

August 2020

Elixir News



CREATING INCOME FOR EVERYDAY PEOPLE BY USING TECHNOLOGY
TO HARVEST VOLATILITY.





Disclaimer

This communication is confidential. The contents are not to be reproduced or distributed to the public or press. The information contained herein, while obtained from sources which are believed to be reliable, is not guaranteed as to its accuracy or completeness and confers no right to investors. Except where otherwise noted, statements regarding historical fact and statements regarding industry and market trends and forecasts are based on information obtained from publicly available third party sources of such information. Elixir has not undertaken any independent verification of any such third party information.

This communication should not be considered as the giving of investment advice by Elixir or any of its shareholders, directors, officers, agents, employees or advisors. Each party to whom this communication is made available must make its own independent assessment of Elixir after making such investigations and taking such advice as may be deemed necessary. In particular, any estimates or projections or opinions contained herein necessarily involve significant elements of subjective judgment, analysis and assumption and each recipient should satisfy itself in relation to such matters.

This communication does not constitute, or form part of, any offer or invitation to sell or issue, or any solicitation of any offer to subscribe for or purchase any securities in Elixir, nor shall it, or the fact of its communication, form the basis of, or be relied upon in connection with, or act as any inducement to enter into, any contract or commitment whatsoever. No securities regulatory authority in Canada or the United States has passed upon the securities described herein or reviewed this communication.

THIS COMMUNICATION IS NOT A PROSPECTUS OR OFFERING MEMORANDUM.





ELIXIROFTECHNOLOGY.COM

elixir

Hi, everyone.

Typically, August is the slowest month in the North American capital markets, as people go on vacation to enjoy summer. However, August 2020 was a special month. The force of the great speculation of risky assets was particularly strong. As a result, the S&P 500 broke a new high intraday record of 3589 on September 1 – i.e., 5% higher than the previous intraday record of 3373.23, established on February 20. Shortly after that, however, the market took a sharp turn. Since the beginning of September, we have seen a nearly 10% drop at closing by September 11. It looks like volatility has finally returned, which is excellent news for Elixir.

We expect strong volatility to remain this fall. In this newsletter, we will comment on the four areas of uncertainty that will keep volatility at a high level. You may find the options market commentary to be particularly intriguing.

The feature article in this newsletter discusses whether the US is on a path of inflation or deflation. Many opinions about this topic have been flying around in the media ever since the pandemic hit and the Fed aggressively pumped fake money into the system. At Elixir, we believe that the US is currently in a trend of deflation and that this trend will last for a while. There may be a chance of inflation or stagflation, but it will likely be long into the future. The article provides reasoning to support our view.

I hope that you find good information in this newsletter. Please feel free to reach out.

Sincerely,
Bill and Eve McNarland

Elixir Technology Inc.
elixiroftechnology.com

In August, retail investors' confidence was extreme, as evidenced by the violent upswing in the pricing of risky assets in the market. The S&P 500 went 5% above its pre-pandemic record high, achieved on February 20, 2020.

In September, things started going the other way. The market saw a 7% drop in the S&P 500 in the first two days of September. Market volatility increased significantly and is continuing to do so as of the time of the writing of this newsletter. We expect strong volatility to remain this fall, driven by uncertainties in the following four areas.

1 THE US ECONOMIC RECOVERY

Ever since the pandemic hit the US, our view on the country's economic recovery has been pessimistic. Almost six months after the initial lockdown, the US economic data doesn't suggest that we should change our view anytime soon. In his interview with NPR on September 4, US Fed Chairman Powell shared our view and said that "the recovery (of the US and the world economy) is continuing; we (US Federal Reserve) think it will get harder from here ¹". Additionally, a recent poll of economists conducted by the National Association for Business Economists showed that a growing portion of economists are concerned that the economic situation will get worse than expected. Eighty percent of those surveyed felt that there was at least a 25% chance of a second recession ². If the economy is getting worse than consensus expectations, the result will be significant volatility.

