
The Volatility Machine...

As for what I think now, I believe that the health, economic, and market impact of the coronavirus will be much greater than most people are now conveying. For example, the profit losses for businesses are likely to be many trillions of dollars so that governments protecting just the companies would cost a significant percentage of that amount of money. Additionally, the amount of money to protect just those individuals who will be devastated by the virus will also be enormous.

To do that, fiscal policymakers (i.e., heads of state and legislators) will have to create massive amounts of spending and distributions of money that will be distributed as “helicopter money.” That is happening now in many ways such as President Trump’s \$1,000 checks to people. Where will that money come from? The fiscal policymakers don’t have that money because they don’t create it (the central banks create it), so they will have to borrow that enormous amount of money at a time when lenders don’t have much money to lend because most people and companies are losing money. That will drive up interest rates, which would be even more devastating for everyone. Central banks will then have to decide if they will let interest rates rise or print a lot of money to buy those bonds.

As they are faced with that choice, they will have no choice but to print money and buy a lot of government debt to hold interest rates down the way they did in the war years. So now all eyes are on central banks to see if they will do that. This is the big paradigm shift that I previously spoke about.

Ray Dalio wrote the above in a post on LinkedIn this past week ([link here](#)). While Dalio has become somewhat of a whipping boy on the Twittersphere these last few weeks due to the walloping his Pure Alpha fund has taken, he’s dead-on in regards to the seriousness of the economic impact this virus will have on the world.

And while the future is multi-path dependent, we now have enough data points to know that what we’re living through is extraordinary, it will be talked about in history books 50-years from now. It’s a [major paradigm shift](#) that will reshape the world in unfathomable ways, both for better and worse.

While we’re going to cover some of the more immediate impacts today, let’s first do a brief overview of where we’re at in the progression of COVID-19 and what the current best-educated guesses are as to how the next 3,6, and 12 months will look.

I updated the COVID-19 Cheat Sheet a few days ago with the latest numbers and resources I'm tracking ([here's the link](#)).

The situation is evolving quickly and there are so many opposing hot takes out there that it's easy to get overwhelmed or point to data to confirm a bias. The reality is that no-one knows where exactly we'll be in 6-months time, there's just too much non-linearity to hold a hard opinion with confidence.

It's a great time to put your [Bayesian hat](#) on and work on updating your priors daily because that's how fast the information flow is changing. A useful shortcut for this is to regularly check in on the *Good Judgement COVID-19 Dashboard* ([link here](#)).

This is the forecasting project put together by Phillip Tetlock author of the must-read book [Superforecasting](#). The predictions are updated daily and are "aggregated from forecasts by professional Superforecasters, who qualified by being in the most accurate 2% of forecasters from a large-scale, government-funded series of forecasting tournaments that ran from 2011-2015 and, since then, by being in the top handful of forecasters from Good Judgment's public forecasting platform."

This allows us to harness the wisdom of crowds, specifically the wisdom of a crowd that is particularly good at forecasting, to get a sense of how the severity skew of this thing is evolving. Here's a summary of what the current median forecasts are projecting:

- Between 53 million and 530 million total COVID-19 cases worldwide by March 31, 2021.
- Between 800,000 and 8 million total COVID-19 deaths worldwide by March 31, 2021.
- Between 2.3 million and 23 million total cases of COVID-19 in the US by March 31, 2021.
- Between 35,000 and 350,000 COVID-19 deaths in the US by March 31, 2021.

These forecasts have been creeping higher over the last few weeks as more information becomes known. The range is considerable even within each bucket and that's because the [cone of plausible outcomes](#) is wide and the situation is incredibly [reflexive](#)... much of the outcome is dependent on the actions we take now.

The most recent credible research points to two practical options for tackling the virus; neither of them painless. These are (1) mitigation and (2) suppression. Imperial College published a paper last week where they modeled the outcomes for each approach and discuss the pros and cons. [Here's a link](#) to their paper as well as [a link to a good laymen's summary](#) of their findings by *MIT Technology Review*.

I'll explain the core of their findings here along with what we should expect as policy in the coming months.

- ❖ **Mitigation:** This approach is focused on “flattening the curve” through targeted isolation of active cases and quarantining households.
- ❖ **Suppression:** This approach uses a broad range of measures such as widescale shutdowns of non-essential businesses, forced at-home seclusion, and closing of all schools/universities.

