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Market Impact of COVID-19 (Coronavirus)

On Wednesday, February 19th, 2020, the S&P 500 Index reached its all-time high. Over the four trading days since, the index has lost 7.62% of its value returning the index to levels last reached on December 5th, 2019. Most of the loss occurred in the last two trading days, with a 3.35% loss on Monday and a 3.03% loss on Tuesday. Each of these daily losses rank in the top 1.5% of single day percentage losses going back to January 1, 1928. Combined, with a total two-day loss of 6.28%, they rank in the top 0.5% of cumulative consecutive day percentage losses.

This 2-day drop in value was not unique to large U.S. companies. It was widespread across company size and geography with International Developed markets as measured by the MSCI EAFE Index down 5.58%, Emerging Markets as measured by the MSCI EM Index down 4.50% and Small U.S. companies as measured by the Russell 2000 Index down 6.36%. Fortunately, investment grade fixed income as measured by the Barclays U.S. Aggregate Index has provided diversification benefits by gaining 0.50% over the last two trading sessions.

While there are certainly other contributing factors such as equity valuations getting a little ahead of earnings and concerns about the U.S. Presidential election, a quick scan of any newspaper's headlines reveals that the primary concern is the potential economic impact of the new coronavirus disease, COVID-19. The leading story in the Wall Street Journal right now is, "CDC Warns It Expects Coronavirus to Spread in U.S." The real concern is around the uncertainty of how far this disease will spread and the loss of productivity caused by the government responses to Isolate and Quarantine large groups of people in attempt to limit the number of people who become infected.

As a brief background, COVID-19 was first detected in Wuhan City, Hubei Province, China in December. It is believed that many of the initial patients had a connection to a large seafood and live animal market and that the virus was passed from an animal to humans and is now spreading between humans. For the first 6-8 weeks that the detection and spread of the virus was in the news, market participants seemed to believe it would be quickly contained and not disrupt global commerce. The decrease in values over the past two days seems to indicate this belief has changed or at least that the perceived probability that the spread of the disease could be worse than expected, whether accurate or not, has increased.

COVID-19 vs Influenza

New diseases can create potentially irrational fears as we don't know what the long-term outcome will be. To provide perspective on the current impact of COVID-19, we have compared some statistics for COVID-19 to the flu in the United States, as the symptoms are similar, and the flu is something with which we are all familiar. Johns Hopkins University's Center for Systems Science and Engineering has provided a website to track by geography the total known cases of COVID-19, the number of deaths caused by the disease and the number of individuals who have recovered. This website can be found at the following link.

(https://gisanddata.maps.arcgis.com/apps/opsdashboard/index.html#/bda7594740fd40299423467b48e9ecf6)

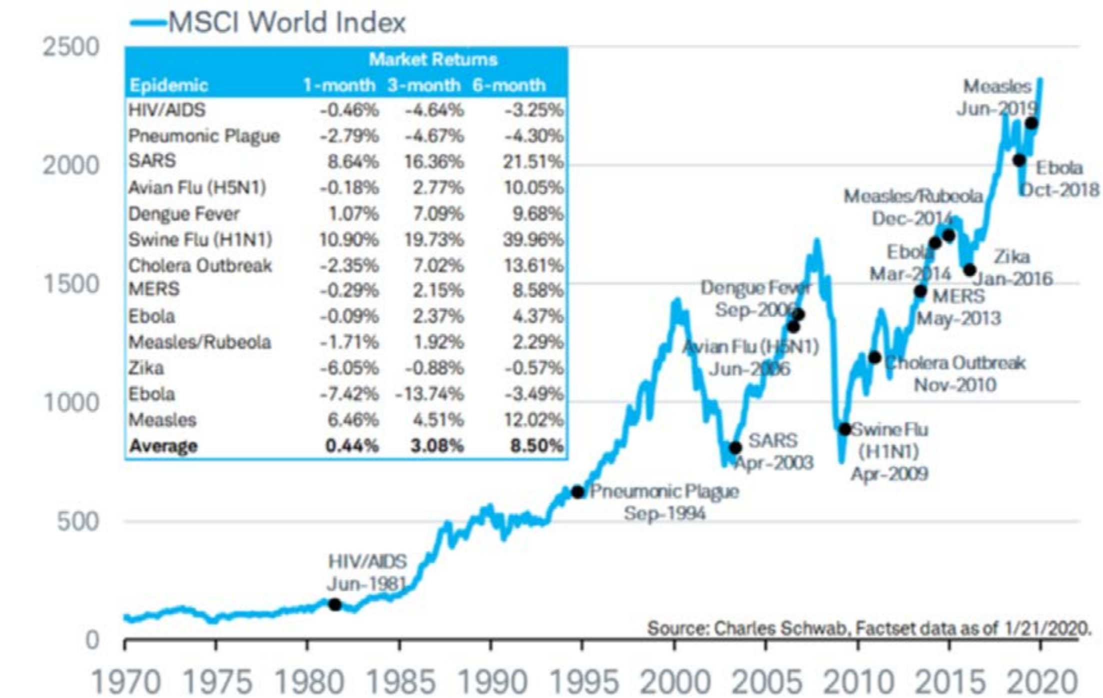
As of the writing of this white paper, the data from this website shows that 81,000 individuals have been infected worldwide with COVID-19 with 2,762 deaths and 30,109 recovered, leaving around 48,000 currently experiencing the disease. More than 78,000 of the total confirmed cases and 2,715 of the deaths are in Mainland China. The total death rate of those infected with the disease is around 3.4%.

