



MassMutual

Market Update  
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In the book "Brief Interviews with Hideous Men," David Foster Wallace, whom I consider to be one of the finest and most tragic writers of the modern era, wrote: *"The depressed person was in terrible and unceasing emotional pain, and the impossibility of sharing or articulating this pain was itself a component of the pain and a contributing factor in its essential horror."*

Now, dear reader, if you read that sentence as I did, you felt a pang of emotion. Please indulge me and read it once more.

I noticed three things:

- 1) The sentence quite literally brought me physical pain.
- 2) The sentence repeats the word "pain" three times, as if the author cannot over-communicate the essence of the subject.
- 3) I couldn't wait for the sentence to end.

Any chance this reminds the reader of any modern-day events?

As I read this sentence recently, it made me think of the value and power of repetition when compared with the waste, and inefficiency, of redundancy. When does something change from a useful repeat into a wasteful redundancy?

Is it perhaps enough to say that redundancy is unnecessary repetition?

While I leave that question unanswered for the moment, let me turn to the topics we will cover today.

First, we address the recent repeat of the COVID-19 outbreak and (perhaps?) draw some surprising observations. After all, what value is a repeat if there isn't something new to learn?

Second, we explore an additional repeat: inflation. Which, it is worth noting, we haven't seen at these levels for 40 years.

And with sincere apologies for such a morose beginning, let us begin (I promise there is light to come...).

## Section 1: COVID-19

The dominant narrative that COVID-19 cases have exploded is both true and a bit misleading. For within the data are some very important lessons and some reasons for hope despite such a massive explosion.

Before we explore those changes, let us take stock of the numbers thus far.

As of Jan. 18:

- ❖ There are now more than 320 million people worldwide who have had confirmed COVID-19 infections<sup>1</sup> (more than 4% of the world's population).

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<sup>1</sup> Source: Johns Hopkins University, as of Jan. 17, 2022

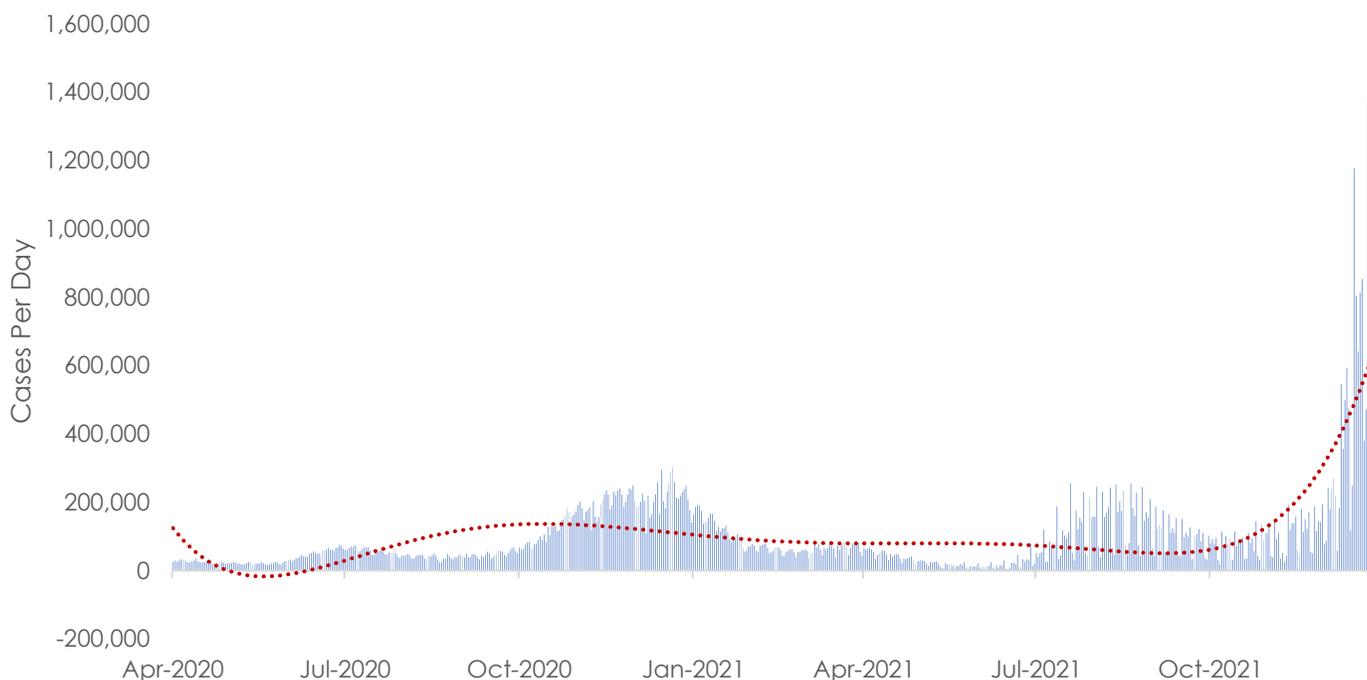
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- ❖ There are more than 65 million Americans who have had confirmed COVID-19 infections<sup>2</sup> (roughly 20% of the United States population).
- ❖ There have been more than 5.5 million deaths attributable directly to the COVID-19 virus<sup>2</sup>, and more than 840,000 of those occurred in the United States.

