Sitka Pacific
Capital Management, LLC

April 2020

Dear Investor,

After an extremely turbulent March, in which the Dow Jones Industrial Average regularly gained or lost over a thousand points within a trading day, the market environment over the past month was relatively calm. The major equity indexes continued to recover from the lowest points in March, but the recovery so far has been partial. Large cap indexes like the S&P 500 and the NYSE Composite recovered a little more than half of their February-March losses, while technology stocks recovered closer to two-thirds. Against gold, however, the recovery was less pronounced.

This partial recovery has been accompanied by rampant speculation as to whether the worst is over for the markets, and it is in moments like this when a detailed knowledge of how bear markets tend to unfold comes in handy. The only comparisons to the market's valuation during this past cycle are the peaks in 2007, 2000 and 1929, and each of those peaks was followed by a swift decline and then a partial recovery lasting a number of months. In 2008, that initial recovery was coincident with a significant easing of monetary policy; the rally began in January, when the Fed cut interest rates by a larger-than-expected 0.5%, and continued as the market began to price in more rate cuts. The expectation for easier monetary policy provided a short-term boost across a broad range of risk assets during those few months, but as we all remember, the market eventually succumbed to the full weight of the recession unfolding in the real economy.

As in early 2008, the rebound in the market from the lows this year has been accompanied by an accommodative shift in monetary policy, though the Fed's actions over the past two months make its 0.5% rate cut in January 2008 look rather quaint. As of the time of this writing, in addition to cutting interest rates, the Fed has expanded its balance sheet by $2.5 trillion over the past two months — the largest monetary expansion in history over such a short period of time. In light of such an incredible monetary response, it is telling, perhaps, that the stock market has managed only a partial recovery.

The market may well continue to recover in the months ahead, just as happened after the initial declines in 1929, 2000 and 2007–2008. However, today's prices and valuations appear quite disconnected from what is unfolding in the real economy, which is typical early in a bear market, and there is no doubt that the monetary and fiscal response to this recession has only just begun.

In this month's letter:

- Unlike Wars, Pandemics Depress Economic Activity and Interest Rates
- A Year After the Crash of 1929, the Market Didn't Look So Bad

Unlike Wars, Pandemics Depress Economic Activity and Interest Rates

> *Summing up our findings, the great historical pandemics of the last millennium have typically been associated with subsequent low returns on assets, as far as the limited data allow us to conclude. These responses are huge...*
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> *Measured by deviations in a benchmark economic statistic, the real natural rate of interest, these responses indicate that pandemics are followed by sustained periods – over multiple decades – with depressed investment opportunities, possibly due to excess capital per unit of surviving labor, and/or heightened desires to save, possibly due to an increase in precautionary saving or a rebuilding of wealth.*
>
> *Either way, if the trends play out similarly in the wake of Covid-19 – adjusted to the scale of this pandemic – the global economic trajectory will be very different than was expected only a few weeks ago.*
>
> \- From *Longer-run Consequences of Pandemics*, NBER Working Paper, April 2020

