Some sage advice

- "Keep your head when all about you are losing theirs." – Rudyard Kipling, Journalist and poet
- "Be fearful when others are greedy, and greedy when others are fearful." – Warren Buffett, Famed investor and CEO of Berkshire Hathaway

Capital markets

As we stated in our last research briefing, no one knows with certainty how widespread this coronavirus (COVID-19) epidemic will be or how much or for how long it will impact the global economy. That said, fear in the capital markets appears to be spreading even faster than the disease. We commend healthcare officials and governments for taking swift and aggressive action to contain and fight the disease. At the same time, it's entirely plausible that these efforts are creating fear that is outstripping reality, which also isn't healthy. Adding to this "virus of the mind" is that COVID-19 is first major global outbreak in the age of social media.

While predicting human psychology is a fool's errand, an overreaction in the capital markets would not be surprising. The market decline that began on February 19 on fears of this coronavirus has the hallmarks of panicked-driven selling.

- Just over two weeks removed from hitting an all-time high, markets have entered a bear market (i.e. a decline of 20% or more).
- After experiencing their fastest double-digit decline on record, markets sold off another 7% on Monday and nearly 5% today.
- At $3.63 trillion, idle money market fund assets have risen to levels just below the high set during the Global Financial Crisis in 2008/09.[1]
- The entire U.S. bond yield curve fell below 1% on Monday for the first time in history, meaning every bond from the 3-month T-Bill to the 30-year Treasury bond was yielding less than 1%.
- Oil prices have been roughly cut in half so far this year, punctuated by a decline of 20% on Monday.
- The energy sector is trading at levels not seen since the depths of the Global Financial Crisis. Most airline stocks and bank stocks are down in price by over a third, the sharpest declines since the aftermath of 9/11 and the 2008/09 Global Financial Crisis, respectively.
- The U.S. Dollar fell almost 5% in a matter of days in relation to other major currencies.

Investors dumping blue-chip stocks and flocking to bonds, which will likely produce negligible returns (most likely negative after inflation) for decades, strikes us as irrational, "the-sky-is-falling" thinking. The S&P 500's price-to-earnings multiple (P/E) is less than 16x, which is below its 25-year average, and the dividend yield is over 2%.[2] In relationship to bond yields on Monday, with a 10-year bond at an all-time low yield of less than 0.5% (50 bps), stocks are highly attractive in comparison. Yes, bonds continue acting as a source of ballast for portfolios for now, but yields can reverse course, causing bond prices to fall, particularly those with long-dated maturities.

There's an old Wall Street adage that "markets go up the escalator and down the elevator," meaning sharp declines of this magnitude are not unusual. Since 1927 the S&P 500 has experienced 34 corrections (-10% to -20%) and 20 bear markets (-20+%).[3] So, on average, corrections occur roughly every 3 years and bear markets every 5 years. What has been unusual is that the S&P 500 hasn't experienced a bear market in over 10 years, rising sharply with low volatility since March 2009.

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[1] First Trust, *Money Market Fund Assets At Highest Level Since 2009*, January 30, 2020

