

# The Multiple Personalities of Inflation, Part 2: History

December 2021



ED PETERS

Managing Partner

In Part 1, we examined the three drivers of inflation: (1) Increased demand, (2) decreased supply, and (3) increased money supply. We discussed their underlying causes and potential remedies. However, as we can see from historical examples, knowing the type of inflation we are facing is not always clear-cut, and high-inflation regime often last far longer than expected.

In this paper, we will apply the concepts among the three types of inflation to examine significant historical inflationary episodes in US history. For each, we will discuss the historical context, the relationship between inflation and inflation expectations (as proxied by bond yields), and the market response. While each episode is unique, we can also learn much that can be applied to hedging future inflation.

## 1946-1948: Post-World War II US Economic Reopening

### Historical Context: An Economy in Shift

The immediate post-war period is an excellent example of a simultaneous supply and demand shock to the economy and the impact on inflation. As a result, the post-war episode may be the most relevant point of reference for today's environment.

During the Second World War, economies were repurposed towards supporting the war effort. In the US, for example, manufacturers primarily

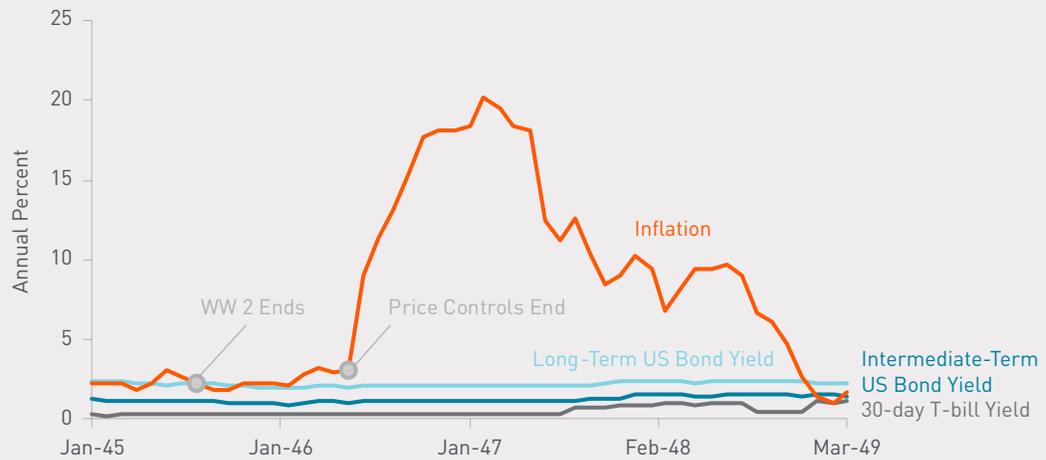
produced goods for the military. The government implemented price controls on food and the few consumer goods that were available. Meanwhile, employment was high to support the war effort. So citizens were working, but with few consumer goods to buy, they saved much of their wages.

The war ended in 1945, and price controls were released in 1946. As the economy transitioned to the post-war era, many households had appliances and clothing to replace. However, consumers still had few goods available for purchase, as factories needed to be retooled and repurposed. Global supply chains were non-existent since most countries had their economies decimated. The US was a notable exception.

### Inflation and Expectations

The combination of a positive demand shock and negative supply shock unleashed massive inflation. In 1947, annualized inflation, as measured by the 12 month change in the Consumer Price Index (CPI), rose to an astounding

**FIGURE 01 - POST WORLD WAR II ECONOMIC REOPENING<sup>4</sup>**  
 (JANUARY 1945 - MARCH 1949)



Sources: Ibbotson Associates, First Quadrant, LLC

20%! Interestingly, the government did little to control this inflation. It was considered a temporary phenomenon that would correct itself once the supply/demand imbalances were resolved. Investors seemed to agree: As we can see in Figure 01, short-, intermediate- and long-term interest rates did nothing over the period. Real yields remained firmly negative.

The US bond market was largely controlled by the Federal Reserve (“Fed”), which was at the time controlled by the Treasury Department.<sup>1</sup> The Fed implemented a form of Quantitative Easing (QE), keeping interest rates low, since stimulating the recovering economy was seen as more important than fighting transient inflation.

Sure enough, after a few years, excess demand moderated, supply expanded, and inflation fell back without any kind of monetary tightening.

**Market Reaction**

Investigating markets in this time period is a challenge. One issue is that commodity indices were not available. The Industrial Producer Price Index (IPPI) is a useful but imperfect proxy for the asset class, since it includes many industrial commodities, but also includes finished goods.

