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with hedge fund manager Erik Townsend

MacroVoices Hot Topic #4: Wuhan Coronavirus (2019-nCov) Market Impact Analysis v2 January 28th, 2020

MacroVoices Hot Topic Episode #4 was originally recorded January 27, 2020. This updated version was re-recorded on January 28, 2020. I'm Erik Townsend.

The coronavirus outbreak that began in Wuhan, China in early December and which has become known as 2019-nCoV is the subject of today's podcast. Quite a few listeners interpreted some of my comments in the original version to mean that I didn't think this was a big deal. Nothing could be farther from the truth. The reason for the updated version is both to clarify my language and meaning, and also to incorporate new information I've learned from several of our listeners since the first version was recorded 24 hours earlier.

Obviously, the most important aspects of this story are the humanitarian impacts on all of the people around the world being affected by this disease, and our hearts go out to everyone worldwide who has been affected directly or indirectly by the virus. But our job at MacroVoices is to translate world events into their likely impact on financial markets, so that will be the focus of today's podcast.

I've spent most of the past weekend learning as much as I possibly can about this situation, and have learned quite a bit more in the 24 hours since the first version of this podcast was released. I'll share what I've learned in this updated short podcast. There is no guest today—just me. And I want to be crystal clear that I am absolutely NOT an expert on the subject of viral epidemiology. I'm simply doing my best to share what I've learned in researching this subject with our MacroVoices audience.

We've scheduled Dr. Chris Martenson, a Ph.D. in viral pathogen toxicology from Duke University, to join us on Thursday nights' MacroVoices podcast. So be sure to tune in for an update on Thursday night, by which time we should know much more than we do now. Needless to say, Dr. Martenson is many times more qualified than I am to opine on such matters.

The executive summary is that I predict this virus will be a lot more contagious than most people now expect, and that it will infect more people around the world than most have assumed. If there's any good news, it's this: Early indications are that the fatality rate so far is

much lower than SARS. But what I didn't know when the first version was recorded yesterday is that SARS too had a relatively low fatality rate early in the development of the epidemic, when the case count was about where we are now with nCoV. More on that later in this podcast.

So the outlook is for a very large number of people around the world to be affected by this outbreak, but my expectation is that fears of the sky falling because everyone's going to die from the virus are exaggerated. The vast majority of the people who contract 2019-nCoV will survive that experience.

Most financial analysts seem obsessed with comparisons between 2019-nCoV and the 2003 SARS epidemic. SARS involved just over 8,000 cases and 800 deaths, and most analysts seem to be focused on the question of whether 2019-nCoV will be worse than SARS or not as bad as SARS. I think they are focusing on the wrong comparison.

What I said in the first version of this podcast was that a better analogue would be to the flu season that occurs every single year, with between 9 million and 45 million cases and between 12,000 and 60,000 deaths every single year in the United States alone, according to CDC estimates. All indications are that 2019-nCoV could cause 2020 to be a record-bad flu season, with more cases and more deaths than any normal year. But the characteristics of 2019-nCoV are more in line with a really bad seasonal flu than a SARS-like epidemic, which involved an extremely high fatality rate but a relatively small number of cases overall.

Many listeners interpreted those comments to mean this is no big deal—just a really bad flu season and nothing much to worry about. *Nothing could be farther from the truth, or from my intended meaning!* The reason for my comparison to seasonal flu was simply to make the point that unlike SARS which was easily contained and only infected 8,000 people, it looks like nCoV will infect millions, and will kill many times MORE people than SARS killed, not less. The point of my statement was to say that unlike SARS, nCoV is going to infect MORE people, not less. The good news, if there is any, is that so far, the fatality rate appears to be much lower than SARS ultimate fatality rate of 11%. But what I didn't know when I recorded the first version yesterday was that SARS only had a 3.48% fatality rate at a comparable time in the development of that outbreak to where we are today with nCoV. I'll come back to that later.