2 WINTER IS COMING: COVID-19 AND THE VACCINE

In its recent release, the Institute for Health Metrics and Evaluation (IHME), whose models have previously been cited by the White House, forecast that the US death toll will double by the end of 2020. Based on the current projection scenario, COVID-19 deaths will rise to over 410,000 by January 1, 2021 ³. If the reality unfolds as the IHME's forecasts indicate, we will see tremendous fear in the capital market.

Much confidence is riding on the availability of a quickly developed vaccine for COVID-19. People seem to forget that setbacks are common during the trial process. Although the current head of the States has been publicly saying that a safe vaccine will be ready before the US election in early November, —

own scientific head of Operation Warp Speed, Dr. Moncef Slaoui, said in a September 3 interview with NPR that the possibility is extremely unlikely. ⁴

We've witnessed how good news on vaccine developments swiftly pushed up the prices of certain stocks in the market. The recent news of AstraZeneca holding back on its testing reminded us that bad news can promptly drag down the stock market, too.

3 MAJOR POLITICAL EVENTS

One of the most anticipated events in 2020 is the US November election. November 3 is less than two months away and, historically, the election has caused much volatility in the capital markets. We expect even more volatility this year. Our next newsletter will contain an article that shares our view on the US election and its impact on the market. Aside from the US election, we expect US/China relations and Brexit ⁵ to continue creating volatilities for the capital market throughout the remainder of 2020.

4 THE OPTIONS MARKET

This is a fascinating story. The August speculative bubble was largely created by huge bets by retail and institutional investors in the options market – which we didn't touch on in the July newsletter. For the longest time, the options market has been mainly a playground for institutions and professional traders. This year is different. Small retail traders have learned about options and have embraced them with a passion. The following chart shows the significance of their investment in options from a historical perspective. Let's dig deeper into the options market, its impact on the overall capital market in August, and its potential future influence on market volatility.



Why the interests in options?

First, options allow for high leverage, which can amplify investors' returns. When markets only go up, investors can expect significant gains on their small investments. Second, option trades pay much higher commissions to discount brokers, such as Robinhood and Charles Schwab. Under this incentive, option strategies have been heavily promoted to retail investors. Lastly, a unique phenomenon of our time is that social media platforms provide investors with an easy "education" on options. These days, no one – especially young people – seems to care about professional credibility. If an influencer with a million followers says that options trading is easy and makes him/her lots of money, people jump on the wagon without much independent thought.

How do options work and how did they create the August bubble?

I thought Robinhood did an excellent job of explaining, in simple terms, how options work ⁶. Those who are interested should go to their website and have a read.

Instead, I would like to focus on how the options market created the August bubble. Before I answer this question, let's look at the basic differences between stocks and options. Bear in mind that brokers or media influencers do not typically promote these differences.

1 While stock outstanding is a set number, the number of options can be infinite.

2 With stock, every buyer has a seller. The trade could happen between two retail investors. With options, on the other hand, investors are not buying or selling to a person but, rather, to a professional market maker, such as Goldman Sachs or RBC.

3 For stock, if there are more buyers than sellers, the price of the stock goes up. It is simple. The pricing of options is much more complicated; factors that could influence the price include, but are not limited to, time left for the options contract to expire, the implied volatility, and the gamma, delta, theta, and Vega relationship with the underlying stock.

4 If there are no buyers, stockholders will not be able to sell their stock. On the other hand, an option is a contract, so people must fulfill it. Market makers will always buy or sell at a spread.

Among these four differences, the most significant is number four – the market makers whom the exchange hires to guarantee liquidity will always buy or sell options.

Traditionally, there has always been a similar number of people who want to buy and sell call options (betting that the market will go up) or put options (betting that the market will go down). So, the market makers are close to being hedged out.

However, in 2020, retail investors want to buy only call options, betting that the stock market will go up. There are not enough people on the other side of the trade. Therefore, market makers have been forced to buy the stocks of the underlying call options to hedge out their exposure. Driven by technical necessity, market makers' buying actions naturally push up stock prices. Up-trend pricing pressure then forced many short sellers to unwind their positions, which further increased the stocks' prices. The following chart demonstrates how severely the short sellers have been pushed out. These two forces have been a self-fulfilling prophecy – pushing stocks up until, finally, short-sellers have unwound and buyers have run out.