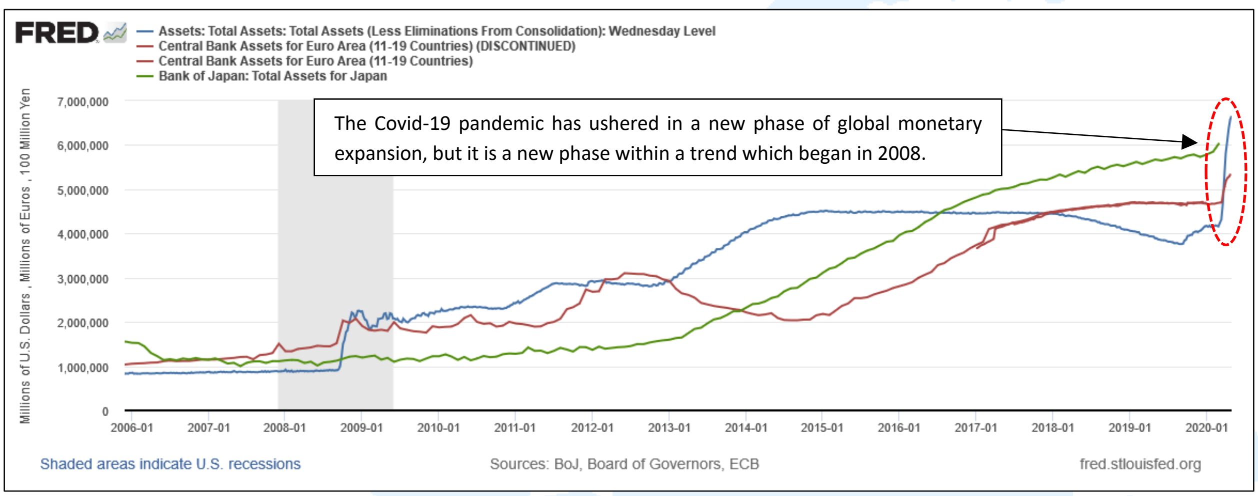
Over the past month, the earliest data showing the extent of the economic downturn currently unfolding began to trickle in, and it painted a clear picture of the *sudden stop* mentioned in last month's letter. As of the last report in April, there have been more than thirty million applications for unemployment insurance since the downturn began in March. Thirty million. That is an absolutely astounding number, as it represents nearly 20% of the workforce.

To find another time when that much of the workforce was not working, we have to go all the way back to the darkest days of the 1930s. Although the overall situation today is not directly comparable to the depth of the economic downturn that became known as the Great Depression, as the current downturn is in part being induced by stay-at-home orders to limit the spread of Covid-19, it's notable that it took *three years* for the unemployment rate to climb above 20% from the business cycle peak in 1929. Although the methodological quirks of the Bureau of Labor Statistics' employment report may lead to an unemployment rate for this past month that falls short of the 20% mark, the actual unemployment number from the household survey is less important than the process which has begun reverberating through the economy. There is no doubt the U.S. economy has endured an unprecedented shock over the past couple months, and the aftershocks are still to come.

While it took three years for the unemployment rate to climb above 20% during the 1930s downturn, the flip side of the coin is that it also took three years for the federal government response to materialize in a meaningful way — which highlights another difference between today and the Great Depression. During the early 1930s, the Federal Reserve lowered interest rates to what it thought were accommodative levels. However, because the governors at the Fed only considered nominal interest rates at the time, they didn't realize that real interest rates (nominal interest rates adjusted for inflation or deflation of prices) had skyrocketed and were greatly exacerbating the downturn. Real short-term interest rates climbed as high as 12% in 1932, from 3% at the end of 1929.

In addition to the drag of rising real interest rates, the federal government largely remained on the sidelines…until it raised taxes in 1932. President Hoover considered a balanced federal budget to be important in restoring public confidence, but the tax hike ended up piling further weight onto a rapidly deflating economy. It was not until Franklin Roosevelt's New Deal began in 1933 that the federal government engaged in what we would today call "economic stimulus" spending. The potent combination of federal deficit spending through the New Deal programs along with the decision by Roosevelt to devalue the dollar against gold, which helped lower real short-term interest rates to -5% by 1934, helped stem the tide of rising unemployment. Although the depression and the deleveraging which began in 1929 would continue to reverberate through the economy until the early 1950s, the most acute phase of the contraction passed when real interest rates fell below zero, and stayed there. In the 28 years between 1934 and 1952, real short-term interest rates remained negative 86% of the time.

The lessons learned from the crucible of the early 1930s have continued to inform and motivate monetary and fiscal policy ever since, including the response to the credit crisis in 2008, and what we have witnessed over the past two months. The primary goal of the trillions of dollars (and counting) of stimulus spending enacted by the federal government in recent weeks is to prevent gross domestic product from contracting as much as it would otherwise. The role of the federal government as *spender of last resort* in the face of a debilitating decline in GDP comes straight from the lessons learned in 1934. And the primary goal of the stunning monetary response by the Fed since March, which has already expanded the Fed's balance sheet to $6.65 trillion, is to extinguish any deflationary sparks before a larger debt-fueled conflagration has the opportunity to ignite, as happened between 1930 and 1933. The path from the 24.9% unemployment rate in 1933 to the booming economy of the 1950s was a long and winding one, but from the perspective of the *lender of last resort*, the path to post-war prosperity was straightforward: inflate the money supply, and keep real interest rates negative until deleveraging has burned itself out.