More on this in a moment, but we have now had more than 9.5 billion vaccinations deployed worldwide, including nearly 1 billion (with a “B”) in the last month alone<sup>2</sup>. Truly remarkable numbers.

To put these numbers into context, let’s simply look back at our experience since this started. Chart 1 shows the United States confirmed cases per day.

**Chart 1: COVID–19 United States Confirmed Cases by Day<sup>3</sup>**



As Chart 1 demonstrates, the daily caseloads we thought were remarkable in late 2020, and again in mid-to-late 2021, paled in comparison to what we are seeing currently. Whereas the two previous breakouts averaged between 200,000 and 250,000 cases per day, we are now averaging more than 750,000 cases per day. Extraordinary and frightening...particularly given what we know about reducing the spread of the virus.

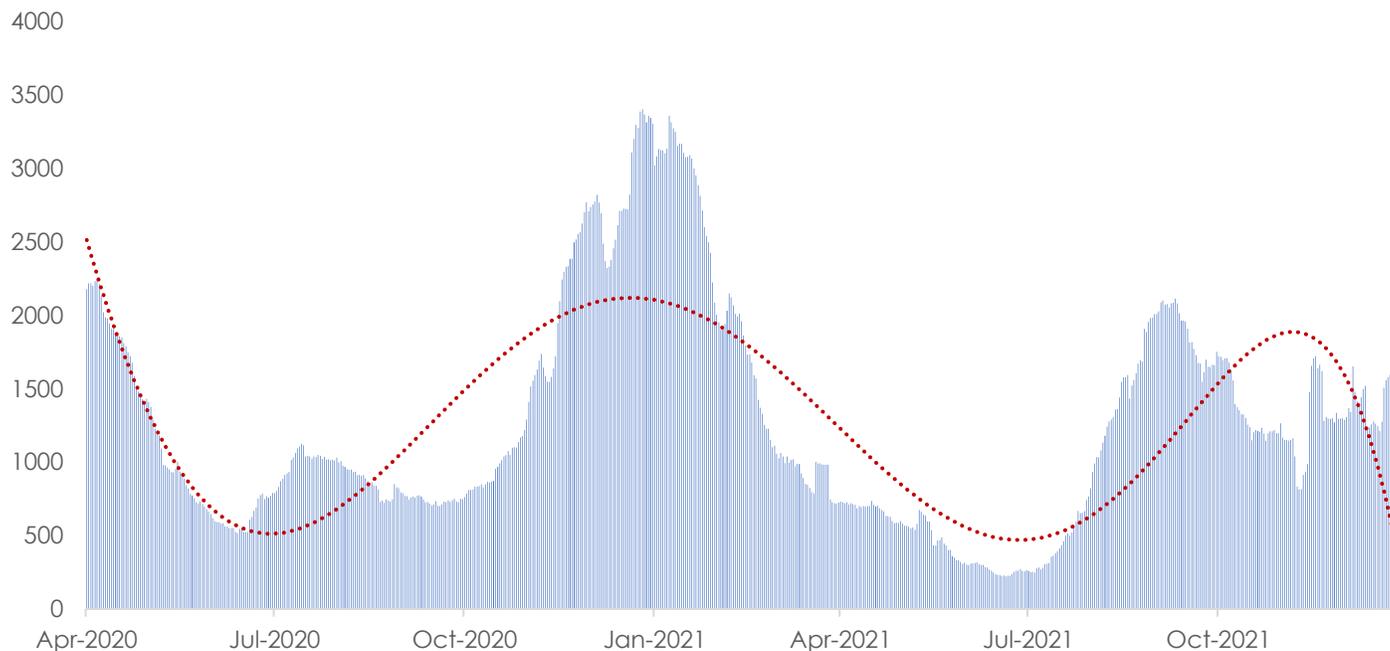
And yet, while no one has any desire to get the virus and experience the range of symptoms, what generally impacts a society writ large are deaths. Throughout history, as a virus moved from high fatality rates to low fatality rates, the impact similarly moves from high to low.