[2] JP Morgan, *Guide to the Markets,* March 10, 2020

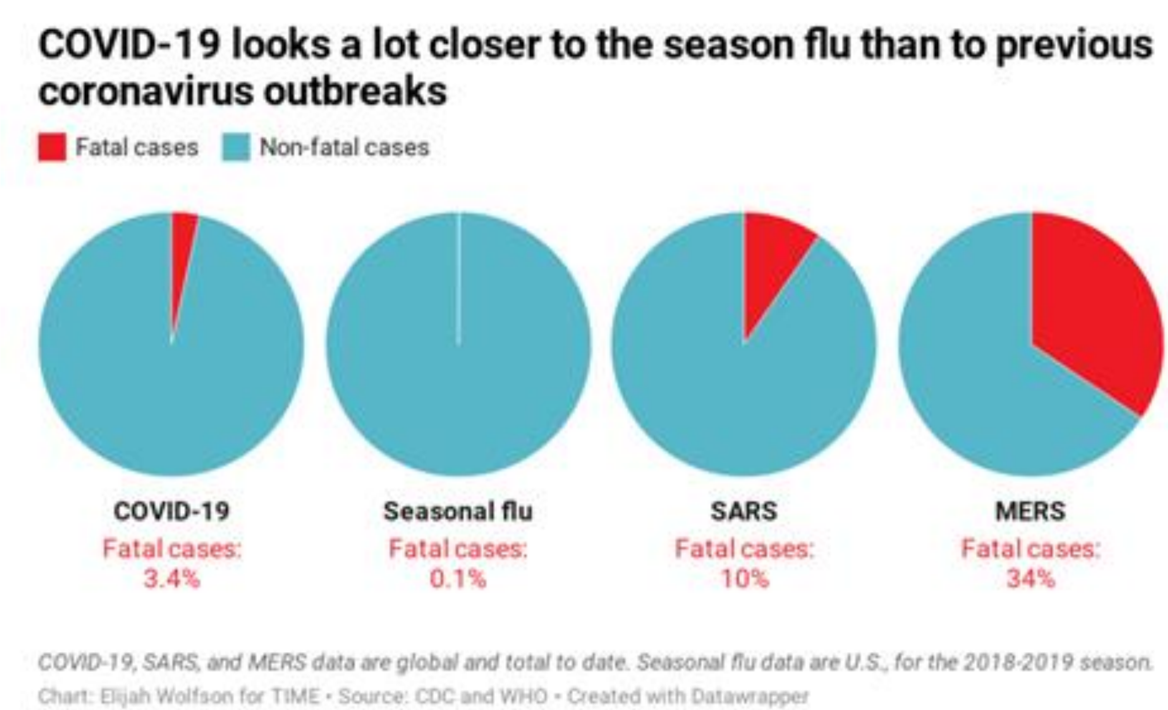
[3] Yardeni Research, *Market Briefing: S&P 500 Bull & Bear Market Corrections,* March 10, 2020

Coronavirus (COVID-19) update
Our thoughts and prayers remain with those affected and the countless people working tirelessly to save lives. There is a tremendous amount of data and information publicly available on COVID-19, but many appear to be drawing false conclusions. Below we highlight the facts as we understand them from the experts with whom we've been speaking and corresponding.

Containment
The rate of people outside China contracting the disease is now similar to what China was experiencing a month and a half ago. Also like China, the efforts of many countries to contain and treat the virus remain extraordinary – we're witnessing one of the largest, fastest, and most aggressive responses to date of any epidemic in history. China and South Korea's containment strategies appear to have stabilized the outbreak, showing that the disease can potentially be controlled. In fact, the number of recoveries, which totals over 67,000, now exceeds the number of active cases. Until a vaccine is developed, however, containment is the strategy and speed is the key – to find and isolate people infected, and then track and quarantine their close contacts.

Other countries, notably Italy, are following China's lead with similar lockdown measures and nearly all are restricting travel, closing schools, cancelling or postponing large gatherings (sporting and concert events, conferences, political rallies), and more.

Fatality rates and contagion
The current fatality rate for COVID-19, while higher than the seasonal flu, is relatively low at 3.4% in comparison to past coronavirus epidemics. As seen below, SARS and MERS were approximately three-to-ten times more fatal, respectively. As examples of other infectious diseases, smallpox had a fatality rate of 30% and Ebola was even higher at 50%.[4]

