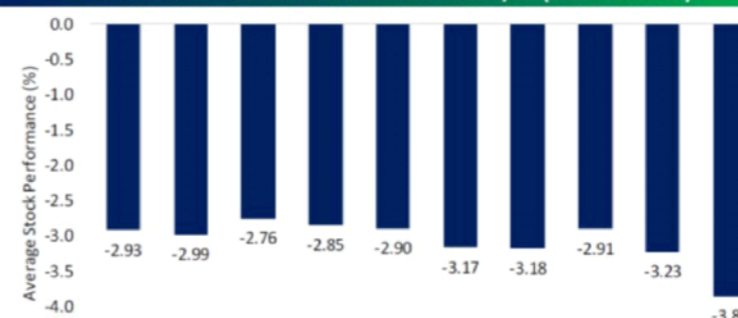


Russell 1000 Deciles: International Revenue Exposure (Least to Most)



\* First decile is all companies with 100% domestic revenues

Russell 1000 Deciles: Performance Since 1/30 (Best to Worst)



## SPY Performance After >2% Gaps Down

	1 Day	5 Day	1 Month	3 Month	6 Month	1 Year
Average % Change	0.38	1.64	0.95	3.59	7.50	15.20
vs All Periods	0.34	1.46	0.27	1.42	3.10	6.07
% Higher	56.9	62.1	63.8	67.2	74.1	81.0

# Perspective on the Coronavirus

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## Summary

- Although there are short term negative reactions to epidemics, ultimately, the health of the global economy and magnitude of monetary & fiscal stimulus dictate the direction of equity markets.
- Markets have shown a tendency to overestimate the impact on GDP and global growth. Historically, markets and economies have recovered a quarter after the pandemic's growth rate slows.
- Goldman Sachs forecasts a 0.4% drag on US GDP for a quarter and the Street is forecasting a 1.5% hit to Chinese GDP this quarter. SARS represented a similar drag on the Chinese economy.
- It is too early to tell; however, the path appears similar to SARS, Swine Flu, and MERS, but could be more impactful due to China's growth in the global economy and its integral role in supply chains.
- Economists' estimates currently show the coronavirus will have a similar impact as SARS in 2003. Many of these forecasts are predicated on the virus slowing over the coming weeks. However, it is impossible to assess the true economic impact until the epidemic begins to subside.
- So far, the mortality rate is reported at 2%, but this is extremely premature as some existing patients may yet succumb to pneumonia or related illnesses (for reference, SARS had a 9% mortality rate). While so far this virus looks to be less fatal, it does appear to be more contagious.
- In 2003, the Chinese economy only accounted for 4% of world GDP and the US economy was 7.5x larger than China. Today China is 16% of global GDP and the US economy is only 1.5x larger.
- China's economy was on steadier ground in 2003—unlike today.
- In 2003, global markets were in the nascent stages of recovery after a brutal recession, 50% equity decline over two years, and the aftermath of 9/11.
- The Coronavirus news has struck after a decade without a recession and in the midst of the second longest bull market in the history of the US. Further, when the virus news hit, most market indicators were well overbought after a 30% up year. As a result, markets are currently more vulnerable to selling pressure than they were in 2003 at the outbreak of SARS.



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