

MassMutual

Market Update
Feb. 11, 2021



In 2008, someone wrote a letter that was brief, clear, and, in very short order, made the author(s) very, very wealthy. Was wealth the authors' intention? We have no idea. Why? Because we're unsure who authored the paper. Yes, they provided a name, but that name has never been linked to an actual person. Regardless of their intent, the authors subsequently spawned a trillion-dollar industry and forced the widespread questioning of central banks, financial services, and, generally speaking, how billions of daily financial transactions are conducted.

The author was listed as Satoshi Nakamoto, and the paper demonstrated the logic for something called Bitcoin. Before you roll your eyes at this term of "the younger generations," let's remember the sum value of all cryptocurrencies, including Bitcoin, is now worth more than one trillion dollars.

At a minimum, the topic is worth understanding, at a maximum, there might be something conceptually profound about what has occurred.

Therefore, for this market update (and the two to follow), we're going to employ a different format.

First, we'll provide a new perspective on COVID-19 cases and vaccinations. Things have changed and, therefore, our charts and views must change as well. From there, we'll tackle the first part of a three-part series on cryptocurrencies. The first update will begin with history and why we believe these are currencies (not assets). The second update will focus on the problems and benefits of cryptocurrencies (along with some charts and data). The last update will explore the paths of implementation and how to think about the utility in a portfolio.

With that, let us begin.

Section 1: COVID-19

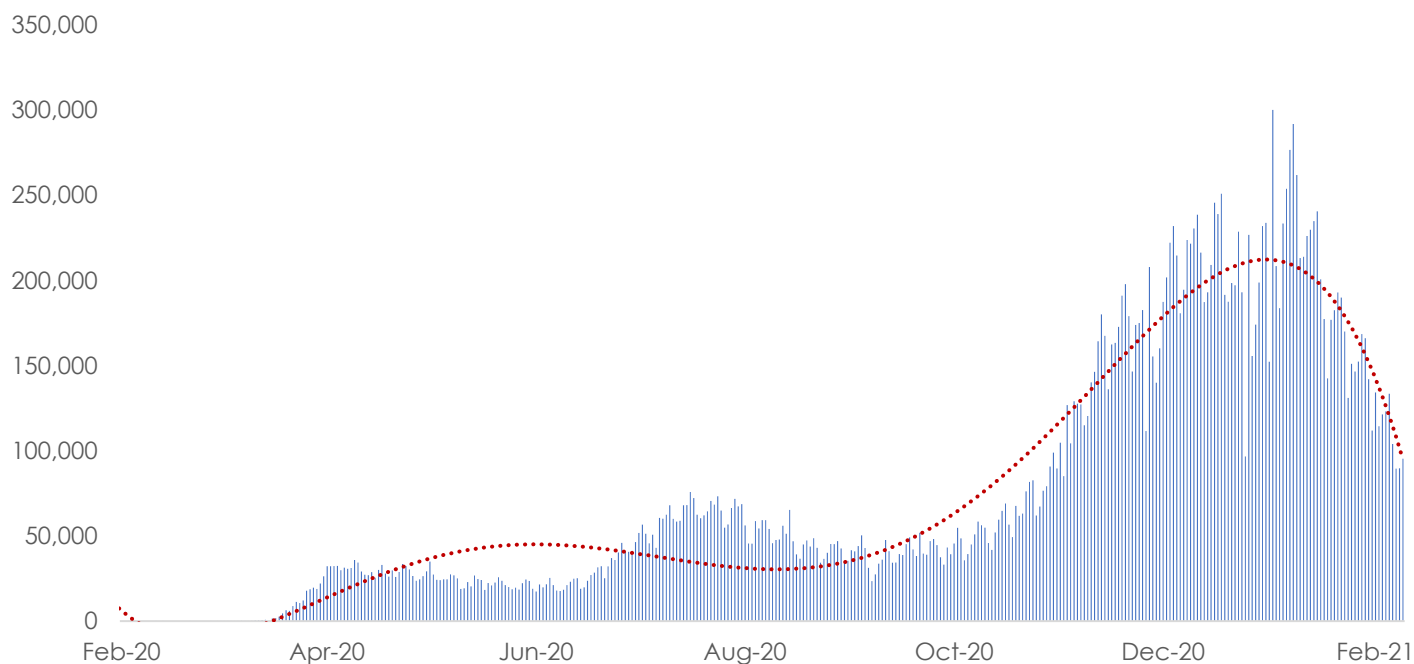
I don't (yet) have enough clairvoyance to declare we have turned a corner but I am beginning to like what we see. Against the backdrop of a year of pain, turmoil, fear, anxiety, death, and confusion...cases are now falling. That's right. Falling. As an example, a month ago, the United States was confirming more than 300,000 new cases¹ per day and, over the last three days, we have averaged less than 100,000 cases² confirmed.

