Epsilon Theory

First-Level Foolishness

March 12, 2020

"I'd like to first repeat what I said last week, and that is that over 90% of the value of a stock is due to its profits more than one year into the future. So as bad as this year can be...we could really have a short quick recession, the long-term value is not significantly impaired...let's face it, this is mostly going to be a demand-induced slowdown."

***Dr. Jeremy Siegel to** CNBC (March 2, 2020)*

In a severe pandemic, infrastructure can be disrupted at a national level, such as healthcare, transportation, commerce, and utilities. This is due partly to risk mitigation measures but also potentially higher rates of patients on sick leave, employees taking care of children or other family members, or general population anxiety about gathering in public places.

The direct and indirect U.S. healthcare costs of a moderate pandemic, like those in the 1950s and 1960s, were estimated at roughly $180 billion in 2005 by the U.S. Department of Health and Human Services, assuming no intervention, but this does not include potential for commerce disruption. According to the Congressional Budget Office, a pandemic could cost the U.S. more *than 4% of GDP in a severe situation (similar to the Spanish flu of 1918) or 1% of GDP (if the pandemic is more mild, similar to 1957 and 1968 pandemics).*

Overall, we think the costs of coronavirus will mirror those of a milder pandemic. As we assume a lower death rate that primarily focuses on patients over the age of 65, we think there could be a significant short-term hit (1.5% of 2020 GDP) but minimal hits beyond, as the economy should be in position to rebound quickly.

Morningstar's View: The Impact of Coronavirus on the Economy (March 10, 2020)

It is an uncertain time, but I'm willing to bet on a couple things: I know what your personal email inbox looks like. I know what your professional email inbox looks like.

And I bet yesterday - March 11th - felt like a dam breaking for both.

There wasn't any real *change* in the facts on the ground about Covid-19 in that time. Nothing *fundamental*. China continued to report few new cases. Korea continued to report improvement, with a little new concern in Seoul, perhaps. Italy continued to be grim. Germany and France had pockets of growing concern. America looked to be somewhat closer to the path of southern Europe than East Asia. The fact pattern on the morning of March 11th was consistent with the day before and the week before.

What changed was common knowledge. What changed was what everybody knew everybody knew.

It changed because powerful missionaries who had been in the grip of "just the flu" and "panic would be worse than the disease" memes - memes promoted in financial media beginning in January, as **we highlighted previously here** - threw in the towel. The WHO, which for weeks pretended it could be agnostic about the "p" word, relented. Harvard sent students home, and a raft of schools followed within hours.

That change in common knowledge is why yesterday you received a dozen or two "Here's what we're doing" emails from your kids' schools, your local fast food chain, the airline you have frequent flier miles with, and the hotel flag you used to be loyal to until they merged and made your points worth half as much. A long-time friend and reader informed us of a Covid-19 CYA Communication from a...<checks notes>...food truck. Apparently they got his email through Square.

It's also why (along with a little bit of feisty market action) your professional inbox filled up with new sell side reports, buy side update letters and - unless you were lucky - one or two "can we talk after the close?" emails from a fund manager or two this morning.

Will you permit me one more wager? I will also bet more than a few of THOSE emails probably looked like the lukewarm garbage that produced the two quotes above.

Both the Siegel appearances and the pseudo-scientific "scenario analyses" Morningstar and others are pumping into your inboxes are emblematic of the same thing: first level thinking, the mistaken assumption that markets function by assessing the first order effects of events. But it is far worse than that. They are also emblematic of ergodic thinking, which is a ten dollar way of saying that someone is using their estimate of the potential range of current outcomes as a proxy for the potential range of how outcomes may unfold in sequence over time.

Just one problem with that:

The path that events follow matters.

Path-dependence is why a disease that is only moderately more deadly than the seasonal flu becomes a Big Deal when its characteristics give it the potential to overwhelm hospital capacity. Path-dependence is why every college, school, sports team and corporation made their decisions in unison once missionaries finally created common knowledge. Path-dependence is why uncertainty in markets should inform your portfolio risk management.

The first-level thinkers miss this, and they miss it in three big ways.

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1. They treat the market as if it were a clockwork machine, constantly repricing everything about issuers and securities. In reality, the market is a bonfire, unevenly assessing investors' expectations of other investors' responses to information at the margin.

The Siegel style of analysis is perhaps the most emblematic of this idiotic framework. That shouldn't be surprising - the notion that market participants wake up every day and reassess everything in their portfolio and what it ought to be worth is a foundational abstraction of academics in finance, even today. To be true, it IS useful for teaching DCF-based thinking on a bottom-up basis. But it is utterly nonsensical for explaining asset prices changes at a top-down level.

At any given time, millions of people setting prices at the margin treat the prior day's price as a Thing In-Itself. In other words, the prior day's price becomes the thing that matters, completely independent of whatever information was being considered by the participants who participated in the prior day's price setting activities. Take that back a week or a month and you start to realize something very important about markets: at any given time, simple inertia is a very important part of why people believe the price of a thing is correct.

When prices move after an event, first-level thinkers say, "Well, only X has changed, so the price should only change by the effects of X." The problem, of course, is that when prices change by a sufficient amount, investors who AREN'T first level thinkers don't just question how much Event X ought to have changed the price; they begin to question the inertia that led to YESTERDAY'S price.