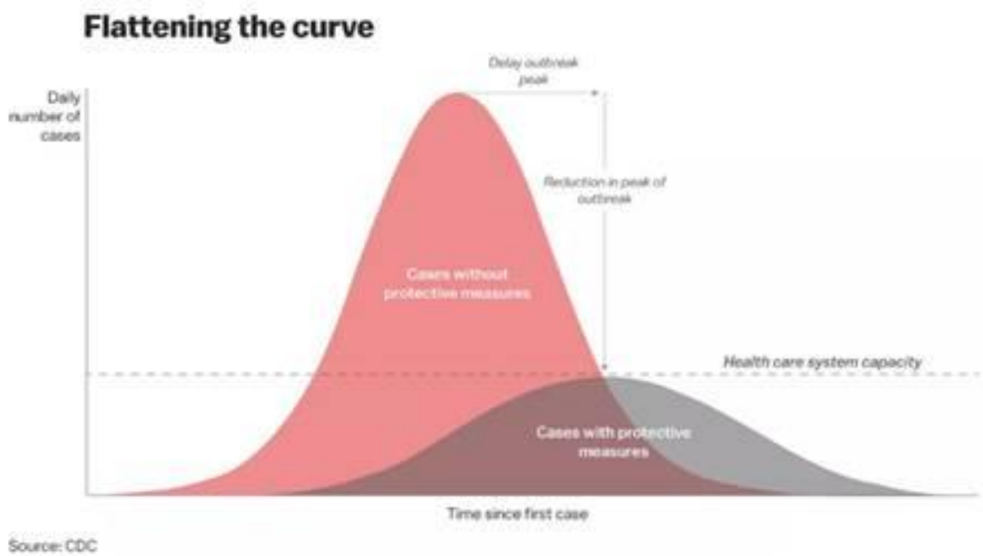


[4] Bloomberg, *How Bad Is the Coronavirus? Let's Run the Numbers,* March 5, 2020

Additionally, the fatality rate for COVID-19 will in all likelihood fall, as rates tend to decline over time. For example, early estimates for the fatality rate of the Swine Flu in 2009 were over 1%, but were ultimately revised down to just 0.02%. Why? People with milder versions of a disease are typically underrepresented initially since they may be asymptomatic or not sick enough to seek medical attention. In fact, the fatality rate in others areas of China outside the Hubei province is 0.7%.[5] The robustness of testing also has an impact. As an example of this with COVID-19, in South Korea, where more than 1,100 tests have been administered per million residents, the mortality is 0.6%.[6]

The outliers (where the fatality rates are closer to 5%) are the city of Wuhan, the epicenter of the disease, and Italy, which has the second oldest population in the world. Wuhan's healthcare infrastructure was initially ill prepared to provide tens of thousands of infected people with round-the-clock care the way other cities in China could provide. With respect to Italy, the mortality rates are fairly consistent with statistics elsewhere, more acutely affecting the elderly and those with pre-existing conditions.

COVID-19 is also less contagious than several past diseases, including SARS, smallpox and measles.[7] Big crowds spread infectious diseases, so the protective measures referenced above should slow down the rate of contagion, reducing the number of new cases per day.[8] This is what epidemiologists refer to as "flattening the curve" and it looks like this:



Vaccination

COVID-19 shares 86% genetic similarity with SARS. Subsequent to the SARS's outbreak, Harvard scientists found the antibody that blocks SARS and MERS from entering human cells. Given their strong similarity, scientists are not starting from square one; in fact, they have a head start.[9] Biotech companies, universities, and governments are working around the clock on a vaccine. Still, developing a vaccine takes time, with some estimating that it will take 12-18 months to develop, test, and produce a safe and effective coronavirus vaccine for broad use.[10]

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[5] Worldometer, *Coronavirus (COVID-19) Mortality Rate,* March 5, 2020

[6] Time, *The WHO Estimated COVID-19 Mortality at 3.4%. That Doesn't Tell the Whole Story,* March 9, 2020.

[7] Bloomberg, *How Bad Is the Coronavirus? Let's Run the Numbers,* March 5, 2020

[8] Vox, *How canceled events and self-quarantines save lives, in one chart,* March 10, 2020

[9] JP Morgan, *Eye on the Market,* March 9, 2020

[10] Reuters, *Epidemic Response Group Ups Coronavirus Vaccine Funding to $23.7 Million,* March 10, 2020

Comparisons to the Spanish Flu

Some fearfully point to the Spanish Flu as a precedent, suggesting that COVID-19 is the next "once-in-a-generation disease," but recall that at the time of that disease in 1918-19[11]:

- Antibiotics hadn't been discovered to treat secondary bacterial infections;
- Antiviral agents also hadn't been discovered to treat flu illnesses;
- People didn't have easy-to-access, over-the-counter medications like ibuprofen and acetaminophen to treat fevers, not to mention antihistamines, decongestants, and more to treat other symptoms;
- No vaccine was ever developed for the disease;
- Quarantines were generally not imposed due to the needs of warfare during WWI;
- Microscopes couldn't even see something as small as a virus until the 1930s; and
- Life expectancy in the U.S. was age 50-55.