The Fed's attempt to raise interest rates and shrink its balance sheet in recent years was a departure from the main lessons from the 1930s. It was also ironic in a certain sense. The Fed in 1937 and 1938, fearing many of the similar outcomes that the Fed in recent years has cited, tightened monetary policy in a remarkably similar way by sterilizing the gold inflow into the U.S. from abroad. This effectively halted the monetary expansion which began in 1934 and resulted in a modest decline in the base money supply, just as happened in 2018 and 2019. The subsequent 1937–1938 recession was the third most severe in the 20^{th} century, and in a similar response, the market signals in 2019 were clear that a recession was on the immediate horizon. Then, the novel coronavirus arrived.

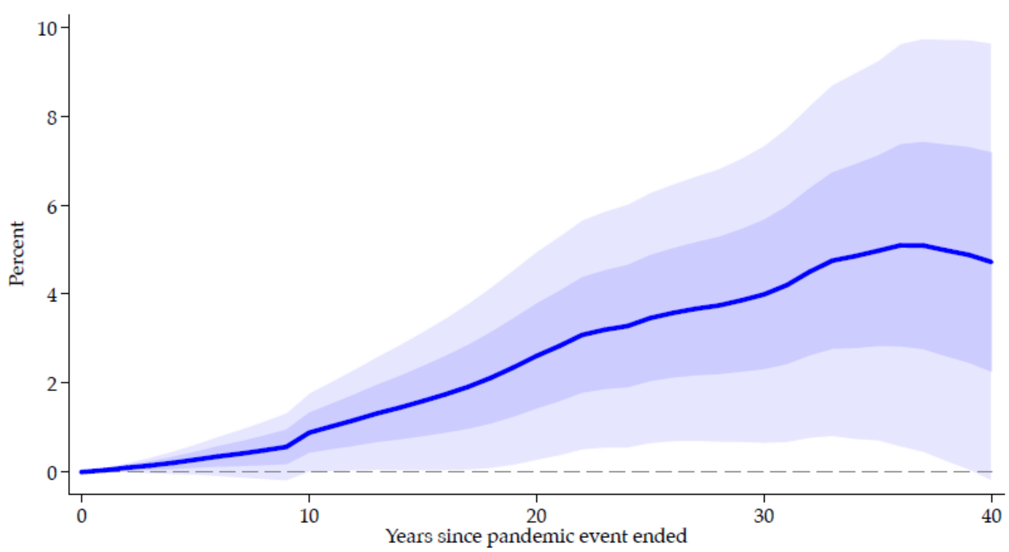
Much of the news surrounding the Covid-19 pandemic is at such a high frequency that we will not spend much time summarizing it in these letters, except for those aspects which will likely have a durable impact on the markets. Over the past month it seemed as if not a day went by when there wasn't a new reason to be suddenly optimistic, or a new reason for that optimism to be dashed. Unless you are day-trading, however, there is no reason to base investing decisions on the daily news.

What seems clear, however, is that the pandemic has dramatically altered the trajectory of the global economy in a pivotal way, and it also seems clear that it will be at least a year or two before global economic activity is not being intentionally curtailed to halt the spread of the coronavirus. Once a vaccine is widely available and administered, the intentional curtailment of economic activity may fade, but there will undoubtably be lingering social and economic effects that last far beyond mandated governmental restrictions. For investors with horizons beyond a month's time, these lingering effects will be the most relevant to understand.

In that context, an interesting paper from the National Bureau of Economic Research was published this past month, entitled *Longer-run Economic Consequences of Pandemics*. In it, the authors examine several foundational economic statistics in Europe following fifteen pandemics of the past millennium, from the Black Death of the 14th century to the H1N1 pandemic of 2009, and the results are stark, and robust.

Pandemics have historically had several important impacts on economic activity, both through fatalities *and* through the changed behavior of those who survive. When a significant number of people are suddenly unavailable for work, either because they have died or because they make conscious choices to limit their potential risk of exposure to disease more than they did before the pandemic, the pool of available labor shrinks. When the supply of something decreases, the price for it would be expected to increase over time, and that is one of the clear results from the study.

