Epsilon Theory

Pandemic Playbook

March 17, 2020

Beyond what we have published about Covid-19 itself since early February, we have also published a range of more explicit observations about Covid-19 from the perspective of a risk manager or asset owner over the past several weeks.

On February 27th we argued that the narrative of Covid-19 continued to be complacent. We argued that most investors should pursue the universal shrinking of active risk and gross exposure. We argued for a circumstances-based analysis to consider risk asset exposure reduction (i.e. net exposure). We also wrote what we thought would trigger a reevaluation of circumstances:

> *It means we'd be doing all of the above until the cargo cult of Covid-19 analysis turns back into science.* ***In short, we'd be doing the above until we felt that the measurements being provided about the state of Covid-19 infections reflected some underlying reality.***
>
> \- *Covid-19 Cargo Cults*

Following the speech given by Donald Trump yesterday (3/16) and the change in strategy adopted by the United Kingdom that same day, we believe this is now the case. The two components of this change are the **capacity** and **willingness/recognition** to make testing the single highest priority. The former quality is identifiable. Covid-19 testing across (most of) the United States ramped up *substantially* over the weekend. Individual states like New York are now performing more than 1,000 tests per day. The latter is subjective. Watch both speeches for yourself.

What do we think that means?

It means we think that the narrative of market complacency about Covid-19 is officially over.

It means that data demonstrating the importance of asymptomatic transmission in earlier infected countries has supported a rapid sea-change in the seriousness with which countries have embraced social distancing measures that explicitly reduce tail outcomes (for the disease).

It means we think the uncertainty overhang related to non-testing and the lack of institutional inertia within business and government to act on testing and mitigation has been relaxed.

This is NOT an all clear, folks. But it does mean a change in the game being played and in our ability to play that game. We'd like to walk through our updated framework for thinking about the governing narratives and events we see for the Covid-19 pandemic (a term which you should understand we always mean in context of the medical, economic AND quarantine effects unless otherwise stated).

We recommend that institutions and asset owners construct their response framework from what we have referred to previously as the Koan of Donald Rumsfeld.

> ***Decision-making under certainty*** *– the known knowns. This is the sure thing, like betting on the sun coming up tomorrow, and it is a trivial sub-set of decision-making under risk where probabilities collapse to zero or 1.*
>
> ***Decision-making under risk*** *– the known unknowns, where we are reasonably confident that we know the potential future states of the world and the rough probability distributions associated with those outcomes. This is the logical foundation of Expected Utility, the formal language of microeconomic behavior, and mainstream economic theory is predicated on the prevalence of decision-making under risk in our everyday lives.*
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> ***Decision-making under uncertainty*** *– the unknown unknowns, where we have little sense of either the potential future states of the world or, obviously, the probability distributions associated with those unknown outcomes. This is the decision-making environment faced by a Stranger in a Strange Land, where traditional cause-and-effect is topsy-turvy and personal or institutional experience counts for little, where good news is really bad news and vice versa. Sound familiar?*
>
> - ***The Koan of Donald Rumsfeld***

To that end, below we outline for each of the three categories the facts, narratives and events which we think will frame how information that matters to markets is conveyed. To the extent we can, we will identify the type of narrative structure which we believe exists and how we think new information will be processed.

Importantly, you should know that this will necessarily evolve. We will not always be in a position to update the state of each item. What we are recommending is incorporating aspects of this into your own framework in ways that suit your objectives, process and ability to take in rapidly evolving new information.

The Known Knowns

Other than "the sky is not falling" and "the sun will rise", practically nothing falls into this category today.

I don't mean this flippantly. It matters that this set is empty for all practical purposes, because it would usually include things like "markets will be open" and "you'll be able to short" and "daily variation margin on centrally cleared derivatives is de facto riskless."

That means that your framework must assume a non-zero probability that your hedges will not work. That means that your framework must assume that series of small trades structured to exploit asymmetry / volatility have a non-zero chance of not paying out.

We think that continues to argue for a smaller gross exposure or (for long-oriented investors) smaller active risk position than your perceived edge would otherwise lead you to establish.

We think that furthermore argues for some caution in thinking that options-based view expressions are a "workaround" for gross exposure aversion. If this were part of our strategy and we weren't explicit about this in our risk management to begin with, we'd explicitly cap our negative carry from premium.

The Known Unknowns

We refer to the below as known unknowns because we think they are appropriately thought of as decisions that can be made under risk rather than uncertainty. But make no mistake: the level of risk attached to any predictions you might make on any of these categories is *substantial.*

Topic	Narrative Structure	Narrative Observations
Current General Spread / Fear of Covid-19:	Mixed	As noted above, we would no longer classify this as an Unknown Unknown, or as complacent. This may be too clever by half, as there is a non-zero chance that we allowed ourselves to get far enough out on the exponential curve that the downside risk of reality revealing itself exceeds any feasible prediction. But in general, we think the pandemic's spread in this cycle is being transformed by effective policy back into a risk. However, we don't see a single narrative here, but multiple narratives in competition. **We think that means there is bi-directional risk on bets on the speed / expansion of spread.**
Political Seriousness	Consensus	We think that there is now common knowledge that there is political awareness, willingness and capacity to act on Covid-19-related policies. Everybody knows that everybody knows that policies proposed in one state are quickly manifested across the country. **We think that means there is short-run one-way risk owing to any events giving the impression of politicization, lack of focus or excessive focus on short-term financial market responses.**
Depth of Economic Outcomes	Consensus	The potential economic effects of Covid-19 are both vast and vastly variable. Difficult to predict as they will be, we think they generally qualify as risks rather than uncertainties at this time, however. We think that there IS an expectation of very bad GDP and EPS prints. **We aren't saying they won't have negative effects on asset prices when reported as news, but we do think in GENERAL that bad Q1 / Q2 prints will be tuned and framed and generally excused within that existing narrative. Not unreasonable to expect the odd less-nightmarish than expected Q1 prints to produce an asymmetrically positive response.**