Table 01 lists the annualized excess returns to 30-day T-bills for stocks, bonds, and commodities (as proxied by the IPPI). The 30-day T-bill yields are also annualized as a comparison for bonds. As we can see, returns were fairly mediocre for most instruments over this period. The IPPI had the strongest returns, and importantly, the only positive real return. Stocks were not much of an inflation hedge.

Since markets react differently when inflation is rising or falling, we have also divided the

**TABLE 01: POST WORLD WAR II REOPENING<sup>4</sup>**  
 (JANUARY 1946 – DECEMBER 1948)

|                | Average CPI | 30-day T-Bill Yield (Annualized) | Excess Returns over 30-day T-Bill Yield (Annualized) |       |         |                           |           | IPPI  |
|----------------|-------------|----------------------------------|--|-------|---------|---------------------------|-----------|-------|
|                |             |                                  | Long-Term Bonds                                      |       | S&P 500 | Intermediate-Term US Bond | Small Cap |       |
|                |             |                                  | Corporate  | US    |         |                           |           |       |
| Return         | 12.12       | 0.60                             | -0.49  | -0.51 | -2.91   | 0.54                      | -11.06    | 14.17 |
| Risk           | —           | 0.08                             | 2.16   | 2.69  | 16.21   | 0.57                      | 22.20     | 4.27  |
| <b>Returns</b> |             |                                  |  |       |         |                           |           |       |
| Reflation      | 15.89       | 0.39                             | -0.45  | 0.17  | -8.88   | 0.42                      | -22.74    | 22.12 |
| Disinflation   | 8.60        | 0.80                             | -0.53  | -1.13 | 2.98    | 0.65                      | 1.28      | 7.18  |

Sources: Ibbotson Associates, Datastream, St Louis FRED, First Quadrant, LLC

time using the trend in inflation.<sup>2</sup> As discussed earlier, bonds did little during either period, likely reflecting Fed control of the Treasury market. Both large and small cap stocks did poorly during the reflationary period but recovered during disinflation. Commodities, as expected, did well during the reflation period and continued to advance during the disinflationary period.

**Summary**

Though over 75 years ago (as of this writing), the post-World War II US economy has much to teach us. Like the current economic recovery, the post-war period featured a simultaneous rise in demand and limited goods. During this period, the central bank did not intervene to constrain inflation and prices naturally came down, though that process took three years. Market returns were muted for most asset classes, though commodity-related indicators did give a positive real return.

**1968-1983: Turbulent Inflation in the US**

This 15-year period is notable for containing several distinct, but interconnected, inflation regimes. Each regime had a different causality, but one type of inflation may have led to another. This historical episode illustrates the problems with targeting a particular type of inflation with a specific method of hedging.

**1968-1972: Vietnam War and the “Nixon Shock”**

**Historical Context: Monetary Inflation and Price Controls**

Inflation in the US remained close to 2% for much of the 1960s. But in 1965, military spending increased dramatically to support the Vietnam War. By 1968, inflation was rising. Economists have been unable to agree on exactly why inflation returned, but it is likely that the military spending (and the deficits and borrowing it generated) was a primary culprit, in addition to increased spending to finance President Johnson’s “Great Society” programs.

**Inflation and Expectations**

In 1971 came the “Nixon Shock,” when President Nixon announced that the dollar would no longer be on the gold standard, and that price controls would be in effect on most goods for 90 days. These combined actions appeared to arrest inflation, as we can see in Figure 02 (CPI, orange line). T-bill yields followed inflation, but otherwise, bonds were largely flat over the period, perhaps reflecting market consensus that the fall in inflation would be temporary. This turned out to be true, as by late 1972, inflation began to rise again, around the time of the Paris Peace Accords that ended US involvement in Vietnam.

**FIGURE 02 - VIETNAM WAR AND THE NIXON “SHOCK”<sup>4</sup>**  
(JANUARY 1968 - SEPTEMBER 1973)



Sources: Ibbotson Associates, First Quadrant, LLC

**TABLE 02: VIETNAM WAR AND THE NIXON “SHOCK”<sup>4</sup>**  
(JANUARY 1969 – SEPTEMBER 1973)

|                | Average CPI | 30-day T-Bill Yield (Annualized) | Excess Returns over 30-day T-Bill Yield (Annualized) |       |         |                           |           |       |
|----------------|-------------|----------------------------------|--|-------|---------|---------------------------|-----------|-------|
|                |             |                                  | Long-Term Bonds                                      |       | S&P 500 | Intermediate-Term US Bond | Small Cap | IPPI  |
|                |             |                                  | Corporate  | US    |         |                           |           |       |
| Return         | 4.84        | 5.54                             | 0.79   | 0.04  | -0.38   | 1.33                      | -11.18    | -1.05 |
| Risk           | —           | 0.41                             | 8.22   | 9.81  | 13.64   | 5.40                      | 24.25     | 1.05  |
| <b>Returns</b> |             |                                  |  |       |         |                           |           |       |
| Reflation      | 5.62        | 6.70                             | -5.76  | -6.69 | -14.47  | -2.20                     | -29.13    | -1.22 |
| Disinflation   | 4.02        | 4.35                             | 8.02   | 7.48  | 16.44   | 5.11                      | 11.73     | -0.87 |