Figure 4: *The response of real wages in Europe following pandemics*

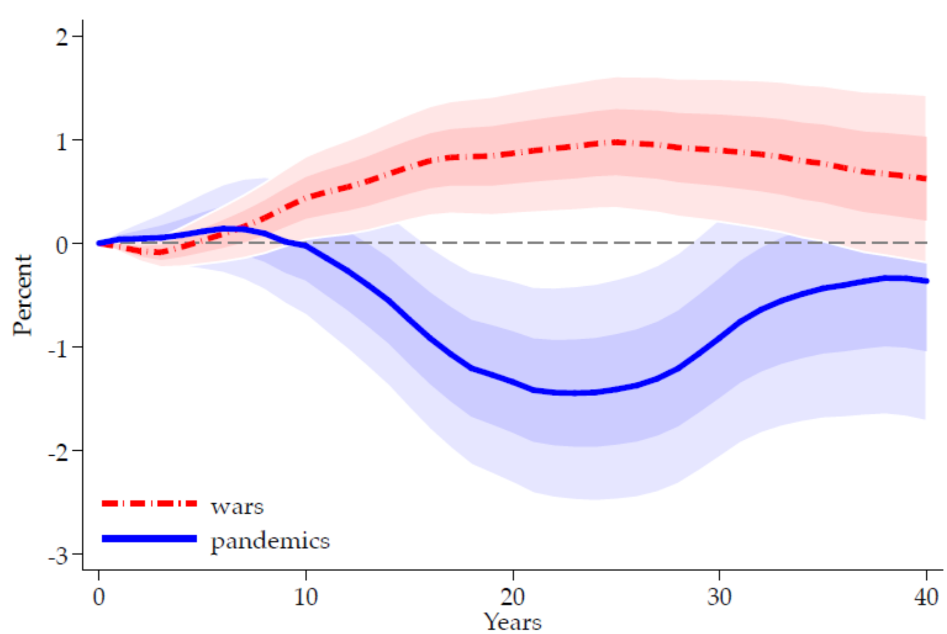


It may at first seem incredible that the effects from a pandemic are measured in terms of decades, but when dealing with events that impact population demographics and social changes that alter the behavior of generations, we are talking about very long-term changes that take time to propagate. Low birth rates or higher death rates affect the age structure and population over the life-span of the people in a generation, and significant events that alter the behavior of a generation — such as a war, a financial panic, or a pandemic — can have a similarly long-term impact.

Studies of past financial crises have concluded that the behavioral fallout can last for a decade, or more. Many of those who lived through the Great Depression vowed never to own stocks again, and even if they eventually changed their mind, they did so only decades later. Younger adults today, having come of age through the turmoil of housing bust and financial crisis a decade ago, remain similarly wary — which is shown in their higher rate of saving. And as is already becoming evident during the current pandemic, some aspects of work and social life that were commonplace before Covid-19 may not be coming back any time soon, if at all.

When the economic impact of past pandemics is examined from the 30,000-foot level, there is a clear depression of economic activity relative to the pre-pandemic trend. And again, the impact is felt over decades, not months or quarters. An event such as a war typically results in death *and* the destruction of physical capital, and when the war is over there is usually a period of rebuilding — which boosts economic activity. In a pandemic, however, there is little, if any, destruction of physical capital, but there is higher mortality and a greater caution amongst the survivors than before. This lowers the demand for the physical capital already in existence. These contrasting economic effects in the decades following wars and pandemics are clearly seen in the study's findings for changes in the natural rate of interest — higher following wars, and significantly lower following pandemics.

Figure 5: *Response of the European real natural rate of interest following pandemics and wars*



The list of pandemics included in the study is shown below, and as you can see, the Black Death of the 14th century and the Spanish Flu from a century ago dominate the number of fatalities. However, even when these two catastrophic pandemic events are excluded, the statistical results from the remaining thirteen pandemics are similar: in the subsequent decades, real wages rise and the natural interest rate, which reflects economic activity, declines relative to its pre-pandemic trend.