In comparison, in the United States alone, over the past 9 years, around 30 million people per year get the flu with 38 thousand per year dying for a death rate of around 0.13%. While the death rate is a fraction of that for COVID-19, the number of people infected each year in this one country alone exceeds the number of those who have been infected with COVID-19 by 370 times. Covid-19 may continue to spread and become a much larger issue but for now the number of people infected is relatively small.

Market Reactions to Past Epidemics

Over the past 40 years, there have been at least 13 world epidemics/pandemics. The following chart and table show the impact of these events on the MSCI World and S&P 500 Indices. The MSCI World chart shows the performance of the index 1-month, 3-months, and six-months after the outbreak of the disease. In 9 of the 13 cases, the index was down 1 month after the disease outbreak. However, in all but 4 of the cases, the index was up 6 months later. The S&P 500 table shows the 6-month and 12-month percent change following the epidemic. In all but 1 case, the S&P 500 was up 6 months after the outbreak. The next section discusses reasons why this time the market reaction may be different, but it is still helpful to see the effect of these past epidemics.

Immune: world epidemics and global stock market performance



Note: MSCI World Index scale is reflected in the left vertical axis.

Source: Charles Schwab, Factset data as of 1/21/2020. **Past performance is no guarantee of future results.**

Table: Percent Change in the S&P 6 and 12 months after epidemics

Epidemic	Month end	6-month % change of S&P	12-month % change of S&P
HIV/AIDS	June 1981	-0.3	-16.5
Pneumonic plague	September 1994	8.2	26.3
SARS	April 2003	14.59	20.76
Avian flu	June 2006	11.66	18.36
Dengue Fever	September 2006	6.36	14.29
Swine flu	April 2009	18.72	35.96
Cholera	November 2010	13.95	5.63
MERS	May 2013	10.74	17.96
Ebola	March 2014	5.34	10.44
Measles/Rubeola	December 2014	0.20	-0.73
Zika	January 2016	12.03	17.45
Measles/Rubeola	June 2019	9.82%	N/A
			—Source: Dow Jones Market Data

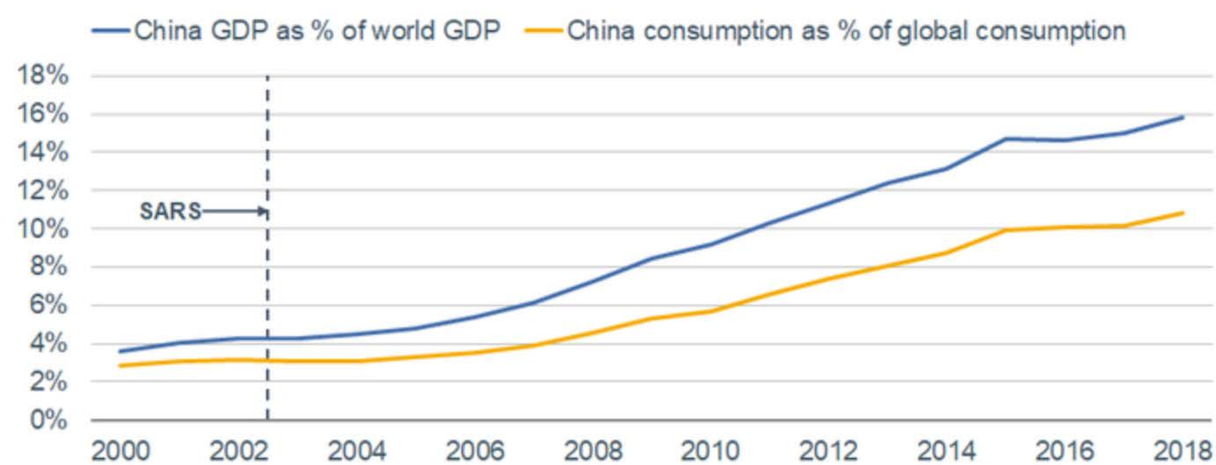
Impact of COVID-19 and Differences from Past Epidemics