Popular remedies used at the time to treat the disease were strychnine as a stimulant (known now to a toxic poison like cyanide or arsenic), opium to promote sleep, and whiskey and brandy to relieve symptoms. Moreover, the U.S. Centers for Disease Control and Prevention (CDC) reports that lab experiments with recombinant influenza containing genes from the Spanish Flu suggested that it would be as sensitive as other virus strains to FDA-approved anti-influenza drugs.[12]

Economy

Lost in the panic are economic reports pointing to a relatively strong and healthy economy for the first two months of the year. The February jobs reports far exceeded expectations, keeping the unemployment rate at 50-year lows. Retail and auto sales were up 4.4% and 1.9% year-over-year in January, respectively, and housing starts for the past two months averaged an annual pace of 1.6 million (fastest since 2006).

Consensus estimates are for growth to slow in March, bringing down GDP for Q1 to 1.4%.[13] Growth may stall or contract in Q2 and possibly remain weak in Q3, as risks are skewed to the downside.[14] However, using previous episodes of rapidly spreading viruses as a guide, growth should get a boost once the virus is contained.[15] For example, when the U.S. was hit by the "Asian flu" in late 1957 and early 1958, killing almost 70,000, GDP was growing around 3%. The economy shrank in Q4 when the virus started to peak and continued to for another quarter, contracting at an average annual rate of -7%. It then rebounded sharply, growing on average at 7.8% for the next 5 quarters.[16]

As seen on the next page, China appears to already be emerging from contraction and starting to follow this pattern.

[11] CDC, *The Deadliest Flu: The Complete Story of the Discovery and Reconstruction of the 1918 Pandemic Virus,* December 17, 2019

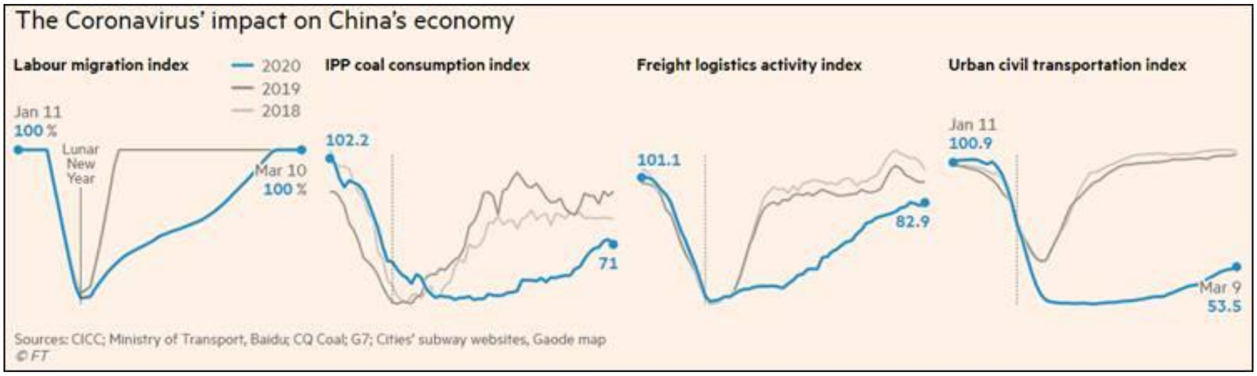
[12] JP Morgan, *Eye on the Market,* March 9, 2020

[13] Federal Reserve Bank of Atlanta, *Atlanta Fed GDPNow Estimate for 2020 Q1,* March 6, 2020.

