THIS ONE GOES TO 11
MARKET RISK MANAGEMENT IN A CRISIS

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> *In preparing for battle, I have always found that plans are useless, but planning is indispensable.*
>
> – Dwight D. Eisenhower[1]

After the Financial Crisis of 2007–2009, several practitioners and academics argued that familiar refrains around crises – like "this time it's different"[2] – are invariably incorrect. These arguments mostly centered on the premise that, before financial crises, capital markets metrics (e.g., P/E ratios, credit spreads) trade outside of historical proportions signaling necessary corrections. In short, with front office discipline and robust risk management, the challenge to avoid the worst of a crisis should be less identifying it than Keynes' adage that "markets can stay irrational longer than you can stay solvent."[3]

Continuing COVID-19 related disruptions, to the real economy and markets, both remind us that not all crises are financial and belie the clarity that we hoped to have developed after the Great Recession. These disruptions also remind us that, while predicting events makes headlines, effective market risk management is more frequently the process of building portfolios that are resilient in crises. The best way to build that resilience remains the disciplined application of identified tools to best understand how your portfolio will incorporate new information. Today we take a deeper dive into two of these tools that may be of relevance as the initial wave of global government intervention matures while damage to the real economy persists; they are an understanding of:

1. Transmission pathways of risk between the financial sector and the real economy
2. The response of asset/portfolio volatility to material news

> *In times of crisis, all correlations go to 1.*[4]

TRANSMISSION PATHWAYS:

The COVID pandemic has been no exception to this rule as herd behavior in equities (i.e., a majority of stocks moving up or down together by day) began in early March along with proactive steps to curb virus transmission (Table 1).

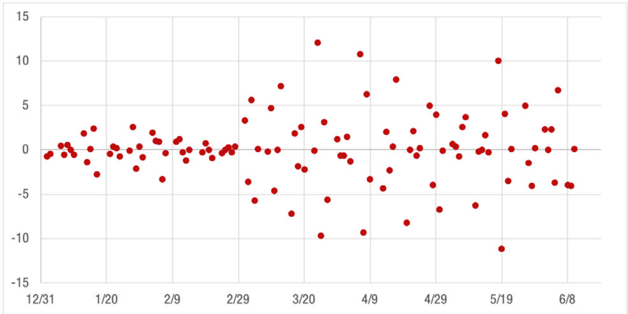

Table 1 – NYSE Advance/Decline Ratio (Jan. 1 – June 10, 2020)

During herd behavior, the value of historical relationships used to measure the market risk of an asset or portfolio is diminished.[5] Transmission pathways of risk between the financial sector and the real economy are a frequent cause of this behavior. After the financial crisis of 2007-2009, the Basel Committee on Banking Supervision identified the three most common of these channels:

- **Borrower balance sheets:** Financial shocks can affect borrowers' net worth, reducing their expenditures and aggregate demand
- **Bank balance sheets:** Adverse shocks to financial institutions' balance sheets can entail sharp contractions in credit magnifying reductions in economic activity
- **Liquidity:** High leverage ratios and significant maturity mismatches can precipitate funding liquidity shocks to bank lending and the real economy[6]

While banks have safely weathered COVID to date, economic data from the week of June 8 – one and a half million additional unemployment claims[7] and a substantial pullback in equity prices[8] – illustrate the potential duration of the crisis. In an environment with intractable, elevated unemployment, exposure to further real economy contagion

1. https://www.brainyquote.com/quotes/dwight_d_eisenhower_164720
2. https://press.princeton.edu/books/paperback/9780691152646/this-time-is-different
3. https://www.theatlantic.com/business/archive/2012/04/john-maynard-keynes-was-the-warren-buffett-of-his-day/255356/
4. https://www.morningstar.com/articles/970137/correlations-going-to-1-amid-market-collapse-us-stock-fund-factors-show-little-differentiation
5. Represented by terms such as asset betas
6. https://www.bis.org/publ/bcbs_wp18.pdf (all transmission pathways referenced)
7. https://www.nytimes.com/2020/06/11/business/economy/unemployment-claims-coronavirus.html
8. https://www.nytimes.com/2020/06/11/business/economy/unemployment-claims-coronavirus.html

from any of these channels – borrower balance sheets through elevated defaults after mortgage forbearance expires[9] or bank balance sheets via loses in currently performing asset classes (e.g., CLOs)[10] – is conceivable and should be understood.

> *Short term volatility is greatest at turning points, and diminishes as a trend becomes established.*
>
> – George Soros[11]

VOLATILITY OF VOLATILITY:

It is also an axiom that financial assets become more volatile during periods of market stress, this was illustrated during COVID by a four-fold increase in the VIX coinciding with herd behavior in equities (Table 2).

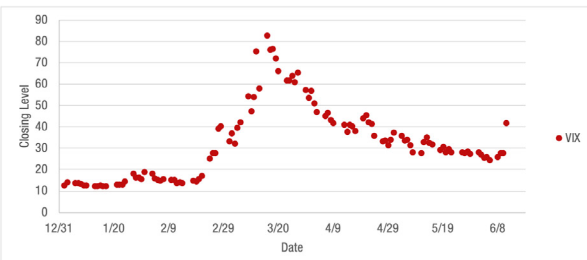

Table 2 –VIX (Jan. 1 – June 10, 2020)

However, data provide relevant insights beyond simply that "volatility increases in a crisis." A more nuanced description is that volatility itself is volatile – increasing during 'turning points' and reverting to the mean (also illustrated in Table 2). This is the concept behind the 2003 Nobel Prize in economics and the theory that underlies modern options trading.[12] Risk managers need facility with all available inputs, such as implied options volatility. That together can give the most holistic understanding of how a portfolio will incorporate new information and may reflect market expectations not captured in backward-looking calculations like Stressed Value at Risk (SVaR).

> *I'm going to use all my tools… and make the best life I can with it.*
>
> – LeBron James[13]

SUMMARY

It is likely that in a global economy with an increasingly distributed workforce, potential catalysts of future crises will increase along with our skills for predicting them. In short, that crises will remain a feature of both markets and the real economy and their costs will remain almost incalculable. Given this, the importance of comprehensive understanding and disciplined application of all available risk management tools will only increase.

Would you like to discuss this in greater detail?

Reach out to Benjamin.Harding@capco.com to learn more.

9. https://www.cnbc.com/2020/05/07/4-million-homeowners-in-cares-act-mortgage-forbearance-program.html
10. https://www.theatlantic.com/magazine/archive/2020/07/coronavirus-banks-collapse/612247/?mc_cid=e631e167d5&mc_eid=858d655345
11. https://www.azquotes.com/quote/656326
12. https://www.nobelprize.org/prizes/economic-sciences/2003/engle/lecture/
13. Zimmerman, Mike. "The Motivated Man." Men's Health Nov. 2007

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