While looking at market reactions to past world epidemics is insightful, it doesn't ensure that this time the results of a short pull back followed by a strong recovery will be the same. The number of people infected by the COVID-19 is already significantly larger than those infected in past epidemics. For example, the World Health Organization reports that the total number of those infected by the 2003 SARS epidemic across all countries (https://www.who.int/csr/sars/country/table2004_04_21/en/) was 8096 with 774 deaths over the 9 months. COVID-19 has already infected 10x more individuals and the number grows daily.

The MSCI World Index chart from the previous section shows that several of the other epidemics occurred during pullbacks in the market such as SARS in 2003 and Swine Flu in 2009. The S&P 500 just reached an all-time high last week and it increased in value by over 30% in 2009. At least part of the increase in value was directly related to the US Federal Reserve choosing to lower interest rates and inject money into the short-term bond market. This is a different backdrop than the past epidemics.

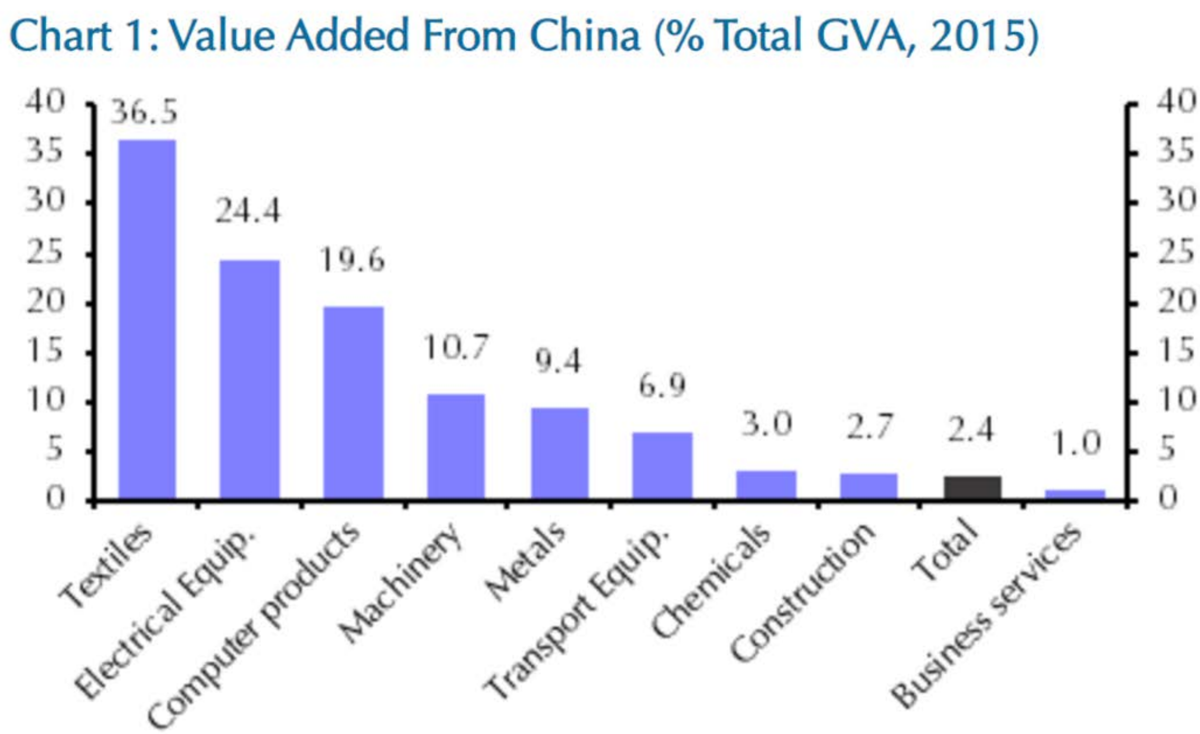
The epicenter of the outbreak is in China which is not unique however the size of China's economy and the impact that lost Chinese production and reduced Chinese consumption will have on global markets is larger than it has been in the past. The following chart shows how much China's share of world GDP and global consumption has increased over the past 20 years.