This brings us to Chart 2.

<sup>2</sup> Sources: Johns Hopkins; <https://www.arcgis.com/>, as of Jan. 17, 2022

<sup>3</sup> Sources: <https://ourworldindata.org/coronavirus>, as of Jan. 17, 2022

**Chart 2: COVID-19 United States Confirmed Deaths by Day<sup>4</sup>**



Thankfully, this chart follows a very different pattern. When cases were averaging more than 250,000 cases per day in early 2021, deaths were averaging roughly 2,000 per day. Yet now that cases are averaging more than 750,000 per day, deaths are averaging less than 1,000 per day.

While attribution is always difficult, there seem to be two primary contributing factors:

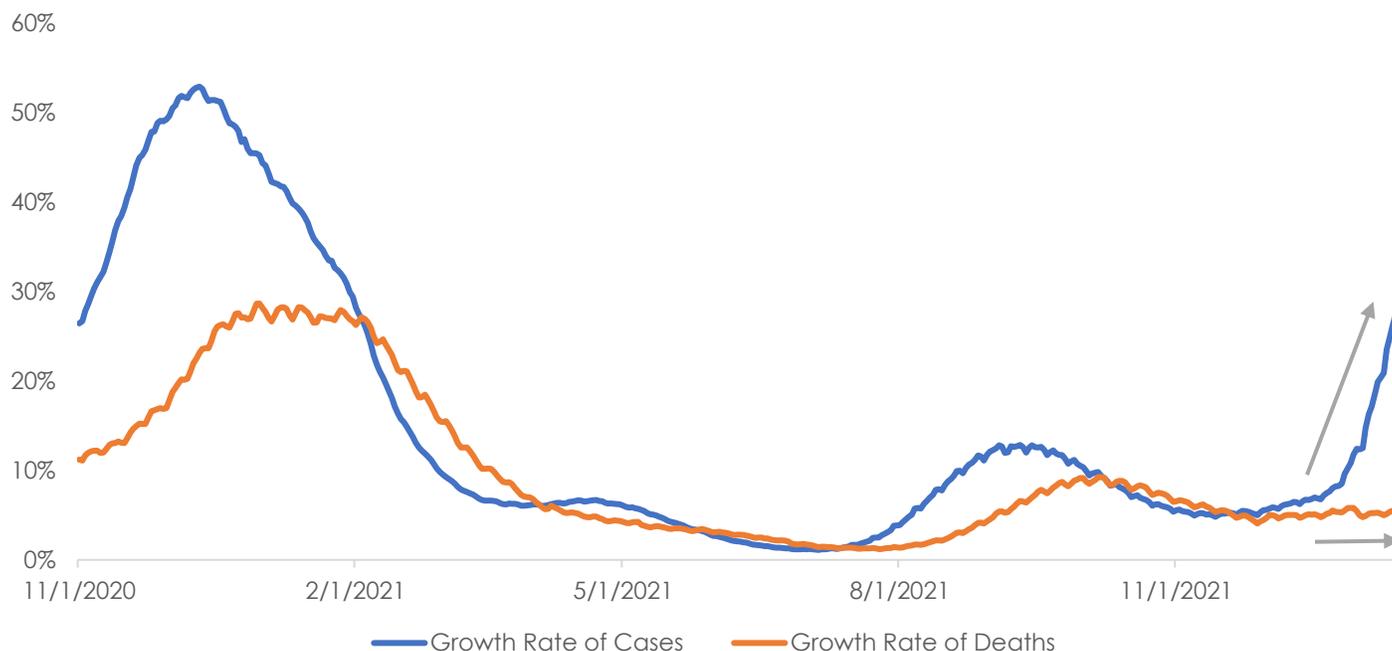
- 1) Vaccination rates are remarkable. More than 9 billion vaccination doses have been deployed worldwide, and vaccinations have been scientifically proven to reduce the severity of COVID. There are still too FEW vaccinated, but the current rate of vaccination growth is encouraging.
- 2) The Omicron variant is highly contagious but, on average, less severe.