Mitigation is intended to be a speedbump in order to buy the healthcare system precious time and spread out the onslaught of severe cases. Suppression aims to stop the virus dead in its tracks.

According to the findings of the paper, if the virus were just left to spread it would kill 2.2 million people in the US and 500 thousand in Britain by the end of summer. Using a mitigation strategy, they conclude that the two countries would at best be able to cut these numbers in half. And this doesn't account for the higher fatality rate that would result from our healthcare systems being overwhelmed. Which, as the paper points out, would be catastrophic.

The Imperial College researchers found that even under the best mitigation strategy we'd still end up with a surge of critical care patients 8x larger than what the US or UK healthcare systems can cope with. The chart below illustrates this point. The red line is the current number of ICU beds.

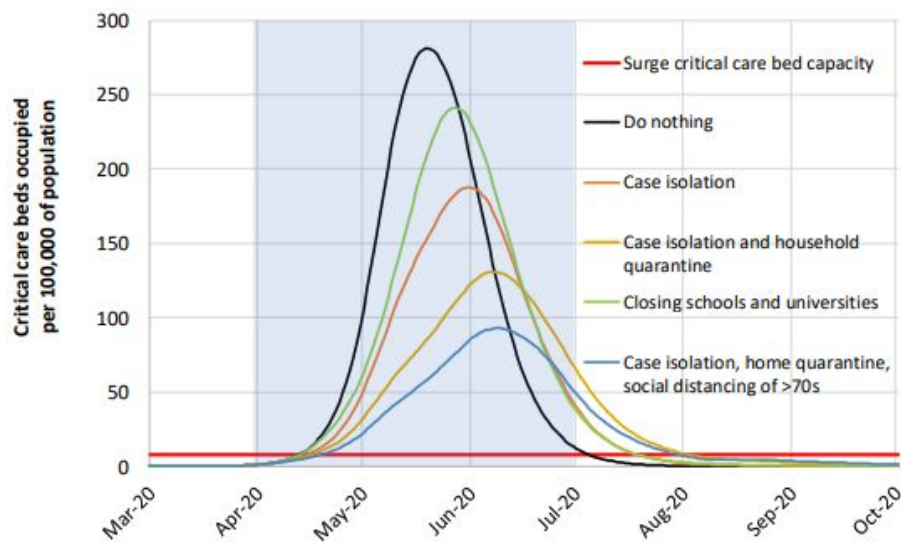


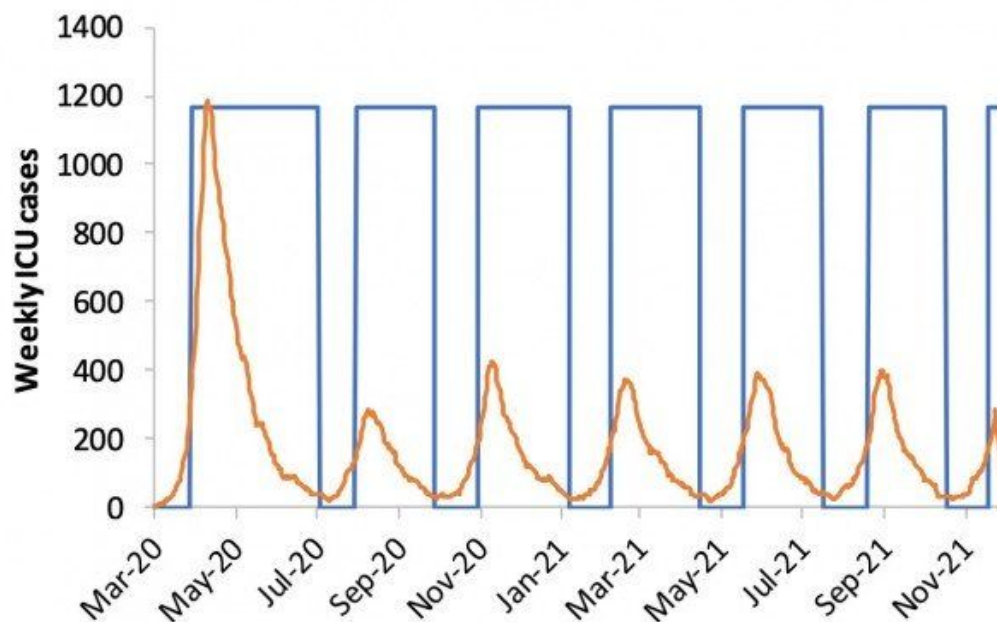
Figure 2: Mitigation strategy scenarios for GB showing critical care (ICU) bed requirements. The black line shows the unmitigated epidemic. The green line shows a mitigation strategy incorporating closure of schools and universities; orange line shows case isolation; yellow line shows case isolation and household quarantine; and the blue line shows case isolation, home quarantine and social distancing of those aged over 70. The blue shading shows the 3-month period in which these interventions are assumed to remain in place.