One financial markets commentator observed the following today (March 12th):

All the permabears are coming out now and saying, “I told you so.” It’s just too bad that not a single one of their theories is the reason why we are in the current sell off. But don’t worry, they will congratulate themselves anyways.

No!

Thinking that the sell-off we are observing can be completely divorced from all of the assumptions that led to the prices yesterday that are being subjected to closer scrutiny TODAY is first-level thinking. All those things the "perma-bears" straw men theorized cannot be ignored. The expectations of undue central bank asset price support and profligacy that led to those prices is going to be questioned. The appropriateness of multiples that led to previous prices is going to be questioned. The behavioral expectations investors had for other investors that led to previous prices is going to be questioned.

In short, any event of sufficient size is capable of influencing asset prices BEYOND the scale of the event itself, and that influence must NOT be considered an inherent overreaction. It is a fundamental part of the long-cycle process whereby markets periodically reevaluate endemic assumptions that exist on the basis of inertia alone!

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2. They treat market events as if they were isolated from the non-market events they influence, especially in political and regulatory spheres.

Ben is going to be write about this in a great deal more detail for a note next week, so I won't belabor it too much here. But analyzing purely market fundamental events through probabilistic analyses to estimate market outcomes is worse than useless if it abstracts from the range of potential non-market responses.

Some of those events under a cloud of uncertainty are bullish! A massive landmark fiscal package coupled with aggressive state government aid would be a seminal such event, and could dramatically change the complexion of the market event.

Some of them are not so bullish. Some of those bearish outcomes manifest in major structural changes, such as changes to the narrative of globalization Ben and I have both hinted at observing as an emerging narrative. This is a potential multi-year outcome that could become part of core market narratives much sooner than most investors expect. The effects of a forced return of manufacturing and supply chains to North American shores would go far beyond the **Siegel Cartoon** of a 1-year share of a stock's present value.

Some of the more bearish potential outcomes are almost impossible to bake into prices in ANY way prior to them taking shape. Your septuagenarian president hung out for a good bit with a Covid-19 exposed (and potentially infected) Jair Bolsonaro a week ago. How much of today's price decline would you estimate accounts for the probability that our >10% CFR bucketed administration will announce infection next week? Some? None? Lots? A little?

You have no idea. I have no idea. There are a hundred events exactly like this - both bullish and bearish (but probably more bearish, if we're being honest) - lurking in the fog of uncertainty, of unknowable incidence and severity. The idea that some sell side guy on CNBC thinks he can tell you what S&P earnings level for 2H 2020 the market is discounting should offend your spirit. The idea that there's a clockwork machine pricing a risk premium on this basis should produce pain deep within your capitalist soul.

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3. They miss that nearly all financial assets exist in and cannot be divorced from their portfolios. When events change the interaction of those financial assets, those events can have reflexive responses in asset prices that we cannot assume are temporary or irrational!

Ben and I have both written frequently about how critical the narrative of stocks and bonds as mutual diversifiers is for the plumbing of the asset management industry, much of which has formed around that assumption during the last 35 years. If an event like the Covid-19 response produces compression of rates on US sovereign debt toward zero and an extended period of zero to positive correlations between rates and risk assets, modeling the event itself without accounting for how these assumptions would dramatically change the behaviors of institutions from pensions to insurance companies to family offices to yield-sensitive high net worth individuals is incomplete to the point of irrelevance!

And a reminder, since this is Epsilon Theory after all: to be IMPORTANT, these things don't have to be long-term true in fundamental space so long as they are true in narrative space. If everybody knows that everybody knows that bonds don't diversify stocks, or if everybody knows that everybody knows that you don't buy bonds for yield but for duration bets alone, the game has changed on dimensions that go far beyond what one might model for the event.

What does all this mean?

It means that the **appreciation for uncertainty** that we have counseled throughout this process should remain. There are single events ahead of us which will completely change the complexion of this situation. They will shift the incidence and severity of outcomes on their head. Some may even bring probabilistically modeling outcomes back into the realm of the reasonable.

We should manage risks for an **uncertain** market, and monitor the signs investors' are transitioning back to a **risky** market.

What do we do?

The same thing you did the last two weeks. By far the most important play in this playbook, because it responds to EACH of these three problems, is this:

Shrink your book.

Keep your use of leverage at a minimum.

Keep your reduced reliance on covariance estimates.

Keep your trimmed down gross exposure.

If you're deciding between a selling and hedging, sell.

The most important place that path-dependence rears its head to create unexpected risks is in the breakdown in relationships among assets. A limited gross and skepticism about covariance estimates is how you reduce your exposure to THAT. And keep it down.

What do we look for?

We counsel looking for signs of an emerging narrative that **uncertainty** is changing back to **risk**.

I'll be more explicit. **I think bearish behavior subsides for some period if and when everybody knows that everybody knows that US testing is happening and is representative**. There are enough analogs in Korea and Italy to frame the problem. Once this data exists, missionaries of "quantifiable risk" narratives will be more successful.

But let's be clear on another point. We think that is a tradeable phenomenon in the short run. We also think that it doesn't necessarily change the real, fundamental uncertainty of some long-term outcomes precipitated by Covid-19.

More on that to come next week.