Table 1: *Fifteen large pandemic events with at least 100,000 deaths*

Event	Start	End	Deaths
Black Death	1347	1352	75,000,000
Italian Plague	1623	1632	280,000
Great Plague of Sevilla	1647	1652	2,000,000
Great Plague of London	1665	1666	100,000
Great Plague of Marseille	1720	1722	100,000
First Asia Europe Cholera Pandemic	1816	1826	100,000
Second Asia Europe Cholera Pandemic	1829	1851	100,000
Russia Cholera Pandemic	1852	1860	1,000,000
Global Flu Pandemic	1889	1890	1,000,000
Sixth Cholera Pandemic	1899	1923	800,000
Encephalitis Lethargica Pandemic	1915	1926	1,500,000
Spanish Flu	1918	1920	100,000,000
Asian Flu	1957	1958	2,000,000
Hong Kong Flu	1968	1969	1,000,000
H1N1 Pandemic	2009	2009	203,000

Source: Alfani and Murphy (2017), Taleb and Cirillo (2020), https://en.wikipedia.org/wiki/List_of_epidemics and references therein.

Given the global number of deaths from Covid-19 is already above 200,000 at this early stage, it is clear this pandemic will end up being one of the most significant economic events of the 21st century. However, it is important to point out that there is a critical difference between lower interest rates due to monetary manipulations, as was discussed above, and lower interest rates due to a moderation in economic activity following a financial crisis, pandemic or any other long-lasting negative event. Lower real interest rates due to monetary expansions usually stimulate economic activity for a time, but lower interest rates due to a financial crisis or a pandemic are indications of depressed economic activity. In fact, in the case of the latter, it *increases* the pressure on monetary authorities to venture further into policies which they view as stimulative, which is just what we have seen over the past two months.

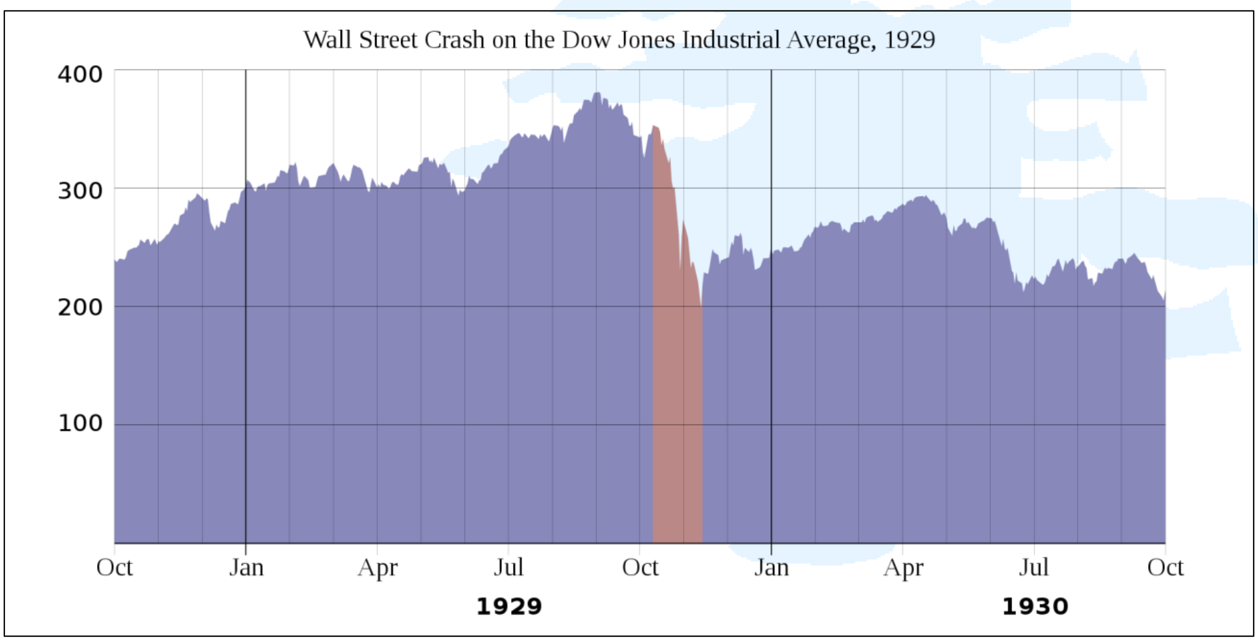
The sum total of public and private debt throughout the world rose above $250 trillion in 2019, which is a record high nominal amount of debt. This is up from $173 trillion on the eve of the financial crisis in 2008, and $84 trillion at the turn of the century. Relative to GDP, total global debt climbed above 320% of GDP in recent years, from 282% of GDP in 2008. The Covid-19 pandemic is a global event, and the negative economic impact from the pandemic will reach nearly every corner of the global economy, and it has hit at a time when the weight of debt on the global economy is at a record high. Although one could possibly dream up an environment in which there would be more long-term pressure to devalue than under these circumstances, it would be difficult. And that pressure to devalue has only just begun to be felt.