What makes the situation worse is that not only were small retail investors buying up as many call options as possible, but institutional-sized groups got in on it as well! On September 4, the Wall Street Journal reported that Softbank bought \$50 billion worth of call options in individual tech stocks this year ⁷. I must say that I was both surprised and not surprised that Softbank made this type of win-big-or-go-naked (lose their shirt) gambling investment. I guess the bad bets on WeWork and Wirecard are making Masayoshi Son a little desperate. It seems that as September came, the buying pressure was ending, which created volatility. This is a piece of excellent news for Elixir.

How will this extensive option trading play out?

Remember, options have expiry dates, and stock price up-trending seems to be cooling down. If the market is trending down when the call option is due to expire, the exchange will automatically sell it at a loss – and a substantial loss because of leverage. But what matters more is that when the option expires, market makers will release their hedges by selling the underlying stock. This should create volatility at the very least but could potentially create a significant loss in the value of the popular stocks. A key date to watch is September 18, which is the day when the first tranche of these call options expires as worthless. After this date, the market makers will no longer be required to hold onto their hedges and start selling stocks – then the downward pressure begins. While the self-fulfilling prophecy could push up the market, it could also do the opposite.

Is the US heading towards inflation or deflation?

In the June newsletter [8](#), we talked about how the US Federal Reserve (the Fed) monetized \$2.8 trillion to buy back its treasury bonds between March and May to fund the pandemic's fiscal deficit. We focused on how the Fed turned fake money into a real money supply in the economy to boost spending, thereby avoiding a rapid decline in the prices of goods and services (deflation). In that article, we also briefly explored the potential risks of aggressive monetization, one of which is that the US could face the threat of inflation in the long run.

With the new data points from Q2, our view is that the US is currently trending towards deflation despite the increase in the money supply, and that the downward pressure could last a while. In this article, we will share the research and analysis supporting our view.

Lately, we've seen three different opinions regarding the effect of money printing on the prices of goods and services in the US. These three opinions are from three schools of economics: the Modern Monetary Theory (MMT), the Austrian School of Economics (the Austrian School), and the Keynesian and Monetarist Economic Theory (Keynes and Friedman).

Our journey towards shaping the deflation view stems from our examination of these three opinions. We will share the research that we conducted into each. Knowing that the US is trending towards deflation is only the first step; understanding the effects of asset pricing will be more important to everyone's investment portfolio. Therefore, in the second part of our discussion, we will focus on that issue.



Nothing Happens vs. Inflation vs. Deflation

▶ MMT: Unlimited money printing will have no negative consequences


In her book, *The Deficit Myth* [9](#), Stephanie Kelton writes that "traditional concerns about high deficits, government debt loads, and printing money are myths. If countries print more money, we can end poverty, climate change and build resilient infrastructure." Kelton, a professor of economics at Stony Brook University and an economic advisor to Bernie Sanders, is an avid promotor of MMT. In short, MMTERS believe that a country can solve all its problems by printing an unlimited amount of money and that this will have no adverse effects on its economy and financial system.

To date, MMT remains a unicorn theory, as no government is brave enough to put it into practice. Nobel Prize-winning economist Paul Krugman describes debating an MMTER as being like "playing [a] Calvinball game in Calvin and Hobbes [10](#)".

For those who are not familiar, "Calvin and Hobbes" was a daily American comic strip launched in the mid-80s. The significance of Calvinball is that "you make up the rules as you go." I guess debating an MMTER is a waste of time, at least according to Krugman.



In my view, MMT was created by idealists with good social intentions but who disregarded the economic laws that human society created from thousands of years of experience. The theory itself is a myth.



▶ The Austrian School: More money-printing means more inflation.

The origin of the Austrian School of Economics was Carl Menger's Principles of Economics. The Austrian School believes that every percentage of increase in the money supply will result in an equal portion of inflation. For example, if the money supply increased from \$1 to \$2 due to money printing, inflation would increase by 100%. With this firm belief, Austrian School disciples expect rapid inflation. As a result, they have actively promoted gold investment ever since monetization started.

