MassMutual Wealth Management

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Market Update
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There is a wonderful allegory about the man that invented the game of chess. As the story goes, after the inventor finished his masterpiece, he proceeded to present his game to the king. The king was so pleased with the result the king told the inventor he could have any reward he wanted.

The inventor thought for a moment, and then asked for a single grain of rice to be placed on the first square of the chessboard, and then doubled on each square thereafter, with the sum of the grains going to the inventor. As the inventor explained it, start with one grain on the first square, then add two grains on the second square, add four grains on the third square, and so on.

The king was so baffled by such a trivial request that he granted it immediately. After a couple of weeks, the inventor came back to the castle and demanded to know why he hadn't been paid. When the king summoned his treasurer, the king learned that to pay the inventor would require more rice than existed in the entire kingdom.

Why? Well this is the power of compounding. Start with one grain of rice on the first square, and by doubling every square, there would be 18 quintillion grains of rice on the board by the time the 64th square is reached.

Einstein called the power of compounding the eighth wonder of the world. Warren Buffett was quoted as saying "My wealth has come from a combination of living in America, some lucky genes, and compound interest." To underline it further, Einstein said "to understand compounding is to understand the universe." In short, compounding matters, and is the single most important tool for investors to try to harness.

This, in turn, is why I believe growth rates matter more than absolute levels when analyzing the COVID-19 pandemic, and perhaps why the market has remained incredibly optimistic despite such negative data.

[As an aside, while we are on the topic, compounded interest is also why news announcers should never utter the words "yet another record in new cases today." If, for example, we start with 10,000 cases and grow at 5% per day, by definition, every single day will set another record in cases. On day one, we would have 500 new cases, and on day 100, we would have more than 50,000 new cases even though the speed of growth is the same. That, again, is the remarkable power of compounded interest. But, I digress…]

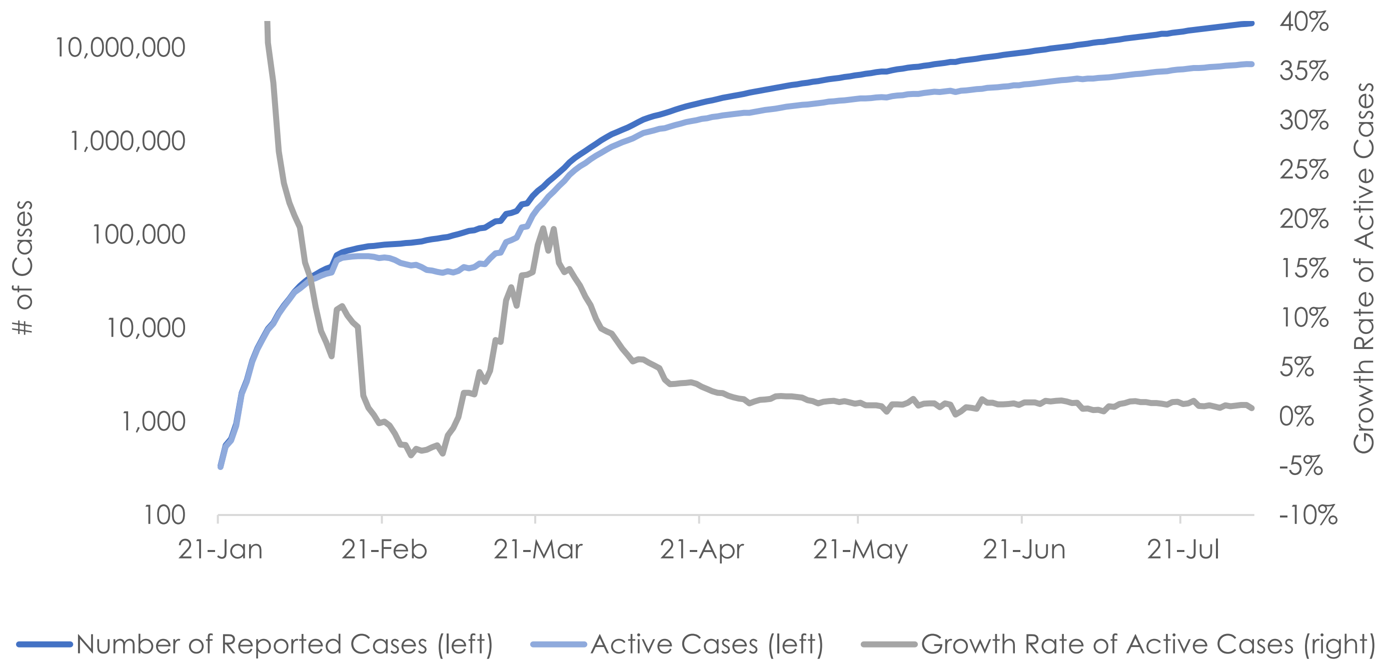
Therefore, what follows is an update on the pandemic (while focusing on growth), followed by an update on markets.