The most important aspect of 2019-nCoV to understand, is one which very few people seem to understand: something called *Asymptomatic Transmission*. Simply put, this means that people who are infected by nCoV become contagious very quickly, and can spread the virus to other people they come in contact with. But there is a long incubation period before any symptoms occur. What this means is that you can be infected with nCoV and you can be infecting other people you come in contact with for as long as a week before you even realize you're sick. And

it could be as long as two weeks before your symptoms become bad enough that you feel inclined to seek medical attention and find out you have nCoV after medical testing. In contrast, SARS was only contagious after symptoms appeared, and that made it much easier to identify and quarantine people who were contagious.

The contagiousness of a virus is measured by a figure called R-naught, or R_0 . This refers to the number of people a contagious person will infect if no precautions are taken to prevent such infection. And remember, with 2019-nCoV, the people who are contagious generally won't know they are contagious, so effective precautions are only likely to be undertaken after the epidemic grows to a scale, as it already has in China, where just about everyone is taking precautions to avoid infection from everyone they come into contact with.

An R-naught value of 1 means that each contagious person is likely to infect one other person in the community around them. An R-naught of 2 means one contagious person will infect two people in their community, and so forth. The most contagious diseases, such as Measles, have R-naught values as high as 18, meaning one contagious person will infect 18 people around them unless precautions are taken to prevent such contagion.

A Harvard University epidemiologist posted a Twitter thread this past weekend that began with the words "HOLY MOTHER OF GOD", and declared that 2019-nCoV had an R-naught value of 3.8, which is even more contagious than SARS. But that thread brought considerable criticism from other scientists, who said he was being alarmist. Within hours, the author acknowledged that the value of 3.8 was based on a study of incomplete data, and that perhaps 2.5 might be a more realistic value for R-naught for nCoV.

The bottom line is that all these figures are being clouded by the dubious reliability of all statistics sourced from the Chinese government, and scientists are not yet certain exactly what the R-naught value is for 2019-nCoV. Initial indications are that it's probably between 2 and 5, and there's a very big difference between 2 and 5. So we just don't know yet how contagious this virus will be, but initial indications are that it will be quite contagious.

Now here's the really important part: The case count has been growing at an exponential rate, at a pace of almost one full order of magnitude per week. The most important thing to understand here, is that's it's an EXPONENTIAL progression. In other words, if we went from four hundred cases to four thousand cases in just over a week, that's 3600 more cases. But if the exponential progression continues, that does NOT mean 3600 more cases in the next week. Rather, it would imply that we'll see another times ten from 4,000 cases to 40,000 cases. Then 400,000 cases a week later, then 4 million cases a week after that!

So the most important thing to watch is going to be whether the case count continues to grow on an exponential trajectory as it has in recent days. But there are good reasons to question

whether it will. One distinct possibility is that the reason for the sudden increase in cases in the last week is simply that the Chinese government is finally fessing up to the existence of cases they've known about for many weeks. That could create the illusion of an exponential growth in case count, even if the spread of infection isn't really as bad as the numbers seem to imply. **So the most critical thing to watch in coming days and weeks is whether the case count continues to grow exponentially.**

The good news in this story, if there is any, is that the fatality rate for 2019-nCoV is currently being estimated between 3% and 4%, compared to 11% for SARS. So at first glance, the big picture conclusion here is to expect far more cases than SARS produced, but with a much lower fatality rate.

But hold the presses! What I didn't know when I recorded the first version of this podcast yesterday is that when the SARS case count was just over 2,000 cases—where we were two days ago with nCoV, it only had a 3.48% fatality rate. That fatality rate grew as the epidemic progressed, and eventually became 11%.

Remember that the denominator in the fatality rate calculation is the case count. And the case count has been growing exponentially. From first presentation of symptoms and diagnosis to critical ICU level care, there is about a 16 day lag time. That means that dividing the current death toll by the current case count doesn't really make sense. The current case count includes new cases that were just diagnosed. Some of those people will die, but not for at least two more weeks. And by then the case count will be much higher, and the calculation will still yield an invalid result.

The real bottom line here is we don't know yet. SO FAR, it looks like the fatality rate is much lower than SARS, which was also a coronavirus. But the statistics scientists have to go on come from what the Chinese government tells us, and the accuracy of the data is suspect. The bottom line is that there is good reason to *hope* the fatality rate will be much lower than SARS, but we don't yet have sufficient data to *conclude* that to be the case with any certainty.