Which then raises a question: have we reached a tipping point? If not a tipping point, have we reached, perhaps, a different stage? At what point do we simply co-exist with COVID-19, and our annualized vaccine booster (for example) simply becomes normalized as it has with our annual flu shot? Is it possible that our resistance (both natural and vaccine supported) subsumes our risk to this virus, and this suddenly fades into the collective history of the terrible viruses of histories past? While I am not audacious enough to claim that to be the case, the recent outbreak certainly has me wondering.

Chart 3 puts this latest divergence between the growth rate of cases and the growth rate of deaths in stark contrast.

<sup>4</sup> Sources: <https://ourworldindata.org/coronavirus>, as of Jan. 17, 2022

**Chart 3: COVID-19 United States 30-Day Case Growth Rate vs. 30-Day Death Growth Rate<sup>5</sup>**



Regardless, we'll continue to watch closely and will update our readers as we learn more.

## Section 2: Inflation and Inflation Assets

Over the past couple of years, we have continued to sound the alarm on the risks of inflation and the likelihood of continued upside surprises. While those alarms have proven prescient, they have also raised questions from many of our clients and colleagues about what instruments are available to deal with that risk. In the past several weeks alone, we have received many inquiries on inflation assets, in particular, inflation-linked bonds (also referred to as TIPS or i-Bonds).

As such, given it has literally been 40 years since inflation was at this level, we thought it might make sense to spend a bit of time reviewing 1) what inflation is, 2) why it matters, and in particular 3) what inflation-linked bonds are meant to do (or not do).

With that, let us begin.

### Definition of Inflation

We in the investment industry love to make things sound more complicated (and rarely more elegant) than they really are. We love to create acronyms and abbreviations and then refer to those ad nauseum as if everyone understands those same acronyms in precisely the same way.

<sup>5</sup> Sources: <https://ourworldindata.org/coronavirus>, as of Jan. 17, 2022

Frustratingly, that process creates more confusion than it solves and, I would argue, introduces risk in insidious ways.

Accordingly, let us start with the fundamentals.

Inflation, at its core, is the very simple idea that the prices of goods and services increase. That's it. Nothing more, nothing less. Yes, there are innumerable ways to calculate the changes in prices, and lots of analysis to complicate the idea, but at its core, it's a very simple idea.

To make this clearer, and to underline a further point, let's imagine I have \$10 in my pocket, and I walk into the store to buy bread. A loaf of bread costs \$1, so I can buy 10 loaves of bread.

Next month, I do the same, with another \$10. I walk into the store and try to buy bread. Yet this time, a loaf of bread costs \$1.10. I can, therefore, only buy nine loaves of bread.

So, what has occurred? Well, the obvious is that the price of bread has increased by 10%. Said another way, the "inflation" of bread is 10%. Yet equally as important, the value of my dollars has also decreased. My \$10 purchased 10 loaves of bread a month ago, and yet now only purchases nine loaves of bread. My currency is worth less (in terms of bread) today than it was one month ago.

And this is the lesson (which we will reference in a moment). Inflation is the increase of the prices of goods and services, but it is simultaneously the decrease in the value of the underlying currency (in this case, dollars). Much attention is paid to the former, but far less is paid to the latter. More on this shortly.