China's Weight in Global GDP Has Quadrupled



Source: Charles Schwab, World Bank, as of 12/31/2018.

China’s response to the outbreak that began in Wuhan City has been to ask people to stay home, not go to work, and to essentially extend their holiday for the Chinese Lunar New Year. This is causing a reduction in commodity consumption, travel, entertainment, factory output and much more. The effect of this slowdown in activity will not be felt evenly across industries. The below chart shows the percentage of value added by companies in China in the end products of various industries. Textiles, electrical equipment, and computer products are the industries whose supply chains may be affected the most. This may lead to shortages in supply of their end products to the marketplace until production in China returns.



Any company, country or industry that relies heavily on China for supply of goods or services or as an end market for their products and services is at risk of experiencing at least a temporary reduction in their revenue and earnings. With the travel ban placed on China to most other countries, airlines will be negatively affected. Companies such as Wynn Resorts, which owns properties in Macao China, or Yum brands, that has a large percentage of revenue from its KFC, Pizza Hut, and Taco Bell restaurants in China have already experienced a steep sell off in their stock prices. Emerging countries that surround China or supply goods and services to China will be negatively affected.

As for impacts on the US markets or broader global markets, we currently expect that the long-term impact of COVID-19 will be minimal. In the short-term, we believe there will be a reduction of Chinese tourism, consumption and production. As the virus spreads to other parts of the world, like Italy, we expect those areas will also experience a reduction in productivity and consumption. However, as the temperatures increase and the virus is likely contained, we expect a catch up in order delivery and consumption will occur and once the uncertainty is passed, global stock markets will likely recover.

The risk to this viewpoint is if the Isolation and Quarantine efforts are not able to contain the virus and it spreads throughout the world, leading to the death of 3% of all those infected, causing more widespread closures of factories, businesses, entertainment events, travel, and more. This scenario, that we consider very unlikely, would lead to a significant pull back in global GDP and equity market values.

What Steps should You Take

We recommend that you consider the following reactions to the recent drop in equity markets caused by COVID-19: 1) refinance your home or buy a new home while mortgage rates are lower, 2) have confidence that your asset allocation is set at the right risk level for you and that the mix of investments will make the decrease in your portfolio manageable for you relative to the overall market drop, 3) if you realize that your current portfolio is too aggressive or too conservative based on your reaction to the drop, please reach out to us so that we can reevaluate your allocation, and 4) take the opportunity to buy more equities if you have some available cash.

The 10-yr Treasury yield is at an all-time low of 1.33% and 30-yr mortgage rates are close to all-time lows at around 3.5%. If you were looking to buy a home or refinance anyway today would be a good time to lock in your rate.

Summary

Periods of uncertainty with abrupt market pull backs can be alarming. Couple this with the media's desire to generate interest and attract viewers and it leads to a seemingly constant supply of news stories that could easily cause us to overreact to the uncertainty. Imagine if every winter we watched a website that tracked all cases worldwide of those diagnosed with the flu and reported each flu related death. We might spend the rest of our lives standing at the sink washing our hands.

This report in no way is meant to minimize the potential risk of COVID-19 or the impact that it has already had on those who have been infected with or died from complications related to the disease. Rather, it hopefully puts the number of people affected in perspective in relationship to past epidemics of new diseases and common diseases we deal with every year while providing some insight into why the markets have reacted so sharply and steps you can take.

We will continue to monitor developments as they occur but currently see nothing that would cause us to recommend a change to your long-term strategic investment allocation. We appreciate the opportunity to partner with you in developing real and meaningful wealth and thank you for the trust that you continue to show in us.

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