It's not hard to debunk the Austrian School's inflation theory. Since the last recession in 2008, the US's money supply has increased by 146%, while inflation increased by only 20.3%. The prices of goods and services don't correlate to money supply only; there are other influencing variables that the Austrian School theory does not consider.

▶ Keynes and Friedman: The change in nominal spending indicates the deflation trend

The current economic thinking shared among central banks globally is guided by a blend of Keynesian and Monetarist economic theory.

BACKGROUND

Keynesian Economic Theory believes that fiscal policy is the best way to manage economic policy. An example of fiscal policy is making taxation changes, spending through government programs, and adding to or decreasing the national debt. British economist John Maynard Keynes developed Keynesian Economics during the Great Depression and encouraged governments to increase fiscal spending during economic challenges to improve the economy. President Franklin Roosevelt built the famous New Deal program based on Keynesian economics, and it brought the US out of the Great Depression.

Monetarist Economic Theory, established in the '60s by American economist Milton Friedman, adds that the Federal Reserve (central banks) also influences economic viability by changing the money supply and interest rates to adjust monetary policy. One of the most academically respected Fed Chairmen, Ben Bernanke, stated that, since the Great Depression, Friedman's Monetarist Economic Theory has been the most influential in terms of shaping the policies of the world's central banks.

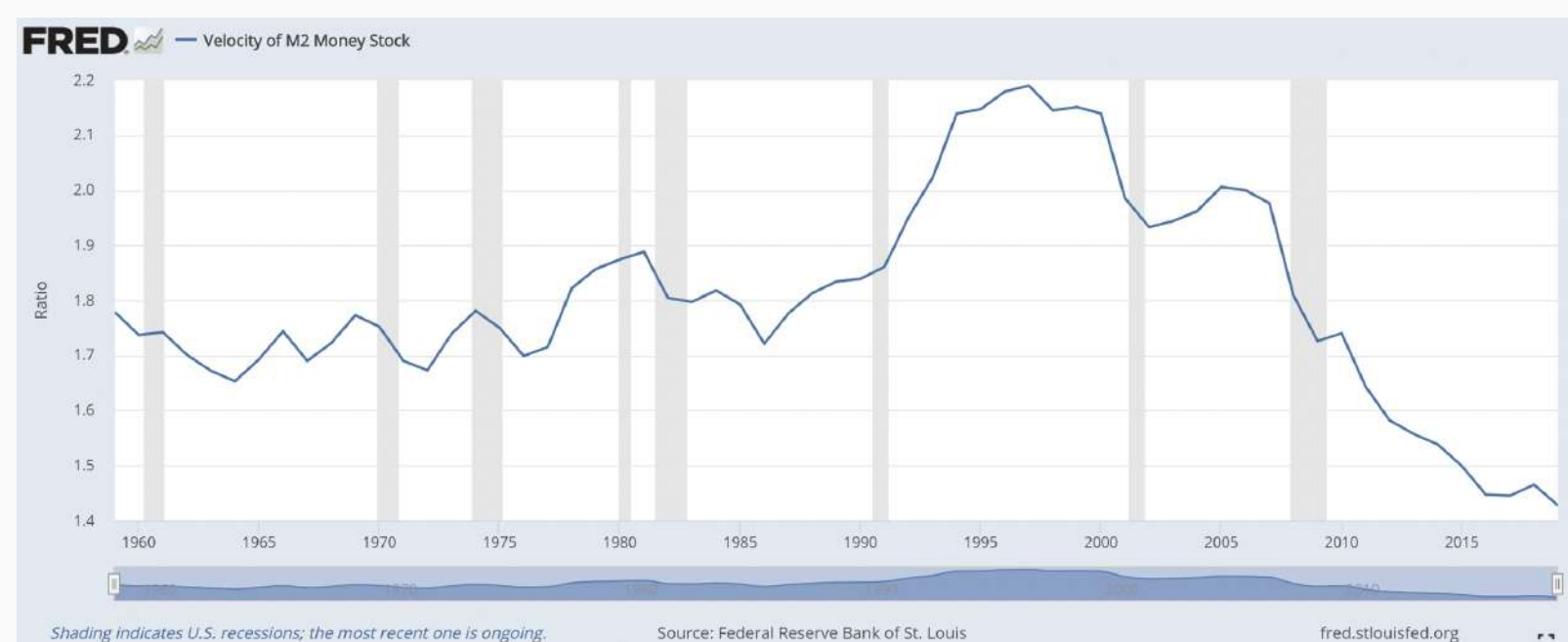
Another of Friedman's contributions is that he popularized the quantity theory of money (initially formulated by Polish mathematician Nicolaus Copernicus in 1517) after the publication of his book, A Monetary History of the United States, 1867-1960, in 1963.