A Year After the 1929 Crash, the Market Didn't Look So Bad

> *While the crash only took place six months ago, I am convinced we have now passed the worst and with continued unity of effort we shall rapidly recover. There is one certainty of the future of a people of the resources, intelligence and character of the people of the United States - that is prosperity.*
>
> \- President Herbert Hoover, May 1, 1930

It seems to be a natural response. When prices and valuations are high for a prolonged period of time, the moment when they are suddenly lower than they have been in recent memory creates a feeling of panic . . . of not wanting to miss out on the buying opportunity. After all, the long road up to extremely high valuations is filled with short-term corrections of varying degrees, but they all turned out to be events which served only to frighten people out of their investments just before they shot up again. As those lessons of missing out by being scared out of the market become hardwired, the first decline of a larger bear market is naturally seen as a great opportunity to buy everything that isn't nailed down.

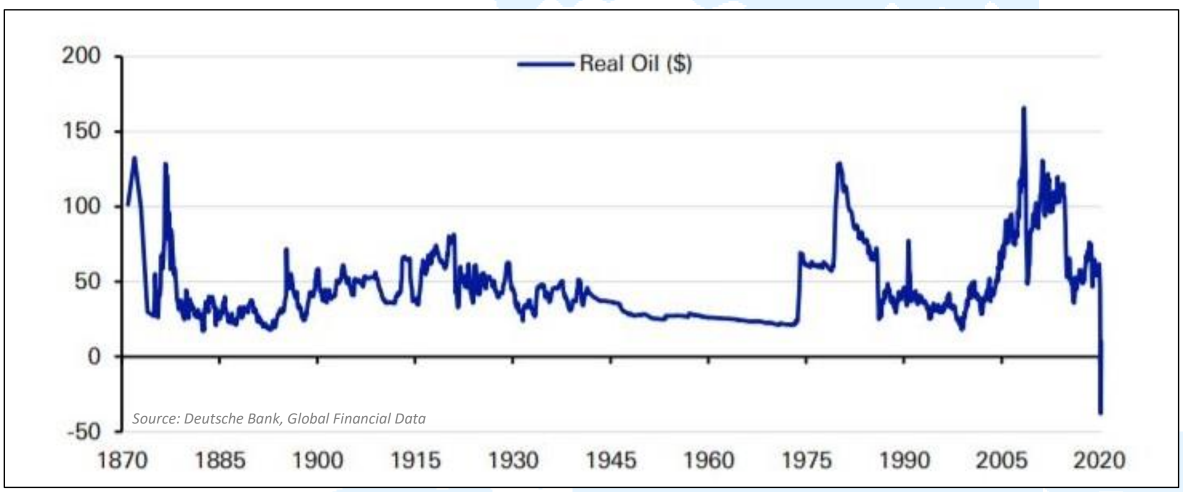
Over the past month, the main debate which played out in the financial media seemed to center around whether stocks had hit their bottom in March, or whether the market would end up going down to "re-test its low" before the inevitable V-shaped economic recovery later this year put the market back on an upward trajectory. This debate appeared quite myopic, on several fronts, because it seemed to be blind, not only to what is happening in the real economy, but also to the chain reaction of defaults which will likely unfold over the next year. With thirty million workers suddenly put into survival mode, and with entire sectors of the economy suddenly unable or unwilling to meet expenses like lease payments, there has not been an economic backdrop like this since right after the crash of 1929. Yet, as infamous as that crash is, it's easy to forget that in the five months that followed the low in November 1929, the Dow Industrials rallied 48%. That rally ushered in a debate similar to what we witnessed over the past month, as it seemed the worst of the storm may have passed.



