CRISIS OR CORRECTION?

A Quant’s View of the Coronavirus

By Kathryn M. Kaminski, PhD, CAIA®
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A correction is a short-lived loss that recovers relatively quickly. A crisis is a prolonged period of market stress with sustained losses. Given the magnitude of moves and the sizable loss in equity markets during late February and early March of 2020, the question on everyone’s mind remains: “Is this a crisis or a correction?”

WHAT IS A CRISIS?

Every crisis is different and can be defined by both the length and depth of the crisis event. From this perspective, sustained and substantial periods of losses can be classified as a crisis, while short-term market reversals can be classified as a correction. A crisis often is driven by a key risk that is not well understood or easily solvable. This is something that may be hard to measure or hard to understand in terms of the level of impact. In 2008, the complexities of structured products and the intricate web of counterparties in over-the-counter derivatives contracts created an opaque and vulnerable system. Over the past two decades, we have experienced a number of financially driven crisis periods. As a result, in the field of finance, we define systemic risks to be the risk of collapse of an entire financial system or market. If we extend that approach to the current pandemic caused by the coronavirus (COVID–19), we must ask two questions: (1) what is the core risk we might be exposed to? and (2) what systems if any might collapse as a result of it?

In our modern society, we are living with the positive sides of globalization, including the free flow of individuals around the world. Companies are interconnected, and travel routes span the globe. The internet keeps us all connected and information travels faster than ever before. The supply chains that provide food and necessary items have made everything readily available and delivered at the simple click of a button or tap on a phone screen. But if the music stops, what does one do if the local grocery store isn’t open? These are fears we have not necessarily considered before, but now they certainly feel real.

As companies endured travel bans, conferences got canceled, and universities and schools were closed, consumers pulled back. The challenge will be where it always has been: leverage, credit risk, and tight profit margins. Anything that is built for economically optimal conditions eventually could fall and fall hard. When events are canceled, hotels remain empty for extended periods, taxi drivers are left at home, restaurants remain empty, and billions of dollars will continue to go unspent. Humans hate to be wrong, so financial analysts will continue to wave fundamental views in our faces, citing past data that states the economy is still fine. As a smart reporter said to me, “When the waves withdraw we will see who is swimming naked after a 12-year bull market.”

WHAT DOES THE DATA SAY?

This is all speculation, and as a quant, I don’t like to speculate. I like to analyze. Here is what the market is telling us.

Uncertainty magnified: We don’t know what is going on.

The market smelled a skunk: Cross-asset trends are consistent with past crisis periods.

The search begins for crisis alpha: Momentum profits from coordinated moves.

UNCERTAINTY MAGNIFIED

Starting the week of February 24, the market has experienced huge swings in prices, in orders of magnitude unheard of by many market participants. What does it mean when markets move so violently? It means “we don’t know what is going on” (Hajric and Popina 2020). We couldn’t figure out which way is up or down. Let’s consider the
In this case, it is easier to consider fundamentals. Emotions, especially in a period of crisis, markets can be revert as markets steadily recovered. Fixed income increased, commodities were stationary and normally distributed, the odds of this happening are close to zero. Clearly, market returns are not behaving normally.

THE MARKET SMELLED A SKUNK
As early as January, global markets, with the exception of equities, started rapidly changing directions. Bond markets began a massive rally because investors were cautiously optimistic and then more concerned about the potential impact of the coronavirus later in January. Global currency markets, although pushing against the U.S. dollar in late 2019, began to favor the United States over other regions of the world. The oil markets began a steady and stealthy plunge as global demand subsided in the wake of virus concerns. Equities remained complacent after a period of exuberant gains in 2019, until they could not ignore the potential impact of the possible pandemic. Figure 2 plots market returns by asset class from December 2019 through June 2020. Through the month of March, the trends were relatively clear: Fixed income increased, commodities suffered, and the U.S. dollar steadily strengthened. In late March and early April we started to see these trends revert as markets steadily recovered.

In a period of crisis, markets can be driven by a combination of emotion and fundamentals. Emotions, especially when they are heightened, can be hard to predict or understand, and fundamental effects can be hard to accept when all the data is not yet available. In this case, it is easier to consider markets that are more directly linked to fundamentals, markets such as oil or copper. Figure 3 plots the return of copper and oil and the equity markets year-to-date. Note that when equities fall, oil and copper fall, but when equities rally (potentially on hope), the commodities rally less. Since the recovery of equity markets in late March we have seen a sizable recovery in commodity markets as well.

History does not repeat, but it tends to rhyme. If history has taught us
When markets are stressed, they are driven by fear and hope, and people act in more coordinated ways.

Trend-following strategies were picking up the shift to long bonds, short commodities (except precious metals), and long the U.S. dollar prior to the enormous drops in equity prices in late February and early March. It is interesting that most trend signals outside of equity markets already were moving as early as late January 2020.

In the wake of a challenging market environment in 2007 and 2008, a banner year for trend-following strategies as strong trends either long or short emerged in many asset classes in the wake of a challenging market environment. For comparison and historical perspective, figure 5 plots the return across asset classes in 2007 and 2008. During this period, we saw downward trends in commodities, upward trends in fixed income, and a later rally in the U.S. dollar. Comparing figure 2 with figure 5, we can certainly see some similar cross-asset trends.

How have trend-following strategies navigated this difficult environment in 2020? Figure 6 plots the performance of the SG Trend Index year-to-date versus the S&P 500. Note that both returns seemed markedly similar until the equity drawdown began in late February. Since this period, short positions in energy and other commodities, long U.S. dollar exposure, and long positions in fixed income have first offset and began to outweigh losses in equity markets. It is also notable that the reduced trend strength in equities also has led to smaller losses in equities as the drawdown continued to extend. As trend signals moved into the neutral to negative territory in equity markets starting in March, this position would have been favorable should the ongoing disruption in markets have continued (Cantrell 2020). Since late March, equity markets have rebounded, returning some of the profits lost during the drawdown. If we were to see a subsequent drawdown period, the strategy is cautiously positioned to adapt to this move.
NO RESOLUTION IN SIGHT

The challenge with the coronavirus pandemic is uncertainty and its impact on tightly coupled systems that need to work to make our day-to-day life function smoothly. It is unclear how the pandemic might further disrupt our healthcare system, interrupt economic activity, and scare the consumer in a consumer-driven economy. Even if one could snap one’s fingers and find a solution, it would still take time because there does not seem to be a simple answer.


REFERENCES


DISCLOSURES

Past performance is not necessarily indicative of future results. Managed futures strategies can be considered alternative investment strategies. Alternative investments involve unique risks that may be different from those associated with traditional investments, including illiquidity and the potential for amplified losses or gains. Investors should fully understand the risks associated with any investment prior to investing. Commodity-related investments, including derivatives, may be affected by a number of factors including commodity prices, world events, import controls, and economic conditions and therefore may involve substantial risk of loss.