Under the auspice of a picture is worth a thousand words, let's review two graphs.

¹ Source; <https://ourworldindata.org/covid-vaccinations>, as Feb. 10, 2021

² Source; <https://ourworldindata.org/covid-vaccinations>, as Feb. 10, 2021

Chart 1: COVID-19 Daily Confirmed Cases³



This shows the total number of new confirmed cases per day in the United States. It's consistent with our perspective from previous updates (rapid acceleration in March, slowdown in the spring, then acceleration in the summer, followed by another contraction, and yet another expansion), with the exception that the number of new confirmed cases is now falling faster than ever before, and that pace is accelerating.

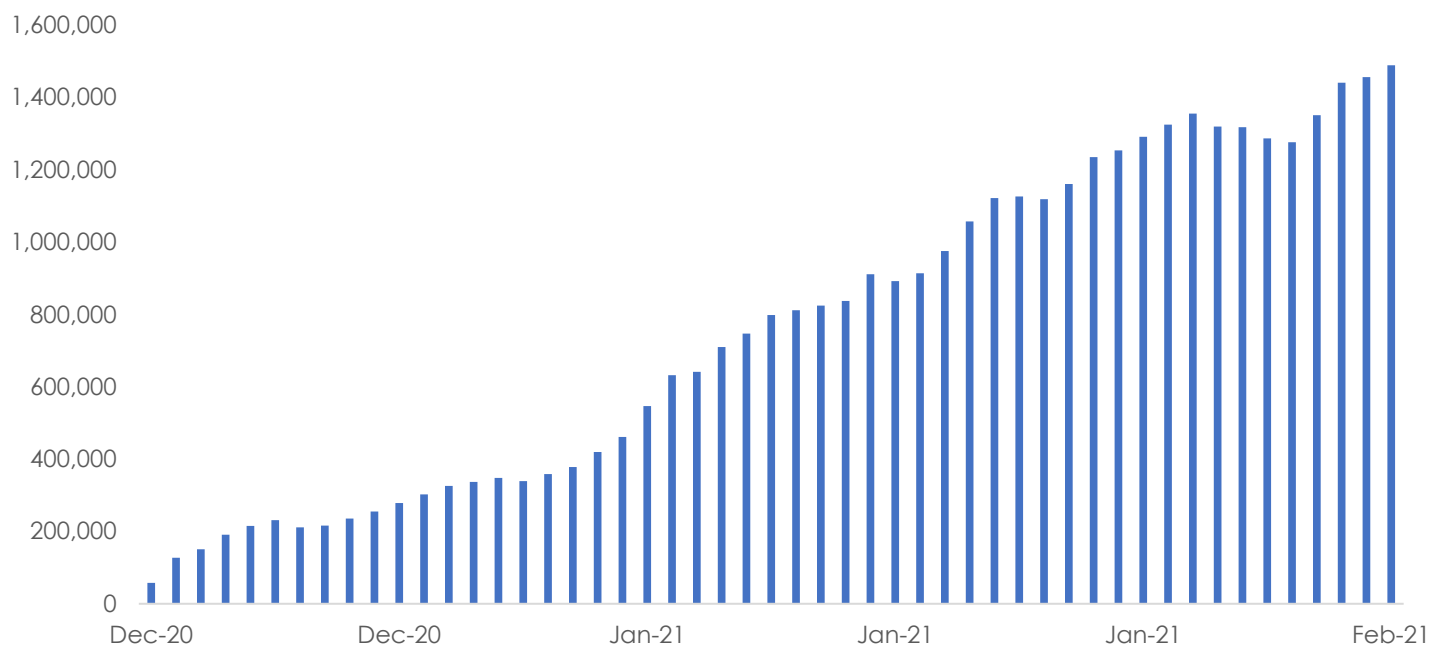
The question is why? While some point to increasing herd immunity, others point to a better adherence to social distancing best practices and policies (including when to close schools, and the like), and yet others point to a holiday bump.