Length of Economic Outcomes	Complacent	We saw flashes of this in what appeared to be the market's response to"July or August" comments from the president on March 16th; however, in our judgment, the narrative of economic effects is that they will be short-lived. "One to two quarters" is common shared language among nearly ALL reports and research pieces. **Given this complacency, we think there is mostly one-way risk (i.e. negative) on information relating to the length of EPS / GDP effects at this time. We would be very concerned about the emergence of the narrative – and obviously about the actual existence of – an extended global depression. We think this is a really significant long-term risk to markets that is being almost completely ignored in current narratives. We would take it very seriously.**
Cases of Economic Ruin	Complacent (with Exceptions)	Related somewhat to the "Bailout" unknown unknown in the following table, the narratives of industries at risk remains confined to first-degree effects: hospitality, leisure and transportation. There we think the narrative is consensus, subject to the binary risk of bailout policy posture. Outside of that and dalliances in feature coverage considering small restaurant businesses, there appears to be zero narrative about knock-on effects in adjacent / dependent / broader industries and sectors. **We think there is significant, targeted one-way (i.e. negative) risk for some of these non-hospitality, leisure and transportation industries for contrarians.**
Emotional / Visceral Response	Complacent	Even though it has been predicted and seems almost statistically inevitable, there is practically no recognition or discussion of a prospective news cycle of overwhelmed New York City hospitals and ICUs. We think there remains complacency about the unique short-horizon impact of two weeks of news focused exclusively on the region where so much of the financial industry AND Covid-19 outbreaks are located: New York, Westchester County and Fairfield County, CT. **We think this is largely a one-way risk, but over a short horizon that probably has potential to manifest in the last two weeks of March.**
Fiscal Policy Response	Mixed	There are enough policy proposal drafts and stalking horses in the wild at this point to treat this usually binary kind of event as a Known Unknown. It is difficult to pin down a narrative here, as there are clusters of commentary and missionary behaviors around multiple suggested strategies. There isn't a global expectation of what the policy package will look like that has become common knowledge. If anything, we think the narrative tilts toward cynicism that households, families and small businesses will be helped quickly enough relative to industry backstops/bailouts. **Accordingly, we mostly view this as two-way risk based on the size of the package, but our opinion (not really present in the data – purely subjective) is that there is some asymmetric upside sensitivity to a quicker or larger-than-expected package.**
Monetary Policy Response	Mixed	While the data set is limited in scope, since Sunday (3/15) we think that a strong narrative with two dimensions – "out of ammunition" and "focused on liquidity and orderliness" – has emerged about central banks, and the Fed in particular. **We think the former is a consensus narrative with more upside asymmetry in certain extreme cases (ie – everybody believes that everybody believes the Fed can't take actions that will support asset price). We think the latter is supportive of framing most illiquidity-related news, data or research in a positive way, but also creates downside asymmetry if they aren't as rapid dealing with issues in CP markets or other sources of market illiquidity.**

The Unknown Unknowns

Part of the concept of unknown unknowns is, of course, that they are unknown, so the first allowance here that must be made is a general one: **there are paths here that are not identifiable in advance.** They all yield the same answers: Avoid leverage. Avoid reliance on ex-post measurements of cross-asset correlations. Avoid position-level and risk-level concentration. We'd add our previously communicated "avoid illiquidity" but it's probably too late for that at this point.

But the Koan of Rumsfeld as we have it slots in the idea of unknown unknowns as uncertainty. In addition to the many paths which cannot be identified in advance, we think there are three other major categories of uncertainty which investors must take into account.

Topic	Narrative Structure	Narrative Observations
Seasonality Effects and Resurgence	?	We have some data now about the R0 influences of heat and humidity, and that data is positive. Positive but not enough for prediction. The parameters are still insufficient to tell us what life with an endemic Covid-19 looks like. Will its resurgence mirror 1918? How effective will vaccinations be from making Covid-20 just as bad? **We think investors should expect that information which rapidly shifts this critical topic's substance and importance into the Known Unknown range could still emerge at ANY time and in either direction. This alone should keep gross exposures and active risk budgets at very subdued levels.**
Industry Bailout Response	?	While we think there is a general focus on risks to certain obvious industries (as described in the known unknowns above) that should govern some forms of risk-taking, specific company outcomes are subject to a veil of binary uncertainty. This is obvious counsel, but still must be part of the framework: go-to-zero bets on airlines, cruise companies, aerospace companies and hospitality companies are not risky but uncertain. **We would warn investors away from spending active risk on such positions based on a fundamental thesis unless they are explicitly cordoned and risk-managed behavioral bets on other investors (e.g. in vol markets).**
Election and Unrest	?	We are witnesses to what we think will probably be the single biggest sociopolitical event of our lives (so far, anyway). We are shutting off entire economies. For months. Soldiers are being deployed in free, democratic countries. A base rate of a return to normalcy is probably still correct! It's our mean case, too. But these kinds of events create branching paths with no visibility beyond them. Unrest and political upheaval in many markets throughout the world are absolutely unquantifiable possibilities. **We would continue to be apply deep skepticism to the diversifying properties of sovereign debt both against risky assets and against other debt assets in our portfolio construction.**

Again, we will continue to update the general framework based on events that warrant it, but the rapidity of changes in narrative structure will likely *exceed* that frequency. We think any of these would be additive to whatever framework your institution or team is using to monitor and manage through this situation, and will benefit from your incorporation of monitoring and judgment of news flow and research relating to each narrative and event. If you have specific questions, of course, please feel free to reach out to either Ben or Rusty via email.

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