[14] Business Insider, *Goldman Sachs slashes its first-quarter GDP forecast amid latest coronavirus chaos,* February 24, 2020

[15] First Trust, *Monday Morning Outlook,* March 9, 2020

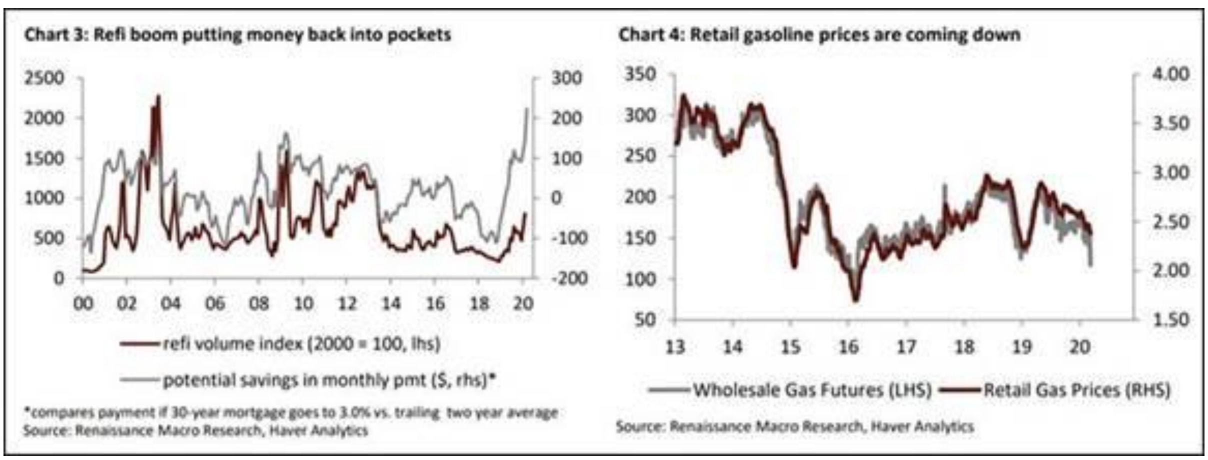
[16] First Trust, *Monday Morning Outlook,* March 9, 2020



With this much disruption, knock-on effects are not unusual. Compounding concerns over COVID-19 is an oil price war that has broken out between the world's top crude oil exporters, Russia and Saudi Arabia, with each looking to protect market share. Oil prices were already under pressure due to an expectation for energy demand to wane due to COVID-19, but now, with both countries increasing production, an abundance of supply will also weigh on the commodity. This is undoubtedly a challenge for countries and companies that produce energy, but it's a welcome relief for all that consume it.

Policy response

Make no mistake that governments around the world will go to great lengths to stave off a recession, aggressively using fiscal and monetary policies as stimulus. In the U.S., expect additional rate cuts, targeted relief for economic sectors hardest hit, support for hourly workers impacted, a suspension of the payroll tax to relieve consumers, and possibly more. Mortgage interest rates at all-time lows and cheap gas (from falling oil prices) will put additional money in consumers' pockets, further helping consumption.



Conclusion

COVID-19 hasn't shown any reason why it can't be successfully managed, just as many viruses have been in the recent past. That said, coronavirus cases are likely far from peaking in the U.S., so the uncertainty and risk of contagion will persist for a time. Our view: remain vigilant but do not panic. Wash your hands and limit travel, particularly if you are elderly or have other health conditions. The two initial symptoms of this coronavirus most commonly are fever and dry cough. Call your doctor if you suspect you may be sick.

Lastly, we advise investors not to confuse a temporary decline in the price of assets with a permanent loss. It is ironic that on March 9 – the exact anniversary of the nadir in stock prices during the 2008/09 global financial crisis – investors panicked once again. To paraphrase something two legendary investors, Warren Buffett and Peter Lynch, would often say: in the last 100 years or so, the U.S. has endured two world wars and other military conflicts; depressions and recessions, financial panics and banking crises; oil shocks; flu epidemics and other outbreaks; and an assassination and resignation of a sitting President. Yet the Dow Jones Industrials Index rose from roughly 100 in March 1920 to nearly 24,000 today.

We will continue to closely monitor events as they unfold and keep you apprised. The only long-term realism is optimism. This too shall pass. Please call us if you'd like to discuss further.