While clearly all are material contributors, I am now focused on one of the greatest collaborations in medical science throughout all history: the development and mass distribution of the COVID-19 vaccines.

While the logistical accomplishments alone are enough to make your author glimmer with glee, the reality is that the cases are beginning to fall at least in some part due to the success of this very effort. Yes, some doses have been lost, and yes, as we have all heard, there are (a few) examples of poor storage and therefore loss of viability; but that is not the dominant theme. The dominant theme is the size and scale of the vaccination distribution shown in Chart 2.

³ Sources: Bloomberg, World Health Organization as of Feb. 10, 2021

Chart 2: COVID-19 Vaccines by Day in the United States⁴



Let's put this into scale. On Dec. 1, there was not a single vaccine deployed. By Dec. 31, there were almost 300,000 vaccines being distributed each day. By mid-January, we had crossed the 800,000 vaccines-per-day threshold and, as of Wednesday, Feb. 10, the United States was distributing more than 1.4 million vaccines each day. The scale is remarkable.

That means in just over a month we have now distributed more than 39 million vaccines, and the pace is accelerating. With a population of roughly 331 million, the United States has seen more than 11% of its residents vaccinated with a vaccine that didn't even exist just months ago.

In short, there is reason to be optimistic, and we continue to watch closely.

Section 2: Bitcoin and Cryptocurrencies

In many ways, what has occurred is a remarkable (and reasonable) outcome. An anonymous person, or group of people, decided they didn't like the current means of financial transaction and decided, using existing technology (namely something called blockchain) to create something different. The idea took, and an entire new means of transacting was created. This spawned an entirely new industry that is currently worth more than a trillion dollars.

First, what is it? The idea is straightforward. Right now, if I want to send you money from my bank, there are several steps, and many of which are often cumbersome (particularly for large dollar amounts). That process is oftentimes expensive, and frequently slow.

Cryptocurrencies are the same idea, but without the bank. I have a code, you have a code and, as soon as I say transfer, the exchange happens immediately. No bank. How is that possible you ask?

⁴ Sources: Bloomberg, World Health Organization as of Feb. 10, 2021

Well, cryptocurrencies rely on something called blockchain technology. The mechanics of blockchain are probably too complex for this update, but the concept itself is not necessary to understanding cryptocurrencies; they are essentially just a different way to exchange value between parties.

With that out of the way let's consider the distinction between an asset and a currency so we can think about what role a cryptocurrency might play. An asset is something that I expect to generate a positive return, whereas a currency is simply a means of exchange. Let me explain.

As an example, if an investor takes her hard-earned money and invests in a company (in exchange for ownership), she expects the company to use her investment productively. In turn, as the company grows, the investor may receive dividends, the value of the company may increase and, by extension, the value of her ownership in that company could grow. If the value of her investment didn't have the potential to increase, she probably wouldn't invest. While there are risks involved with investing, this is essentially the entire premise on which the stock market (e.g., the ownership of companies) is based.