With that, let us begin.

For those short on time, in summary, growth rates of cases and deaths continue to slow. Yes, I know that isn't the dominant headline right now, but both globally and locally, things are improving.

Chart 1 and Chart 2 demonstrate that most clearly.

Chart 1: COVID–19 Worldwide Outbreak[1]



The blue lines demonstrate the total number of cases around the world and correspond with the left axis. The grey line demonstrates how the number of cases is growing and corresponds with the right axis. On March 22, growth rates were roughly 20% per day[8]. Today, those growth rates are now down below 1% per day and seem to be falling[2].

Perhaps more intuitively, we can use those growth rates to calculate how long it takes for global case numbers to double. In the middle of March, for example, global cases were doubling every four days. At that growth rate, if you start with 100,000 cases today, in four days, we would have had 200,000 cases. Today, given the low growth rate, we are now doubling the global number of cases every 83 days. This is clearly a tremendous improvement, particularly when we compare it to doubling every 50 days (where it was just two weeks ago).

Within the United States, the picture continues to show improvement and a similar pattern. Given how significant the United States has been in percentage of world case numbers, this shouldn't necessarily be a surprise. Yes, there are hot spots and breakouts but, in aggregate (which I believe is the correct lens through which to view this data), the growth rates continue to slow.

Chart 2 demonstrates this further by zooming in on the growth rate since the beginning of April.

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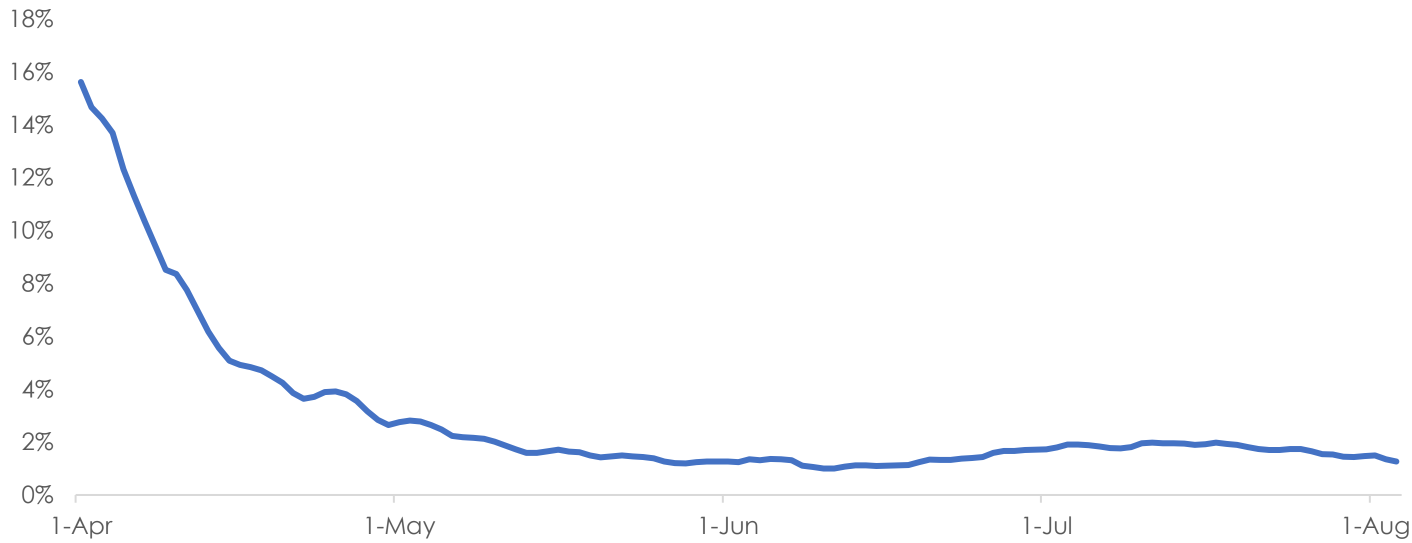
[1] Sources: Bloomberg, World Health Organization
[2] Source: Johns Hopkins University, https://www.arcgis.com/apps/opsdashboard/index.html#/bda7594740fd40299423467b48e9ecf6