This is why most countries are opting for the suppression strategy. Suppression is what China implemented in Wuhan and which brought the spread of the virus to a halt — at least temporarily and at a great economic cost.

One of the problems with this approach is that by keeping infection rates low it leaves many people susceptible to the virus. And as long as someone in the world has the virus, breakouts will keep reoccurring without drastic measures to control them.

Take the case of [“Patient 31” in South Korea](#) for example. South Korea did an excellent job of containing its initial outbreak but then a single infected patient unknowingly went on to infect hundreds of others, spawning another outbreak which led to the formation of many new clusters. The *NYT* has a great series of interactive graphs that show how easily this virus makes its way around the world ([link here](#)).

To avoid this, countries must ratchet up suppression measures *each* time the disease resurfaces. This is exactly what the team at Imperial College proposes doing. Every time admissions to intensive care units (ICUs) begin to spike, we enact extreme social distancing measures which we then relax once admissions begin to fall. Here’s how that approach would look.



MIT Technology Review explains the approach as the following (emphasis by me):

The orange line is ICU admissions. Each time they rise above a threshold—say, 100 per week—the country would close all schools and most universities and adopt social distancing. When they drop below 50, those measures would be lifted, but people with symptoms or whose family members have symptoms would still be confined at home.

What counts as “social distancing”? The researchers define it as “All households reduce contact outside household, school or workplace by 75%.” That doesn’t mean you get to go out with your friends once a week instead of four times. It means everyone does everything they can to minimize social contact, and overall, the number of contacts falls by 75%.

*Under this model, the researchers conclude, **social distancing and school closures would need to be in force some two-thirds of the time—roughly two months on and one month off—until a vaccine is available, which will take at least 18 months (if it works at all).** They note that the results are “qualitatively similar for the US.”*

As of right now, our baseline should be to expect roughly 18-months of rolling suppression measures. This is huge. Never in history has anything like this been done before. It’s going to stress the global economy and financial system in ways that’s never been seen. It’s also completely necessary as it’ll save the most lives and prevent our healthcare systems from total overwhelm.

Can this outlook change over the next month? Absolutely... we’re in uncharted waters and the situation is incredibly fluid. This is just the best guess we have at the moment and so should be our baseline; one we’ll continue to update daily as new info comes in.

The Volatility Machine: Small Business Balance Sheets

Macro is just an aggregate of what happens at the micro-level. And it’s at the micro where we’re most susceptible to cascading shocks.

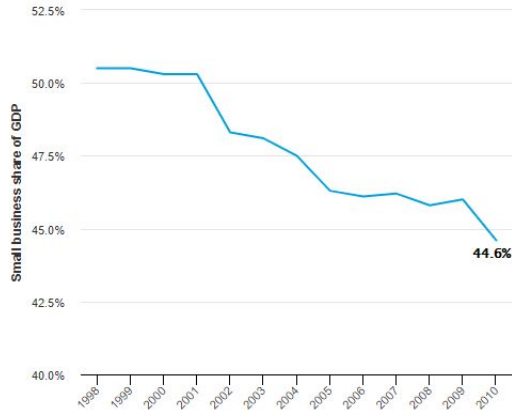
Consider the following points.

The US economy is 80% service-based. This means much of our economy is dependent on in-person shopping, gatherings, face to face meetings etc...

Small businesses contribute roughly 45% to our GDP, comprise 88% of total businesses, and employ approximately half of the US labor force (charts from JPM).