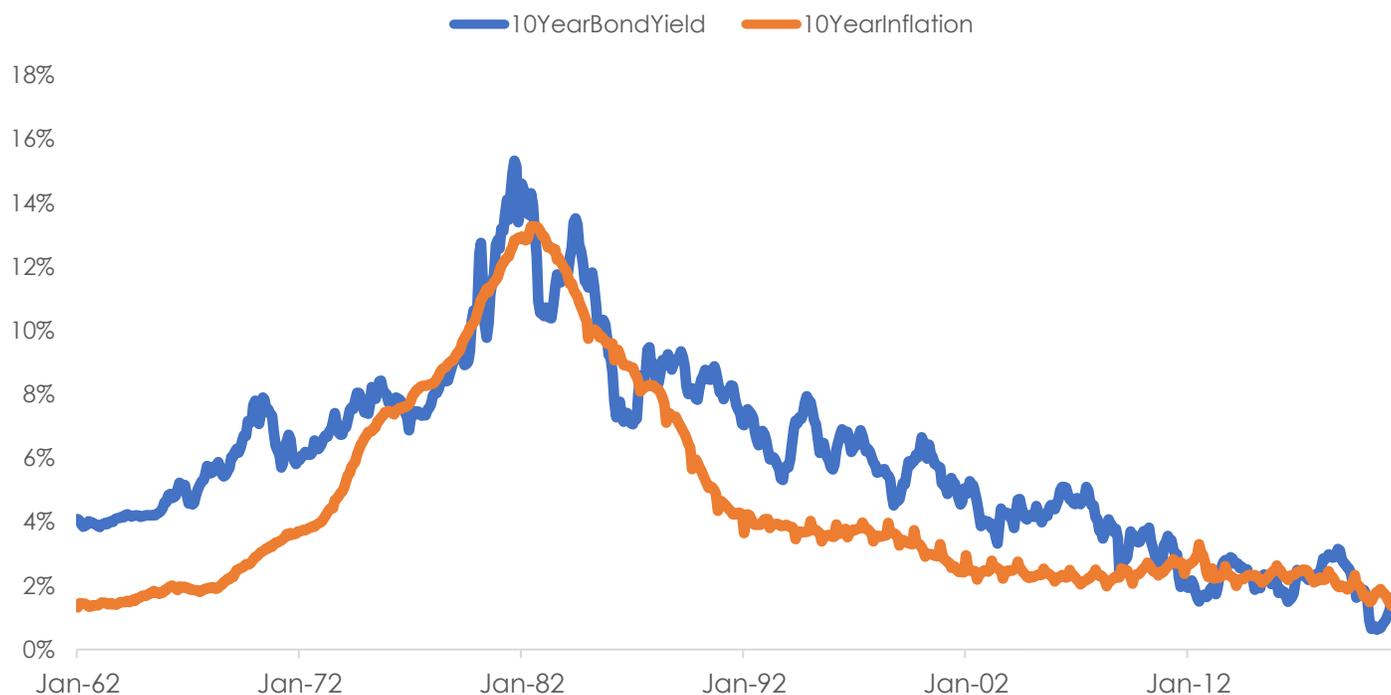
### Why Does Inflation Matter?

Our astute reader then asks, why do I care?

Well, two primary reasons:

- 1) As inflation rises, we can buy less of the goods and services we need (see the bread example above).
- 2) As inflation rises, Central Banks (which are responsible for stable prices and full employment) don't like inflation and generally raise rates to slow growth and, by extension, inflation. This has two outcomes:
  - a. As interest rates rise, it becomes more expensive for businesses and consumers to borrow, and this generally leads to less spending. This tends to slow down the economy.
  - b. As interest rates rise, particularly when rates rise more than expected, the value of bonds go down. This is because owners of bonds demand more yield to hold the bond now that inflation has risen.

**Chart 4: United States 10 Year Inflation vs. 10 Year Bond Yields<sup>6</sup>**



As Chart 4 shows, as inflation moves, so do bond yields. When inflation moves higher (as it did in the 1960s and 70s), bond yields move higher and, therefore, the value of bonds move lower. When inflation moves lower (as it has done since the early 80s), bond yields have moved lower and, therefore, bonds have moved higher. I frequently state we have just experienced a bull market in bonds that is unlikely to happen again anytime soon, and Chart 4 makes that point precisely.

### How to Protect Against Inflation

As such, with the definition and addressing why an investor should care out of the way, we now turn to what instruments we have at our disposal to deal with a rising inflation environment.

To maintain some order, let's move in general order of utility during a rising inflation environment. For simplicity's sake, I will use a very simple taxonomy of cash, nominal bonds (i.e., non-inflation government and corporate bonds), equities, real estate, and inflation-linked bonds.

Of all instruments, cash is my least favorite. Why? Well, let's do the math. Let's imagine inflation is 4% and cash is earning roughly 0% (as most cash is). Therefore, by definition, my cash will be able to purchase 4% less next year than it did this year. In short, my cash has lost purchasing power, and I am basically guaranteed a negative 4% return (in "real terms"... which is a fancy way of saying after considering inflation).