Sources: Ibbotson Associates, Datastream, St Louis FRED, First Quadrant, LLC

While politically positive at the time, many economists believe the Nixon Shock made the US vulnerable to what followed.<sup>3</sup>

**Market Reaction**

Markets moved closely together in this period. We can see that while stocks had an overall negative return, like bonds, they were strongly negative during reflation and then strongly positive during disinflation. Compared to the following years, the variation in inflation rates was modest, but at the time, both the variation and the level of inflation were considered significant. In addition, the reflation period is largely made up of the period before the Nixon Shock, and deflation afterwards. So we can see the market’s initially positive reaction to the price controls that occurred at the time. But this linked behavior presages the

reaction during the OPEC oil embargo in the period that follows.

**1973-1975: OPEC Oil Embargo and the Energy Crisis**

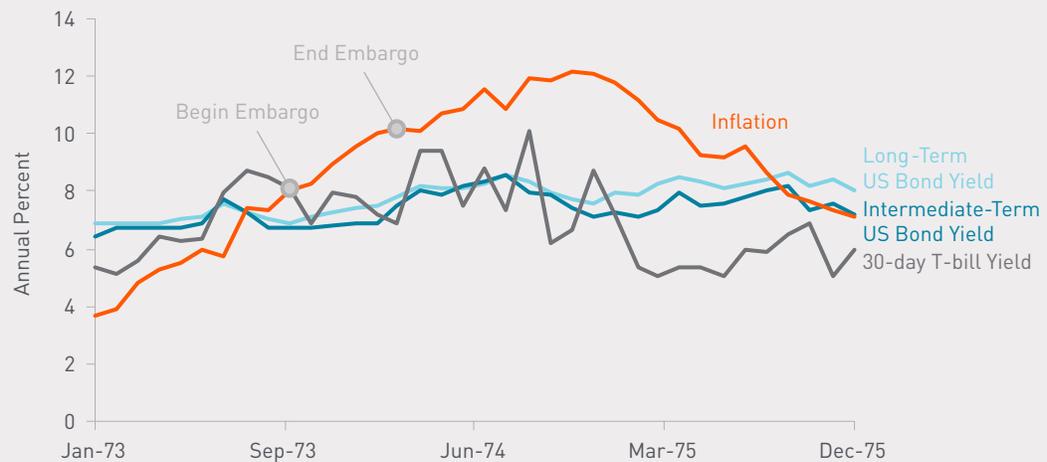
**Historical Context: Oil Embargo and Supply Shock**

The October 1973 Arab-Israeli conflict resulted in an OPEC embargo of oil exports to the US and other supporters of Israel. The price of oil soared. Crude was \$3.62 per barrel in January 1973. Only a year later, in January 1974, it was \$15.50.

**Inflation and Expectations**

Oil plays a large role in most developed economies, due to its role in manufacturing as well as transit. As a result, the petroleum shortage quickly

**FIGURE 03 - OPEC OIL EMBARGO<sup>4</sup>**  
(JANUARY 1973 - DECEMBER 1975)



Sources: Ibbotson Associates, Datastream, First Quadrant, LLC



rippled through the broader economy. Inflation began 1973 at 3.6%. Though the embargo ended in March 1974, inflation did not peak until November 1974, when it reached 12.2%.

Bond yields began the period above the rate of inflation, but changed little during its subsequent rise. The lack of movement in bonds markets reflected market expectations that supply-driven inflation would reverse once supplies were re-established. This was only half-correct: OPEC did end the embargo (eventually), and the price of oil receded to around \$11/barrel; but it never returned to its old price. The overall increase in the price of oil caused a good portion of the increase in overall price to become entrenched. Inflation eased, but remained high by today's standards, falling to 7.2% by December 1975. Bond yields eventually reflected the structural change, rising to 8.6% in September 1975, when real yields became positive once again.

**Market Reaction**

By 1973, we have significantly more relevant market data than we had in the 1940s. So we can examine several individual commodities and other asset classes from here on.