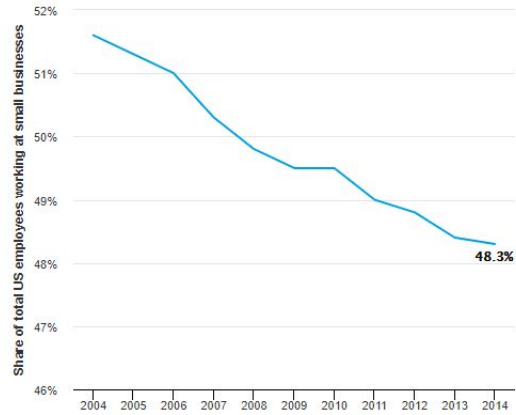
Small businesses are an anchor of the US economy.

Small businesses accounted for 45 percent of GDP in 2010, down from 50 percent in the late 1990s.



Source: "SBA - Small Business GDP: Update 2002-2010", by Kathryn Kobe, Economic Consulting Services, LLC, UC Berkeley Washington, DC 20036. Published January 2012 - https://www.sba.gov/sites/default/files/rs390tot_0.pdf

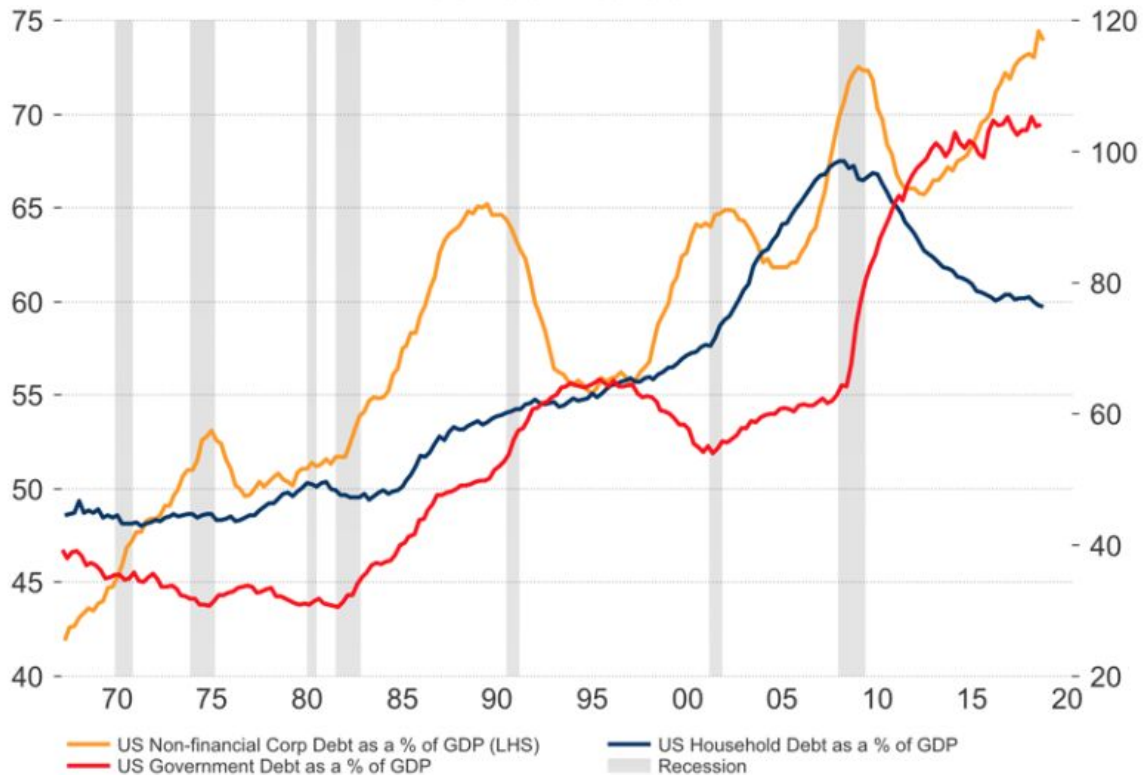
48 percent of all US employees work for small businesses, down from 52 percent in the early 2000s.