Among other things, the quantity theory of money tells us that nominal spending equals nominal gross domestic product (GDP) and the change in nominal spending (or nominal GDP) indicates the change in the prices of goods and services. Inflation occurs when the prices of goods and services trend up, while deflation occurs when these prices trend down. Nominal spending is calculated as money supply times the velocity of money. This logic behind this formula makes sense, as having money available (money supply) is not enough to fuel economic growth. To grow our economy, people have to spend their money.

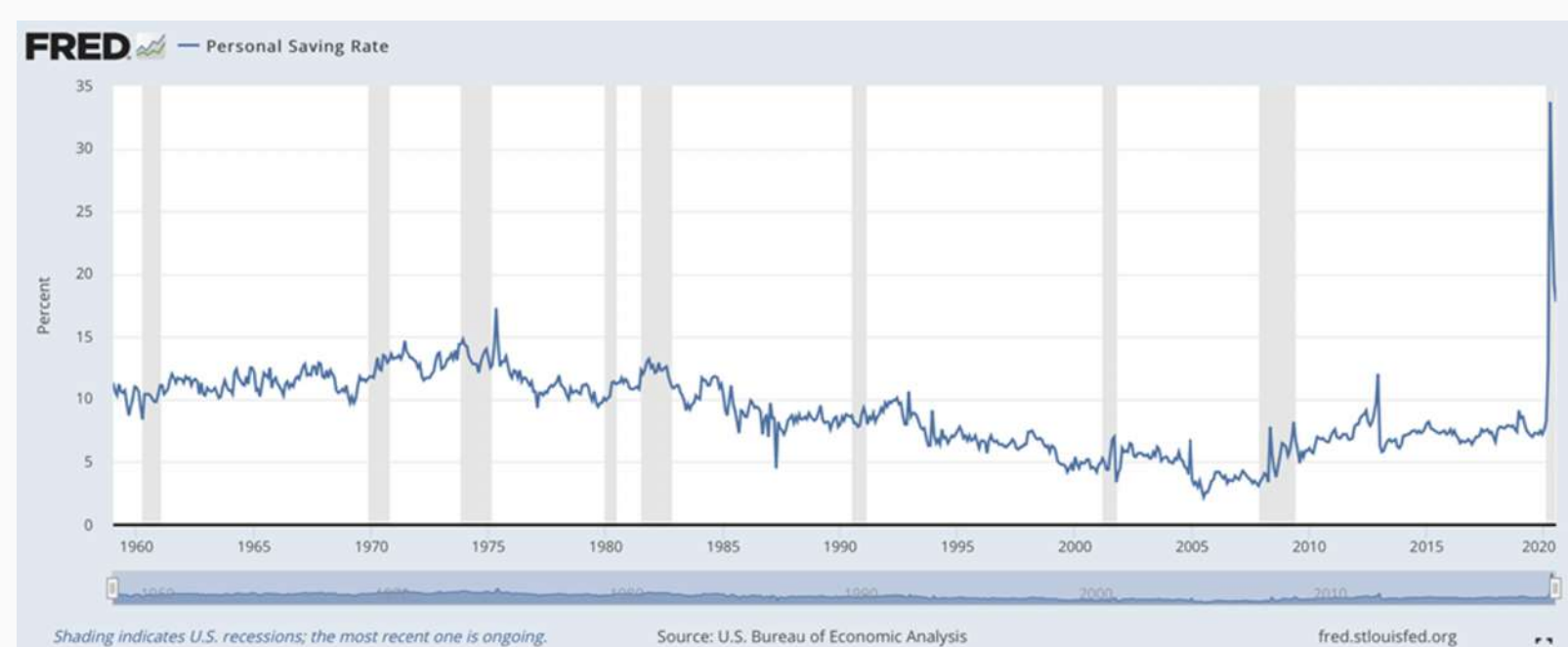
The velocity of money measures how quickly money changes hands in the economy. The higher the velocity level, the higher the economic output level is from the money supply. Here is a simple example to demonstrate the velocity of money. I spend \$100 at a restaurant. The next day, the restaurant owner uses my \$100 to pay a staff member. Then the restaurant staff member uses the \$100 earnings on a haircut. Subsequently, the hairdresser spends this \$100 on hair products. In this example, the \$100 changed hands three times in a short period. In other words, the contribution of my \$100 to the economic output is three times higher than the contribution it would have made if I had decided to keep that \$100 in my bank account. The velocity of money is a materially missing component in the Austrian School of Economics when one is studying inflation or deflation.