From there, we can consider various forms of bonds. For simplicity's sake, let's assume government bonds are a bit less risky than corporate bonds as they, in theory, don't have the same levels of credit risk, but we can group all bonds together. Bonds are currently less offensive than cash, but only

<sup>6</sup> Source: Bloomberg, St. Louis Federal Reserve; as of Jan. 17, 2022

moderately so. Why? Again, the math. Let's imagine bonds are yielding 2% and inflation is 4%, then again, those dollars in bonds will be able to purchase 2% less goods and services than they were able to last year. Thus, the real rate of return is now roughly negative 2%. Bonds can offer utility in other economic environments and provide useful ballast...but an environment where inflation is rising is generally not their strong suit.

Equities can perform reasonably during inflationary environments because 1) companies can (sometimes) pass rising costs on to consumers, and 2) companies generally own assets and, by definition, those assets are rising in value. Now there is a good deal of nuance in these generalizations that I am ignoring...including what type of inflation is occurring, what the causes were, how responsive is the Federal Reserve, and the like, that will determine the magnitude of the performance. Having said that, equities are historically much more volatile than cash and bonds and are not always the right investments given constraints or objectives.

Real estate, for similar reasons as equities, also tends to perform reasonably well, although rising interest rates can be quite difficult for the space. As such, rising interest rates tend to offset the rise in the asset values... and the severity of the environment will determine which side wins that balance.

Which now turns us to inflation-linked bonds.

For context, these are not new instruments. The first inflation-indexed bonds were issued by the Commonwealth of Massachusetts during the Revolutionary War to entice additional investors to fund various war purchases. More recently, the United Kingdom began issuing them again in 1981 given the high inflationary environment as, again, a way to entice investors to lend to the government.

Today, there are roughly \$3 trillion worth of government bonds worldwide in the inflation-linked bond market, with the United States the largest provider at around \$500 billion. Considering the U.S. economy is around \$21 trillion, this is considered a large, but not overly massive, market.

With that background and context, let us now turn to how these bonds work (a source of constant confusion).

Let's imagine an investor buys a "traditional" 10-year bond from the U.S. Government (also called "nominal bonds") for \$100. That purchased bond will mature at \$100 and also pay a coupon of 5% per year. Every year, the investor receives \$5 ( $\$100 \times 5\%$ ) for each bond they own and, at maturity, the investor receives the full \$100 back. Fairly straightforward.

Well, inflation-linked bonds work the exact same way with one exception: the principal of the bond adjusts when inflation changes. So, let's imagine the same scenario. An investor buys a \$100 inflation-linked bond that matures at \$100 and also pays 5%. Yet this time, inflation was 10% for the first year.

So, at the end of the first year, the bond itself now gets adjusted to \$110 ( $100 \times 10\%$ ), and the coupon payment is \$5.50 ( $\$110 \times 5\%$ ). That's it! You now understand inflation-linked bonds better than 99% of the folks on Wall Street.

Wait! Our astute readers are then asking well isn't it just "free lunch"? I get the same yield, but the inflation-linked bond pays me more when inflation moves higher?! Well, no, not so quick.

Remember, markets are ALL about expectations. The market (and the U.S. Government as the issuer)