Similarly, if that same investor takes her money and loans it to a company, the company is expected to pay her interest periodically (also known as a coupon) and, eventually, all the money she lent the company in the first place. If the value of her money didn't have the potential to increase, she most likely wouldn't lend it. This is the entire premise on which the bond market is based.

Alternatively, the investor could buy a condominium and rent it out. She would expect to receive positive cash flow and, hopefully, the value of the condo would increase.

As such, all three of these examples (stocks, bonds, and real estate) meet the definition of an asset. The premise is that the assets would provide a positive expected return (over time), in exchange for the investor's capital used for productive purposes. [It is also worth noting, ladies and gentlemen, that you now understand how the vast majority of capital markets work!]

Let's take a different example: gold. Gold provides no yield. It isn't productive. I can take gold and exchange it for dollars, and I can take dollars and exchange them for gold. That's about it (setting aside decorative and cosmetic purposes). Its full utility exists as a medium of exchange and, interestingly, its value is simply what we all believe it to be. That's it. As a physical good, unless we say it is worth something, it is worth nothing. What an amazing concept, particularly given that the market value of gold is now more than \$8 trillion⁵. Foreign currencies are similar. The Japanese yen exists simply as a method of exchange. I can use yen to buy dollars or I can use yen to buy goods. A single, physical yen has no more value than the paper itself, unless, of course, we all agree on its value.

Accordingly, both gold and yen are currencies (i.e., mediums of exchange) under this definition and not assets⁶. I don't necessarily expect gold or yen (as example) to increase or decrease over time. If the supply increases, the value will likely decrease, and if the contra-asset (for example U.S. dollars) decrease, the value will likely increase...but that's about the full extent. To make that clearer, if I hold gold (which is priced in dollars), and the price of those dollars decreases, the price of gold, by definition, increases.

⁵ Source: Bloomberg, as of Feb. 10, 2021

⁶ I know gold often is categorized as a commodity. I tend to disagree.

This then brings us to the definition of cryptocurrencies. While it is a tad more complicated to do so, I can take dollars and purchase Bitcoin⁷, and I can take Bitcoin and purchase dollars. Similarly, we are increasingly able to take those Bitcoin and purchase goods. Yet going forward, just as I don't necessarily expect Japanese yen to increase in value, I don't necessarily expect Bitcoin to increase in value...at least conceptually. Said another way, unlike with stocks, or bonds, or even real estate, when an investor exchanges dollars for another currency (Bitcoin included), it doesn't necessarily provide any productive purpose. To be clear, there are many who are purchasing various cryptocurrencies precisely because they expect them to appreciate...in fact, I would argue many are purchasing those currencies **exclusively** because they expect them to appreciate.

Let me be clear on this point. I believe blockchain (the technology on which cryptocurrencies have been built) is wildly useful, but Bitcoin itself is simply a tool of exchange. There's nothing wrong with that, in fact, it's quite a remarkable invention, but we should be clear about its value. While they can be a useful instrument in certain environments (dollar decline, inflation, etc.), unlike other assets, currencies (yen, dollar, gold and crypto's) don't necessarily "drift" upward as many other assets that provide a risk premium are likely to do. This is paramount to understand as we think about constructing portfolios and is a helpful distinction when considering an investment versus a speculation.

With that, let us summarize what we have learned:

- Cryptocurrencies are remarkable innovations that have seen rapid adoption and significant increases in market value in a very short period.
- Bitcoin, and its brethren, are not assets that provide a risk premium. That doesn't mean they aren't useful, but they are simply mediums of exchange (also known as currencies), and not assets.
- As such, while currencies go up or down sometimes, there is no structural reason to believe they will increase as equities, bonds, and real estate have done historically.

We now understand why cryptocurrencies were created (as an efficient means of payment) and how they are different than other assets.

In the next update, we'll explore how cryptocurrencies have performed, how they behave (including their innumerable risks), and how they can be accessed.

In closing, stay safe, stay focused on controlling what we can be controlled, and save more than you think necessary.

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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⁷ The dominant cryptocurrency currently.

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