



Assessing Coronavirus Tail Risk Scenarios

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Key Takeaways

- ▶ An increase in reported cases of the coronavirus in areas well outside China have heightened the risk of the outbreak turning into a global pandemic, eroding investor confidence and pressuring equity markets.
- ▶ The long incubation of the virus has lessened the effect of testing and quarantine efforts while attempts to develop a vaccine could take months and have a low likelihood of success.
- ▶ Should the pandemic scenario unfold, economic policy conditions could quickly become expansionary, setting up a period of reflation and rising nominal growth supportive of cyclical value stocks and economically sensitive growth equities, especially in China, Europe, Japan and emerging markets.

Global Spread of Virus Causes Equity Volatility to Spike

Until the last few days, not much had changed in underlying market dynamics due to the coronavirus/COVID-19 outbreak. Economic pessimism had led to a selloff in cyclicals and record amounts of money poured into long duration bets, feeding the mania in bonds and “disruptive” secular growth stocks. This has led to a historic punishment of value stocks relative to growth and momentum. Until news of the virus’ spread to Italy and Iran surfaced over the last week (Exhibit 1), the market had been acting as if COVID-19 was largely isolated to China and the immediate vicinity, had peaked in intensity and would leave a limited and temporary economic impact. The odds of a more severe and extended pandemic appeared to be set fairly low by investors. Witness the reaction to Apple’s quarterly revenue warning, which it attributed to virus-induced slowdowns in China: the stock dropped just 1.5% before rebounding the next day. Might this confidence have been a probabilistic error?

Exhibit 1: Reported Cases Have Increased Outside Mainland China



As of Feb. 21, 2020. Source: Bloomberg.

In thinking about this question, which has significant investment implications, we want to focus upon the reflections and opinions of scientists and doctors. We will share some of the key points, taken mostly from the UK weekly research journal *New Scientist* which dedicated a recent issue to the coronavirus. After reviewing these articles, our general sense is that the probability of a global pandemic is underestimated by investors. While bond and gold prices are sending an increasingly worrisome signal, both valuations and earnings assumptions do not anticipate an extended impact from the virus. This varies by sector and region, but overall stock prices could be vulnerable to the spread of infections outside of China, especially speculatively valued technology and disruptive companies. Clearly, the evidence indicates the virus is unlikely to mutate into a high-mortality pandemic, but this mildness also could contribute to its spread globally.

Here are a few of the key observations:

- The virus has spread to at least 23 countries but there is not enough data to reach conclusions on fatality and transmission rates (the R0 factor). In the absence of reliable data on COVID-19 deaths or recoveries, scientists are focusing on how they know viruses behave and lessons from past outbreaks.
- An epidemic stops (R0 factor below 1) due to three conditions: people die or become immune, get an effective vaccine or change their behavior to prevent transmission. Unfortunately, the mildness and longer asymptomatic period for COVID-19 could lead to the virus taking much longer to run its course and points to a larger number of initially undiagnosed cases. Researchers estimate that just in the city of Wuhan the number of infections could be 10 to 40 times higher than official numbers.
- Dr. Eric Toner at Johns Hopkins is not optimistic about the effectiveness of current quarantine efforts given that many carriers of the virus appeared healthy for up to 10 days before seeking medical attention. Italy is struggling to find patient-zero in that country while putting Milan and most of the Lombardy region under lockdown. In effect, young and fit “super spreaders” who tend to be more active and travel can offset the benefits of quarantines that worked well with SARS, Ebola and MERS.
- Vaccines and treatments will take months at best and more likely at least a year. Scientists are not optimistic about existing SARS vaccines but are currently testing the treatments. The best way to treat a viral infection is through antibodies which are large proteins that bind to the virus and kill it. This method accelerates the body’s natural immune response since it can take up to two weeks for our systems to naturally generate antibodies. The use of antibodies is relatively safe, and scientists are likely to be able to develop them quickly. The challenge is mass production as making enough just for testing purposes can take one or two months. Chinese biotechnology firm WuXi Biologics has created a 100-strong team to search for an effective treatment and projects it might be able to start mass production in a record four or five months. But by that time, the outbreak could have spread to millions of people in which case making enough of the antibodies would be a moving target. A second way to treat viral infections is small-molecule drugs. These are usually simple to manufacture and can be taken in pill form. But virologist Jonathan Ball notes 99% of small-molecule drugs fail so quickly that developing a novel treatment for COVID-19 is unrealistic. The best chance is to find an existing drug that might work and doctors are testing a number of candidates used to treat Ebola and HIV.

- The European Centre for Disease Prevention and Control models show that testing all travelers at entry would fail to catch 75% of those incubating the virus. They concluded that, "It therefore seems likely that the virus will go pandemic, circulating in multiple cities worldwide." In the journal *The Lancet*, Gabriel Leung at Hong Kong University agreed and urged that "Preparedness plans and mitigation interventions should be readied for quick deployment globally." Unfortunately, a recent independent report commissioned by the World Health Organization (WHO) found that fewer than 5% of countries were adequately prepared to rapidly respond to an epidemic. David Heymann, at the London School of Hygiene and Tropical Medicine who organized the WHO's SARS campaign, worries about the impact of the virus "invading a chaotic, impoverished megacity." The virus has already spread to India and the Philippines, but he believes the big risk would be in Africa, which has thus far been spared. With the virus now infecting a region just across the Mediterranean from Africa, that risk just went up.

Potential Investment Implications

A global pandemic, even with a modest fatality rate, would significantly increase the length and depth of economic disruption from the COVID-19 virus. If investor sentiment begins to reflect a rising probability of the virus spreading outside of China, share prices could come under downward pressure. The S&P 500 Index hit its lowest level since August (Exhibit 2) as reported cases outside China have grown over the last week. Ironically, the stocks already hurt the most by the immediate economic impact of the epidemic, namely energy, commodity, transportation, financial, retail and consumer durables in China, Europe and emerging markets might be somewhat less impacted. Clearly, defensive and bond-correlated investments along with gold stocks would outperform. In a broad market selloff, the most risk may be in the crowded and extended momentum stocks that are well represented in both active and passive funds. Many of these tech and consumer-related companies would experience disruption of both their supply chains and end-user demand.

Exhibit 2: U.S. and International Stock Performance Since First Reported Virus Death



As of Feb. 24, 2020. Source: Bloomberg. Indexed to 100 as of January 11, 2020.

Thinking beyond the short term, a meaningful economic downturn and market correction would lead policymakers to increase both fiscal and monetary stimulus. Conditions would quickly become as expansionary as during the 2008 global financial crisis, setting up a period of reflation and rising nominal growth. Driven by renewed policy certainty, this would lead to a sharp rebound in both cyclical value stocks and economically sensitive growth equities, especially in China, Europe, Japan and emerging markets. Things might get worse before they get better, but this virus-induced downturn might just be the cure that ends the long suffering of international value stocks.

About the Author



Paul Ehrlichman

Managing Director Head of Global Value, Portfolio Manager

- 36 years of investment industry experience
- Joined predecessor in 1988
- BS in Finance and Quantitative Analysis from La Salle University

ClearBridge Investments

620 Eighth Avenue, New York, NY 10018 | 800 691 6960 | ClearBridge.com