An essential point to understand is that the containment strategy that was used for SARS is completely ineffective for 2019-nCoV. SARS did not become contagious until symptoms presented, and this made it possible to contain the outbreak using techniques like fever monitoring, where airport security personnel would measure the body temperature of every arriving passenger, and quarantine those who arrived running a fever. Dr. Chris Martenson has opined that this practice, which is already being undertaken in airports, will be completely ineffective for nCoV, because the vast majority of people who are carrying nCoV and transmitting it to others around them do not yet have any fever or other symptoms. Dr. Martenson produced a short video about nCoV last week, and you can find the player link for

that video on our homepage at MacroVoices.com, in the description of this podcast. We'll have a much more detailed update with Dr. Martenson on Thursday night's podcast.

Now I'll discuss my own conclusions for what this is likely to mean for financial markets. The big "disconnect" I perceive is that most analysts seem to be focused on deciding whether nCoV will or will not be worse than SARS. But they seem to assume that either way, it will have similar characteristics – a viral outbreak with a high fatality rate that in the very worst imaginable circumstance might result in a few tens of thousands of cases and at most a few thousand fatalities. As I explained before, I think they are looking at the situation the wrong way. nCoV is more likely to involve many, many more cases than SARS—perhaps millions or tens of millions of cases worldwide. There's good reason to hope that the fatality rate will be much lower than SARS, but even that is not yet certain.

That translates to completely different economic and market implications than a SARS-like virus outbreak. nCoV has the potential to completely overwhelm medical facilities worldwide, something that was never a risk with SARS. Hopefully, the number of deaths will be much lower on a percentage basis.

A worthwhile analogy to consider is that the news media tends to freak out over a plane crash, where a few hundred people die suddenly and violently all at once. It always makes front-page news. But meanwhile, more than ten thousand people die every single year in drunk driving accidents in the United States alone. Very few of them make the news because they lack the shock appeal of a plane crash. Think of SARS like a plane crash. A relatively small number of people were affected, but a very significant percentage of them died. But like an isolated plane crash, the whole thing was contained. nCoV is more likely to make the 2020 flu season the most deadly on record, as if the police started giving drunk drivers a free bottle of whiskey instead of arresting them. So my advice to investors is to stop trying to figure out whether nCoV will be a big plane crash or a little plane crash. It will be neither.

The seasonal flu kills more than ten times as many people every single year than died from SARS. nCoV has the potential to spread as widely as the seasonal flu, as opposed to the plane crash event of SARS. If initial indications hold and nCoV has a 3% fatality rate, that's already several times worse than seasonal flu which has a fatality rate below 1%. If nCoV's fatality rate grows over time the ways SARS fatality rate grew over time, it could be even worse.

There doesn't appear to be any way to truly contain nCoV short of either completely avoiding exposure to other people or taking precautions such as wearing N95-grade face masks at all times when interacting with other people. Because of asymptomatic transmission, the methods used in the SARS epidemic simply won't work to contain nCoV. It's likely that airline travel will slow down dramatically, first as a result of voluntary choice not to travel. If the outbreak grows

as quickly as some people fear, in the worst-case scenario, the only viable response may be a complete global travel ban, which could have unthinkable implications on certain industries.

So the risk is of a potential global nCoV outbreak akin to a much more deadly than usual seasonal flu. The regular seasonal flu already kills tens of thousands of people every single year, without crippling the global economy. But there is a psychological factor that is very difficult to measure or anticipate. Nobody thinks twice about traveling or interacting with other people in society for fear of dying from seasonal flu. Of course those deaths do occur, but they are not out of the ordinary, and they don't cause anyone to panic. So suppose for sake of discussion that nCoV results in a much worse flu season with twice the usual number of flu-related deaths. The 100% exacerbation of the economic impacts of flu season by itself is an economic non-event, even if tens of thousands of deaths were to occur. We already have tens of thousands of deaths every year from seasonal flu. But if there is a *perception* of heightened risk that affects human emotion, we could literally see the entire airline industry grind to a halt as the world panics and people are unwilling to travel, regardless of whether or not their fears are justified by the actual risks. The news media are certain to focus attention on nCoV-related deaths, unlike the tens of thousands of annual deaths from seasonal flu which are completely ignored by the media.