The markets behaved predictably during the supply shock. Capital markets, both stocks and bonds, declined while commodities and commodity-related assets rose. The overall numbers mask important distinctions during the sub-periods, though. Reflation returns were negative for the capital markets, while disinflation saw a relief rally in those assets. Commodities had a significant advance during reflation but saw smaller, though still positive, returns during disinflation, confirming that some inflation had become entrenched. The metals, gold and copper,

were the only commodities with negative returns during disinflation. Interestingly, basic material stocks behaved much like commodities, while REITs acted like stocks and bonds.

There are a couple important lessons from the 1970s energy crisis. First, while a supply shock may cause a temporary rise in inflation, some of that increase can become longer-lived. In addition, commodities and commodity-related assets were the only meaningful inflation hedges during this particular supply shock.

**1977 – 1982: Stagflation**

**Historical Context: Monetary Inflation**

Inflation remained in the 5%-6% range for a couple of years after 1975 – still high by today's standards, but arguably benign after the earlier run-up. In mid-1977, though, inflation again rose above 6%, prompting the Fed to resume rate increases. As unemployment rose, the Fed reversed itself, and in 1978, inflation began to accelerate. The accepted explanation is that the monetary easing and stimulus after the 1974-1975 recession caused substantial growth in the money supply. There was also a second oil shock in 1978, since the Iranian Revolution and the Iran-Iraq War limited oil production, causing oil prices to soar once again.

**Inflation and Expectations**

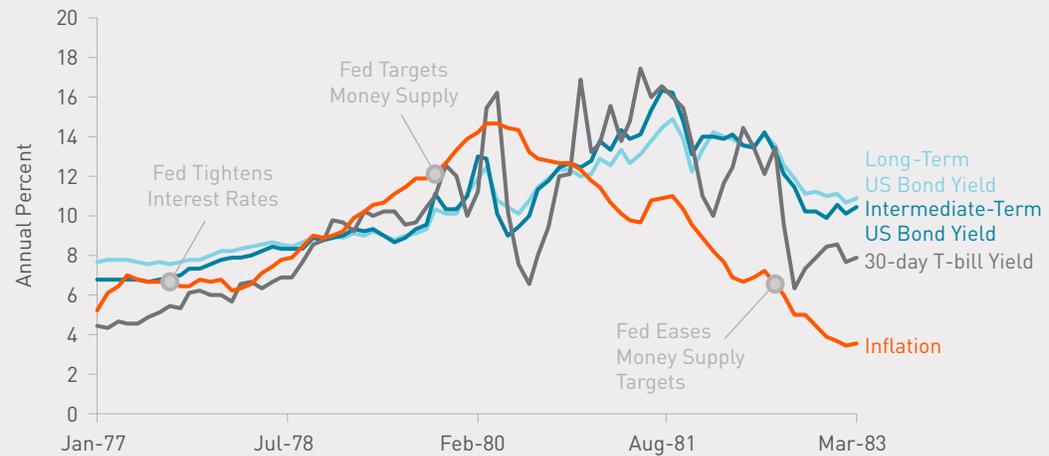
As inflation soared, the economy remained sluggish, creating "stagflation," a state that had previously been thought to be impossible. In 1979, President Jimmy Carter named Paul Volker Fed Chairman. Volker subscribed to the notion that money supply growth was the source of inflation and that the only way to stop it was a severe recession. In October 1979, he announced

**TABLE 03: OPEC OIL EMBARGO: SUPPLY SHOCK<sup>4</sup>**  
(JANUARY 1973 – DECEMBER 1975)

|                | Average CPI | 30-day T-Bill Yield (Annualized) | Excess Returns over 30-day T-Bill Yield (Annualized) |                    |         |                           |           |       |        |        |           |       |        |                 |           |
|----------------|-------------|----------------------------------|--|--------------------|---------|---------------------------|-----------|-------|--------|--------|-----------|-------|--------|-----------------|-----------|
|                |             |                                  | Long-Term Bonds Corporate                            | Long-Term Bonds US | S&P 500 | Intermediate-Term US Bond | Small Cap | IPPI  | Gold   | Copper | WTI Crude | Wheat | REITS  | Basic Materials | US Dollar |
| Return         | 9.10        | 7.01                             | -2.04  | -1.14              | -7.99   | -0.16                     | -4.19     | 14.16 | 16.12  | -3.68  | 48.26     | 25.06 | -18.10 | 5.54            | -2.90     |
| Risk           | —           | 0.38                             | 10.15  | 8.15               | 20.66   | 5.07                      | 29.15     | 3.10  | 30.23  | 34.38  | 48.08     | 48.28 | 30.35  | 26.62           | 7.33      |
| <b>Returns</b> |             |                                  |  |                    |         |                           |           |       |        |        |           |       |        |                 |           |
| Reflation      | 9.34        | 7.37                             | -5.36  | -4.31              | -11.63  | -2.19                     | -5.87     | 16.84 | 33.25  | 3.17   | 63.28     | 31.53 | -24.04 | 6.99            | -5.73     |
| Disinflation   | 8.33        | 5.83                             | 9.50   | 9.85               | 4.82    | 6.72                      | 1.47      | 5.86  | -26.57 | -23.17 | 7.75      | 6.00  | 4.30   | 0.96            | 2.98      |