Now that we are clear on the fundamentals, let's look at the changes in nominal spending and nominal GDP since the beginning of 2020. According to data published by the Federal Reserve Bank of St. Louis, during the first two quarters of 2020, the US money supply skyrocketed from \$15.3 trillion to \$18.2 trillion, representing a record-breaking 20% increase over a short six-month period. Meanwhile, the velocity of money fell from 1.4 times to 1.1 times. The US nominal GDP went from \$21.1 trillion at the beginning of Q1 2020 to \$20.2 trillion. Nominal GDP decreased by 4% during the first half of 2020. In other words, we can say that the US experienced deflation of 4%.

The nominal spending formula also explains why monetization did not create inflation in the US since 2008. The main factor is that the velocity of the money went the opposite way, while the money supply increased in the market. As the following chart shows, velocity has been on a downward path since its peak in the mid-'90s, and today it is at a historically low level.



A low velocity of money indicates that individuals and companies are putting their money into savings. The following chart provides an easy visual showing how aggressively the personal savings rate has increased recently. Bear in mind that this chart does not include business savings, which would be a much larger amount of capital than the capital in individuals' hands. While we don't have the same data on businesses, judging from the drop in the velocity of money, we can assume that companies have also been holding back on spending for a long time.



One thing I would like to clarify is that not all movement of money creates economic output. For example, more money in the stock market does not increase money velocity because trading on a stock market is like playing a money exchange game. Money simply goes from one investor to another for a spread profit in cash. Thousands of funds, mutual funds, ETFs, and options are facilitating this game, and companies within the basket of funds don't get extra funding to spend on growing their businesses. The only exception is when a company first sells its stock to the general public (IPO). The IPO issuing company receives the capital and spends it according to the expansion plan (buying machinery, increasing inventory, or hiring new staff).

Money in the stock market, for the most part, does not contribute to economic outputs. Therefore, while some political leaders suggest that a high stock market is good for the economy, this assertion is truly a myth.

According to the data from the first two quarters of 2020, the US was on a deflationary path despite the aggressive increase in the money supply. How is the US doing now? In our July newsletter ¹¹, we said that the Fed has slowly been pulling the money supply since mid-June. This is deflationary. We know that the velocity of money has shown no sign of increase since the last reporting period in July. This is deflationary. Real GDP is rebounding in Q3 from its bottom in Q2, but this is deflationary, too. When there is less nominal spending in the system, but when the actual output is increasing, companies must slash the prices of their goods and services to entice customers to spend. So, as you can see, the three main drivers of the prices of goods and services are all currently pointing towards deflation.

Some may wonder under which scenarios inflation would happen in the future. Again, we would have to look at the main variables affecting the prices of goods and services. If the Fed continues raising the money supply to fund fiscal deficits, and if, at the same time, more people decide to spend on goods and services, then we will see inflation. There is also an economic phenomenon called recession-inflation (stagflation) in which we see persistent high inflation, high unemployment, and stagnant demand in a country's economy. We will discuss stagflation in-depth at a later time. We are not ruling out the possibility that inflation and stagflation could happen in the future.