Source: US Census Bureau, Business Dynamics Statistics, 2014

Corporate debt as a percentage of GDP is the highest its ever been.

US Debt Breakdown



Source: Thomson Reuters Datastream / Macro Ops

www.macro-ops.com

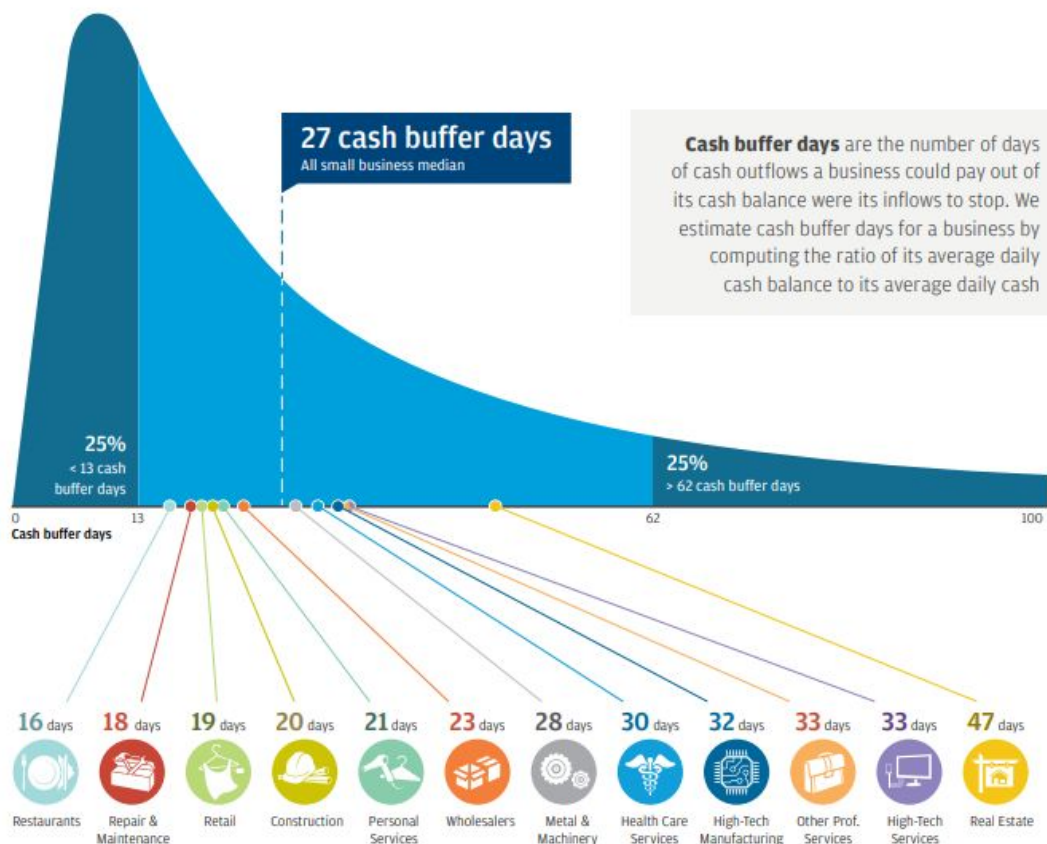
According to a [study of US small businesses by JP Morgan](#), the median small business has less than 27 cash buffer days in reserve. And there's a wide variance amongst industries. Healthcare services hold roughly 32 days of cash in reserve, while at restaurants just 16...

Finding Three

The median small business holds 27 cash buffer days in reserve.

Half of all small businesses hold a cash buffer of less than one month.

- Moreover, 25 percent of small businesses hold fewer than 13 cash buffer days in reserve.
- In contrast, 25 percent of small businesses hold over 62 cash buffer days in reserve.