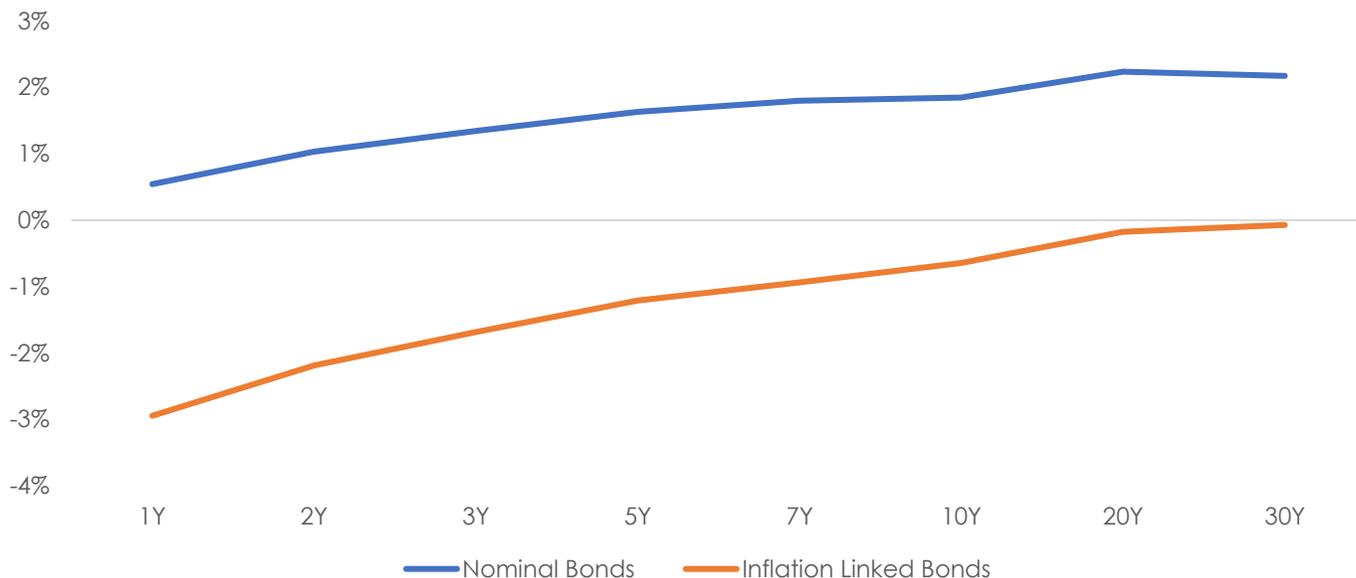
is constantly adjusting all bond prices to adjust for expectations.

Right now, the 10-year treasury nominal bond (traditional bond) has a yield of around 1.8%. Said another way, if an investor buys that bond and holds it until maturity, the investor will earn 1.8% on the investment.

Yet if I look at the 10-year inflation-linked bond (I-bond or TIPS), it currently has a yield of roughly -0.65%. Wait! A yield that is negative?! That's right, negative. How can that be you might ask? Well, if a nominal bond is yielding 1.8%, but an inflation-linked bond is yielding -0.65%, that means the market is expecting inflation over the next 10 years to be 2.45%.

Chart 5 demonstrates this dynamic by showing the current yields on nominal bonds and the current yields on inflation-linked bonds. (Note, the difference between the two is the markets' best guess for future inflation expectations and is referred to as "Break Even Inflation.")

**Chart 5: United States Government Nominal Bond vs. Inflation-Linked Bond Yields<sup>7</sup>**



As the chart shows, the difference between the two lines at the left side of the chart is higher than at the right side of the chart because the market believes there to be higher inflation risk in the near term than the long term.

Therefore, if the market is right and, over the 10 years, inflation is ACTUALLY 2.45% per year (to use the 10-year example), then the inflation bond will adjust each year and, at the end of 10 years, BOTH bonds will have earned 1.8%.

Said another way, if markets are accurately forecasting what inflation will be over the next 10 years, then both bonds will return the exact same amount.

This is (one of the many reasons) why predicting markets is so difficult. It is not enough to be right, one

<sup>7</sup> Source: Bloomberg, US Treasury; as of Jan. 17, 2022

would have to be right AND have a different view than what markets are already expecting.

Having said that, what makes inflation-linked bonds useful is that markets are NOT accurate at predicting the future. Yes, in aggregate, there are incentives that drive markets and, yes, humans repeat the same mistakes repeatedly. But at an asset class level, it is unlikely that inflation markets predict the future precisely. As such, if inflation does indeed turn out higher than currently expected, the inflation-linked bonds will perform better than the more traditional nominal bonds. And if inflation is less than markets expect currently, then inflation-linked bonds will likely perform worse.

Yet from a portfolio perspective, what makes inflation-linked bonds useful additions to a portfolio is that no one knows when inflation will be the dominant theme and, therefore, they can simply be good additions for that fact alone. Philosophically, it generally makes sense to build portfolios that contemplate a wide range of economic environments, and a rising inflation environment is clearly one that is of a higher risk currently.

Said another way, negative yields don't make them "bad" or "good" but understanding what can be expected is the key to understanding their utility.

As always, we remain at your service, and we'll continue watching these things closely. Please let us or your financial professional know how we can serve you.

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