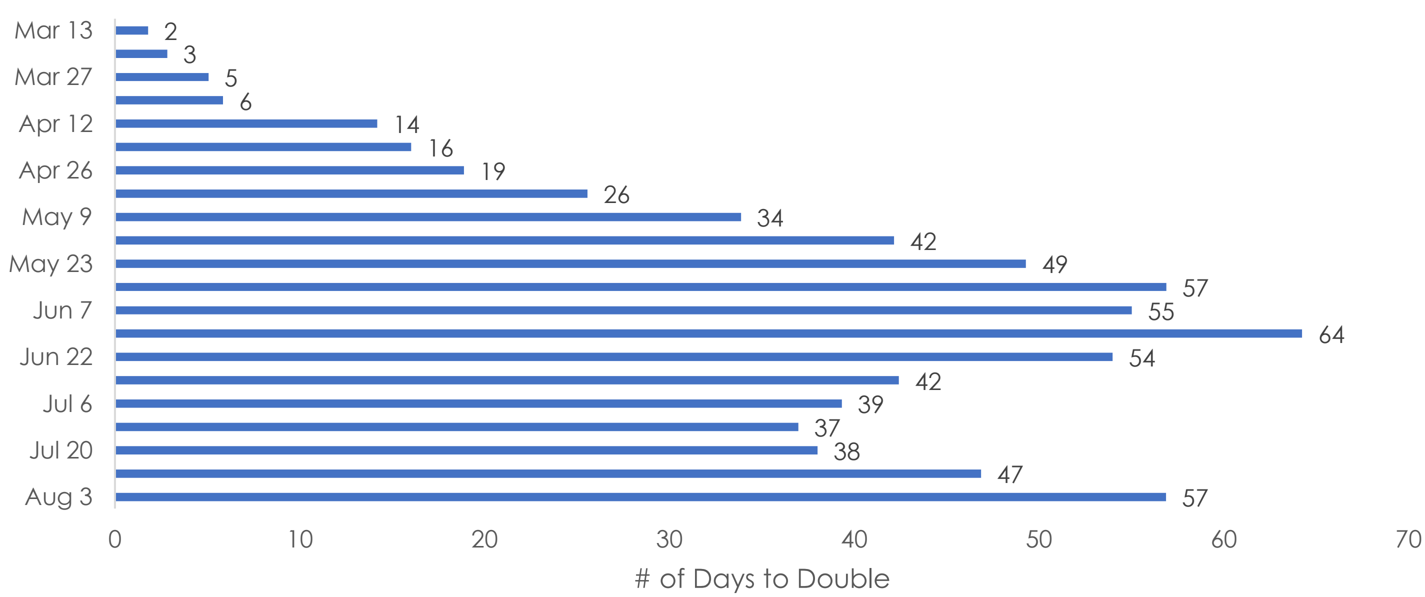
Chart 2: COVID–19 United States Case Growth Rate (since April 1)[3]



The blue line (U.S. only) in this chart corresponds with the grey line (global) in Chart 1. The growth rate was very high in early April, then fell very quickly, then rebounded a bit toward the beginning of July (as growth in the South exploded) and is now falling again. In short, this is good news.

Chart 3 takes the very same data and converts it to the number of days to double the cases in the United States. This is often a more intuitive and relatable way to understand how growth rates are changing.

Chart 3: United States: Number of Days to Double Confirmed Cases[4]



[3] Sources: Bloomberg, World Health Organization
[4] Sources: https://www.worldometers.info/coronavirus/country/us/, as of August 3, 2020

On March 27, the number of cases was doubling every five days, and as of August 3, it was doubling every 57 days. Could it improve? Yes, potentially, but progress, nonetheless.

This then leads us to the economy, and by extension, the financial markets.

While economic data is notoriously and frustratingly backward looking, we know a good deal so far. Here are some of the more notable[5]:

- Unemployment is (or has been) at record highs.
- Gross domestic product (GDP) fell at a record setting pace.
- Retail sales have never fallen faster.

And yet, the Standard & Poor's 500 (S&P) is up a bit more than 2% for the year[6]. How is that possible?

Well, dear reader, I think there are two main contributors: 1) unprecedented fiscal and government stimulus, and 2) declining growth rates of the COVID-19 case and death rates (both globally and domestically).

The market is essentially looking past the pandemic to declare "yes, this is bad, but it's slowing, and the future looks reasonable." Is the market right? I have no idea, but I have learned enough over my career to understand the folly in predicting directions and trying to time the tops and bottoms of markets.

Therein lies the utility. Markets have historically been wonderful generators of returns in the long term, and yet are wildly confusing and volatile in the short term.

Through the depths of the Depression, the trauma of World Wars I and II, the runaway inflation of the late 1970s, and the many other events that appeared to have no sign of ending or hope…markets continued to march forward as an extension of their economies, which are purely extensions of companies, which are just aggregations of the citizens and human spirit those companies represent.

Therefore, my only advice from an investing perspective is to control those things that can be controlled, mitigate risk that can be mitigated, save as much as possible, try not to focus on short-term gyrations and volatility…and consider the benefits of compounding…it is one of the most powerful tool we have at our disposal.

In closing, stay safe, stay calm, and please turn off the financial news channels.

We remain at your service and watching closely. Please let us or your financial professional know how we can serve you.

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[5] Sources: Bloomberg, as of August 3, 2020
[6] Sources: Bloomberg, as of August 3, 2020

Asset allocation does not guarantee a profit or protect against loss in declining markets. There is no guarantee that a diversified portfolio will outperform a non-diversified portfolio or that diversification among asset classes will reduce risk.

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