At first glance, the crude oil market appears to be the biggest financial victim, due to the travel-related implications of nCoV's asymptomatic transmission characteristics. OPEC is already evaluating the possibility of deeper production cuts to prevent a crash in crude oil prices. But keep in mind that U.S. shale production is already at record high levels, and is unlikely to slow down because of the virus. If there is a significant slow-down of global commerce, Russia will have great difficulty participating on equal footing in a deeper OPEC+ production cut, and Saudi Arabia is very unlikely to be willing to bear the burden of production cuts alone. So the path for OPEC to contain a crude oil price decline is paved with obstacles to say the very least.

Estimating the impact of nCoV on global equity markets is difficult. Suppose for sake of discussion that the true impact of nCoV is to double or even quadruple the economic impact of the seasonal flu that occurs every year. By itself, that's not saying much. The impact of seasonal flu on the global economy is barely even paid attention to by financial analysts, despite that it causes tens of thousands of deaths every year. But what if the *extra* deaths caused by nCoV were to get plane crash-level media attention instead of drunk driving level media attention? Suddenly human fascination growing to obsession could cause a relatively mild economic event to become the focus of global pre-occupation.

When viewed in isolation, considering only the direct impacts the virus will have on global economic activity, it's unlikely that global GDP will be directly affected in a way that would warrant tremendous downside in stocks. Please remember that any time a war breaks out, at

first everyone panics and sells stocks. *Oh my God!!! A WAR is breaking out!!! Sell everything!!!* Then cooler heads realize that wars are always inflationary and consume a lot of goods and services in the war effort. The stock market usually recovers very quickly and often moves to new highs before the war is over.

SARS happened in 2003, at the bottom of a bear market in stocks. The market was already over-sold by most measures, and despite its plane-crash characteristics, SARS actually marked the beginning of a bull run in stocks. But nCoV has arrived at a time when many analysts already thought equity valuations were stretched. Put another way, global stock markets may be far more *vulnerable to the appearance of a downside catalyst than they were in 2003*, and nCoV could be that catalyst.

So my opinion is that if nCoV leads to a massive sell-off in stocks, it won't be because nCoV itself caused so much economic damage as to warrant or cause that sell-off. Rather, it will be because the market was already overdue for a deep correction or cyclical bear market, and because nCoV simply provided the catalyst and source of fear and panic needed to bring about that already overdue bear market.

Here are the most important things to pay attention to in coming days and weeks. First, watch the progression of case count, and whether it continues to grow on an exponential trajectory. There are several possible reasons that the exponential trajectory observed to date could be a statistical anomaly. But here's what to watch for in case it's not. If the exponential trajectory DOES continue, we'll have 35k cases by Feb. 1st, and 650k cases by Feb. 8th. If that happens, I hate to say it folks, but it's time to accept that this thing has global pandemic potential, and to take appropriate precautions. But hopefully we'll break free from the exponential trajectory in coming days, and the rate of case growth will stabilize on a shallower trajectory.

The next thing to pay attention to is any further news from the scientific community about the R-naught and fatality rate figures for nCoV. Again, R-naught is a measure of how contagious the virus will be. The bottom line right now is they just don't know, because they don't have enough data, and the data they do have is of dubious accuracy. As the case count grows the data reliability will stabilize, and we should get much more accurate estimates of R-naught and the projected fatality rate.

As I emphasized earlier, I am anything but an expert on viral epidemiology. I wanted to give you, our MacroVoices audience, a quick update on what I've learned so far myself. Please be sure to tune in for Thursday night's MacroVoices podcast which you can find at MacroVoices.com, when we'll be joined by Dr. Chris Martenson, a Ph.D. in this field who is also well versed in financial markets. Dr. Martenson should be able to fill in the blanks which go

beyond my own knowledge of the subject matter, and help us understand what 2019-nCoV could mean for the world, the global economy, and for financial markets.

For the MacroVoices podcast network, I'm Erik Townsend.