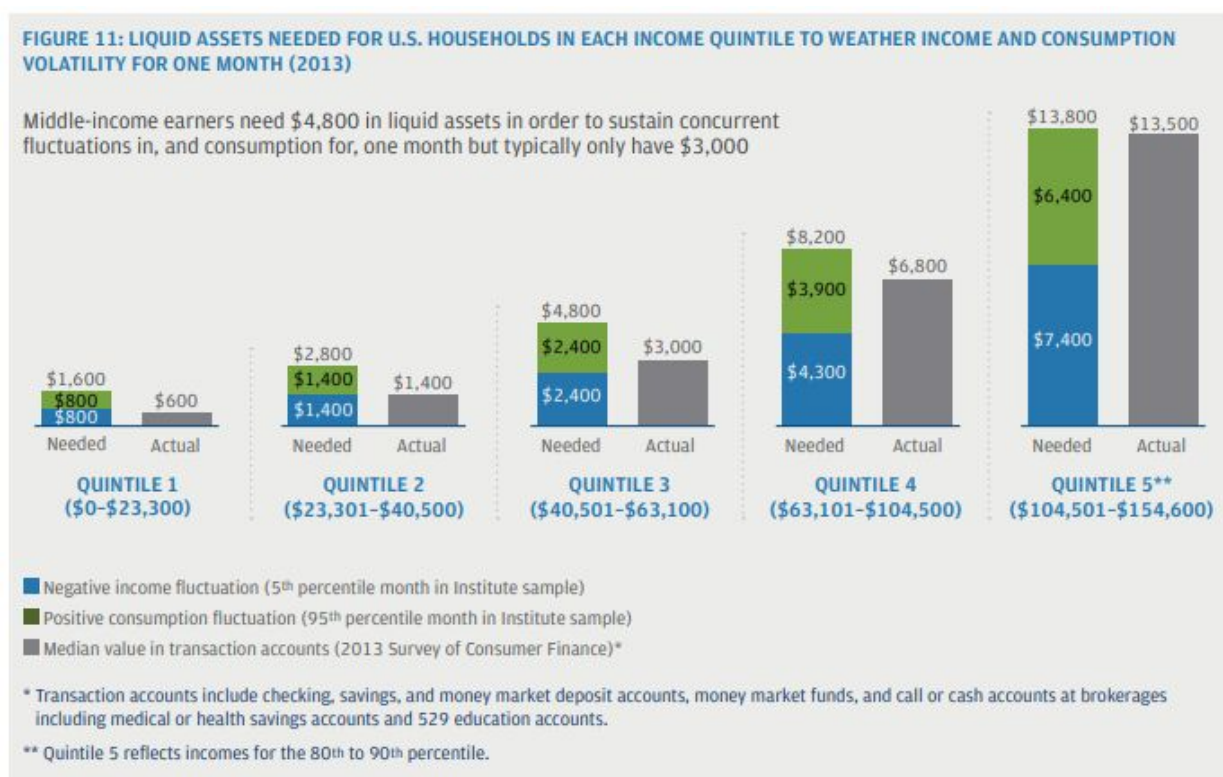


The study concludes that “Many small businesses may not have enough cash to continue operations in the face of a month-long loss of cash inflows due to an economic downturn or other negative shock”.

Put it all together and we get an economy that is largely dependent on social in-person interaction. **It's the most leveraged it's ever been. Ever. In History.** The average small

business, which is the backbone of the economy, not only carries a lot of debt but also has less than a single month in cash reserves. We're about to practice extreme seclusion — meaning no non-essential in-person interactions outside the home and closure of all non-essential businesses that require a physical presence — on a rolling basis for possibly 18-months.

At an even more micro level, according to another [report by JP Morgan](#), the typical US household — who's also very levered up — holds less than \$4000 in liquid assets. And here, just like small businesses, there's wide dispersion and the data paints a stark reality. Nearly 30% of US adults have absolutely zero savings and only 1 in 4 have a rainy day fund but one that's not enough to cover three months of living expenses.



At its roots, an economic system is just a collection of interlocking balance sheets. The more levered these balance sheets are the more dependent on cash flows the system is (ie, fragile). This is why it's PARAMOUNT that governments act aggressively and quickly. Because it won't take long for a feedback loop with disastrous effects to ripple through the system.

Even then, I'm not so sure they'll be able to pull it off. The system is simply too large and too complex. And the potency of the cure that is needed will almost surely have unintended negative consequences — economic iatrogenic as Taleb might say.

I'll be writing more on this in the weeks ahead. A particular point of interest and an area where I think will be the epicenter of this crisis, in more ways than one, is China. There are increasing signs that the property market may be beginning to falter. The government has exhausted its ability to leverage its way out of problems and the PBoC is buttoned in by the [classic Mundell Fleming Trilemma](#).