From that optimistic peak in April 1930, however, the Dow Industrials would go on to lose 86% of its value over the following two years. How does a market lose 86% of its value? One way to think about it is like this: the value falls by 50%, then it falls by *another* 50%, and from that point it declines another 44% to its final low. That is what the Dow Industrials did after President Hoover proclaimed, on May 1, 1930, that the worst was over.

Such a fall may seem like something that could only be possible in some bygone era, and in a certain sense that may be true, but only because we are no longer on a gold standard. Being on a gold standard places all the devaluation pressure on nominal prices during an economic downturn. More recently, in the wake of the tech bubble, stock prices fell 89% against gold in the decade that followed, a decline in value similar to what unfolded following the 1929 peak, but the nominal losses were partially masked by the unmoored value of today's dollar. In an era when the dollar can absorb a large part of the cost of a rebalancing during a severe economic downturn, the nominal prices of risk assets tend not to fall like they used to (although market declines of 50% have happened repeatedly).

Yet while the post-Bretton Woods era has not witnessed an 86% decline in the Dow Industrials, it has been an era of remarkable volatility in the economy and the markets. From the inflation of the 1970s, to the tech bubble, the housing bubble, and the most recent everything bubble, there has been extreme market volatility and a steady stream of "market firsts" — with another one occurring this past month. For the first time in history, the price of oil sank below zero to *negative* $37 per barrel in April, which was not only the lowest nominal price in history, it was by far the lowest real price in history.



Ostensibly the reason the price of oil sank below zero has to do with the catastrophic collapse in global demand for oil in the wake of the economic shutdown, and the lack of storage for the estimated 30 million barrels of excess production, which suddenly has no place to go. Oil wells take time to shut down, and it is an expensive process, and there has never been a falloff in demand as has been seen since February. In that sense, this has been an unprecedented demand/supply divergence, in both its magnitude and speed.

However, in recent years we have seen the emergence of negative interest rates for the first time in history, and now we have seen a negative price for the most economically important commodity in the world. If the boom-bust nature of the economic cycles over the past twenty years hasn't been convincing enough evidence as to the underlying instability created by the monetary and credit expansion since the end of Bretton Woods in 1971, negative interest rates and negative oil prices should serve notice that significant risks begin to fester when monetary policy drives economic expansions. Those risks usually aren't visible while times are good, but they can emerge with stunning ferocity when the tide turns. Given the extent to which the economic expansion in the wake of the credit crisis was monetary-driven, we probably haven't seen the last of the "market firsts" that will appear in the wake of the recent bubble.

As the Dow Industrials drifted back down in the latter half of 1930 to the low reached in late 1929, investors had no idea that the Dow would not rise above the price level seen in the spring of 1930 for more than twenty years, or that it would be nearly thirty years before its real, inflation-adjusted price would return to that level. At that moment, it appeared that a reasonable correction of the obvious excesses of 1928 and 1929 was unfolding, and a technical "re-test" of the 1929 crash low would be followed by renewed prosperity, as President Hoover predicted. As we all know, however, the market and the economy instead embarked on quite a different path after 1930, one which few were prepared for.

As best as we can tell, there is little evidence markets have priced in the long-term economic impact of the Covid-19 pandemic, or the full deflation of the recent bubble, though there are signs here and there that they are beginning to do so while navigating the flood of trillions of dollars of monetary stimulus entering the markets. The 10-Year Treasury yield traded near 0.6% throughout April, just above its all-time low. Also, the price of gold and precious metals–related investments quickly recovered from their March declines, even though risk assets remained lower. These are signs that some markets, at least, are anticipating a more prolonged downturn. Although the urge to buy into suddenly lower risk asset prices can be great, we caution that the markets are only two months into this downturn, and it's quite likely the majority of it remains ahead of us.

We appreciate your taking the time to read this letter. As always, if you would like to discuss investments in your account, or topics discussed in this letter, feel free to contact us — we would be happy to talk with you.

Sincerely,

Brian McAuley
Chief Investment Officer
Sitka Pacific Capital Management, LLC