That said, while it is impossible to predict when inflation will occur because no one knows or has control over the money supply and money velocity, the good thing is that changes happen very slowly. As David Rosenberg put it, the change will unfold like watching paint dry or watching grass growing. Our research into the last 100 years of inflation data has revealed that the monthly changes are minimal, and the average inflation or deflation period lasts for about 31 months. At Elixir, we closely monitor the trend of critical factors every month. However, because we know that change doesn't happen quickly (it typically takes years to shift directions), we don't make our investment decisions like the Austrian School Gold promoters.

What happens to asset prices during periods of deflation and inflation?

As you know, we always study long-term historical data to help us understand the future. Unfortunately, although we have accurate inflation and stock data back to 1920, bonds and real estate data are available starting only from the late '50s. The following chart lists the results of our data research. We can only try our best to provide comments with the existing data available. Again, our view of the future should not be taken as guidance on investment decisions.

Event	Starting Month	Ending Month	Length in Months	Annual Inflation/Deflation	Inflation adjusted max stock market decline	Interest Rate Change Max	10 Year Bond Price Change	Inflation Adjusted Real Estate
Deflation	1920-07-01	1922-08-01	25	-10.56%	-11.00%	No Data	No Data	No Data
Deflation	1929-12-01	1933-03-01	40	-9.48%	-78.00%	No Data	No Data	No Data
Deflation	1937-11-01	1939-04-01	18	-3.72%	-18.00%	No Data	No Data	No Data
Inflation	1940-12-01	1943-05-01	30	9.00%	-36.00%	No Data	No Data	No Data
Inflation	1946-03-01	1948-07-01	29	12.48%	-35.00%	No Data	No Data	No Data
Deflation	1948-10-01	1950-01-01	18	-3.12%	-9.00%	No Data	No Data	No Data
Inflation	1950-07-01	1951-11-01	17	7.32%	0.00%	0.85%	-6.30%	No Data
Inflation	1973-02-01	1981-09-01	104	9.12%	-59.00%	14.50%	-62.00%	6.00%
Deflation	2008-08-01	2008-12-01	4	-12.30%	-14.00%	-2.00%	17.00%	0.00%

Since 1920, we have had nine periods of elevated deflation and inflation. I consider “elevated” to be sustained inflation over 6% annually and sustained deflation over -3% annually. Over the last 100 years, inflation has averaged 3.1% a year. Periods of price instability lasted anywhere between 4 months and 104 months.

Concerning the impact of inflation and deflation on the stock market, an increase in the prices of goods and services means that the cost of business will go up, which, in turn, will shrink the margin of earnings. Pricing for goods and services going in the opposite direction would force companies to slash their selling prices, thereby decreasing profitability too. Based on this understanding, the stock market should fall in value in both severe inflation and severe deflation. As seen in the chart, historical data going back a century has proven this theory – not counting the one anomaly,

i.e., when there was 7.32% inflation between July 1950 and November 1951, the stock market didn’t experience a sell-off. All the eight other periods of price instability (inflation or deflation) tell us that the stock market declined anywhere from -9% to -78%.

As interest rates are highly correlated to inflation, the bond market loves falling interest rates and performs very poorly when rates are rising. During the high inflation period between 1973 and 1981, the US 10-Year Treasury Bond lost 62% of its value. Real estate performance during this high inflationary period was a bit counterintuitive. The price did not change much at all. Over the eight years, home prices in the US increased by 6%. But, again, we have only limited historical real estate data upon which to rely; we would have to reach into other areas to determine whether the ‘70s home price was an exception or the norm.

Final Remarks

At Elixir, we believe that the US is currently in a trend of deflation and that this trend will last a while. There may be a chance of inflation or stagflation, but it will likely not happen until long into the future. Deflation is terrible for businesses (I commented more on this in the June newsletter) and certainly creates downward pressure on the stock market’s value, but it will take some time for the market to react with pricing data being lagged.