Put another way, it's going to be a wild ride in macro land. Better buckle up!

A quick look at markets

My base case is that we're in or about to enter a severe recession. The market is working to price this in. Everybody knows that the economic shock will be significant over the next quarter. We're going to see unemployment spike and indicators of economic activity fall through the floor. This no longer matters to the market as it's become a known known.

What matters now is the duration or the expectations around the duration of the virus and our corresponding suppression measures as well as our fiscal and monetary responses. I expect these expectations to oscillate wildly over the coming weeks/months as new data comes in.

I'm not going to pretend to be able to call where this market is headed in the near-term. It's in a 2-month sell climax. Is extremely oversold. Indicators of sentiment and positioning reflect widescale panic selling. In normal times, I'd be getting ready to aggressively buy the dip following confirmation from the tape, at least for a swing trade. But, these are far from normal times...

I do have more confidence in saying that the bottom isn't in on this move. We're in a bear market and bear markets last on average 18-months. They usually put in a double bottom or complex double bottom that's formed over a long period. Plus, as much as the market has sold off I still do not believe it's pricing in the highest probability scenario of this virus and its subsequent economic shock. So for now, I agree with Mark Minervini who recently tweeted:



From a very short-term tactical perspective, the next seven trading days will be important to watch.

The March monthly candle is close to forming another outsized bear bar. If the month closes at current levels or lower, it would put the 2,000 level and then the 2016 lows in play (roughly 40%-50% selloff from Feb's highs) for April as momentum begets momentum.

Conversely, the bulls want to reverse the bar back above the 2018 lows (roughly 2,350) and the long-term cyclical trend line. If the bulls can accomplish that, then we'd get a more bullish setup going into April with the potential for a short-covering driven rally that could play out for 1-2 months.



The play here is to sit mostly on your hands and patiently wait for the market to give you setups. Focus on research and make a list of stocks you want to buy at some point in the future.

You can't aggressively short at these levels because the market is extremely oversold and liable to start a face-ripping rally. You don't want to aggressively buy here because there's incredible tape-bomb risk and the market will likely make new lows over the next 12-months. Put another way, it's still a traders market, not an investors market. Size small, manage risk, hold lots of cash.

This event is going to present us with enormous opportunities, both to the long and short side. We need to be patient though and conserve our physical and mental capital. Wait for greater clarity and let the opportunities develop.

Focus on the important stuff...

We are headed for tough times. I'm sure, like myself, many of you know at least a few people who've recently been laid off. Unfortunately, this is going to accelerate. A few of you probably know someone who is sick with COVID-19, perhaps critically. This too is going to get worse before it gets better.

This virus is going to impact each and every one of us in some way or another. We can either let it tear us down as a people, nation, world. Or we can unite more closely together and respond with the full weight and power of our collective human ingenuity, grit, and compassion. I'm betting fully that we choose the latter.

Be kind to those around you, help your fellow countrymen in whatever ways you can, and if you hit a rough patch and lose perspective, reach out to those around you for help. We're all going to need to lean on each other to get through this.

And finally, I want to finish by giving a big thanks to those of you out on the frontlines of this thing. The healthcare workers, the first responders, the grocery store workers etc... There's a number of you in our Collective and your insight into the incredible struggles you all are facing on a day to day basis as a result of this virus is both humbling and inspiring. Thank you for working to keep us safe. That's some truly heroic work.

As always, if you have any questions don't hesitate to shoot me an email or DM.

Your Macro Operator,

Alex

P.S. We are still in all cash. I'm still eyeing tankers for another swing and will send out an alert if/when I pull the trigger.

<i>The Four Pillars Portfolio</i>		<u>YTD Return</u>				
		10.30%				
The Core	Fixed Allocation	Market-Timing		Net Position		
Large Cap Equities (/ES_H or VOO)	25%	0%		0%		
Short-term Bills (/ZT_M or VGSH)	25%	0%		0%		
Long-term Bonds (/ZB_M or TLT)	25%	0%		0%		
Gold (/GC_M or GLD)	25%	0%		0%		
Big Bets	Thematic	Cost Basis	At Risk	Notional %	Risk Point	Last Price