Sources: Ibbotson Associates, Datastream, St Louis FRED, First Quadrant, LLC

**FIGURE 04 - MONETARY INFLATION<sup>4</sup>**  
[JANUARY 1977 - MARCH 1983]



Sources: Ibbotson Associates, Datastream, First Quadrant, LLC

that the Fed would target money supply and let interest rates float. Inflation continued to rise for five months, peaking in March 1980 at 14.6%, but then started to fall back sharply.

We can see in Figure 04 that 30-day T-Bill yields became significantly more volatile than long-term bond yields after Volcker’s announcement, reflecting Volcker’s statement that he was going to let interest rates float while he targeted money supply. Real bond yields were negative until early 1981. Even after inflation started to recede, real yields kept rising, suggesting that the bond market was installing a large inflation risk premium that largely persisted until recent times.

**Market Reaction**

This period and the energy crisis discussed previously had similar inflation levels. Most markets reacted consistently to reflation and

disinflation during the two periods, but stocks reacted very differently. Overall stock returns were poor in both, but during the earlier energy crisis, stocks were down during the reflationary period and up during disinflation. During the Volcker years, this relationship reversed. Why? The source of inflation was different, so the market reacted differently.

During the energy crisis, rising oil prices increased costs and lowered profits. This resulted in a stock market decline. During disinflation, the price of oil fell back, decreasing costs and increasing profits. So the supply-side shock caused inflation for which it was difficult to compensate.

During this period, in contrast, rising inflation gave businesses the power to raise prices and still maintain profits. Then when inflation fell, it was because tight monetary policy contributed to a recession. Demand fell, and so did earnings,

**TABLE 04: MONETARY INFLATION<sup>4</sup>**  
[JANUARY 1977 – DECEMBER 1982]

|                | Average CPI | 30-day T-Bill Yield (Annualized) | Excess Returns over 30-day T-Bill Yield (Annualized) |                    |         |                           |           |       |        |        |       |        |       |                 |           |
|----------------|-------------|----------------------------------|--|--------------------|---------|---------------------------|-----------|-------|--------|--------|-------|--------|-------|-----------------|-----------|
|                |             |                                  | Long-Term Bonds Corporate                            | Long-Term Bonds US | S&P 500 | Intermediate-Term US Bond | Small Cap | IPPI  | Gold   | Copper | Oil   | Wheat  | REITS | Basic Materials | US Dollar |
| Return         | 9.24        | 9.82                             | -3.62  | -3.59              | 1.50    | -1.11                     | 20.33     | -0.69 | 17.16  | -4.91  | 18.11 | 7.09   | 9.56  | -3.55           | 0.12      |
| Risk           | —           | 0.96                             | 13.73  | 14.21              | 15.42   | 8.80                      | 22.77     | 2.16  | 31.93  | 21.08  | 23.74 | 16.86  | 16.38 | 20.74           | 6.90      |
| <b>Returns</b> |             |                                  |  |                    |         |                           |           |       |        |        |       |        |       |                 |           |
| Reflation      | 9.83        | 8.46                             | -8.38  | -8.71              | 7.57    | -4.38                     | 28.88     | 2.57  | 44.10  | 3.71   | 35.74 | 18.74  | 12.33 | 1.52            | -2.00     |
| Disinflation   | 8.25        | 12.13                            | 4.82   | 5.53               | -7.94   | 4.56                      | 7.21      | -5.91 | -17.68 | -17.82 | -6.68 | -10.01 | 5.09  | -11.49          | 3.74      |

Sources: Ibbotson Associates, Datastream, St Louis FRED, First Quadrant, LLC

creating headwinds for stocks. As a result, stocks were a good inflation hedge during the monetary inflation period of 1977-1982, but not during the supply shock of the energy crisis of 1973-1975.

### 2020-2021(?): Global Pandemic

#### Context

Following the declaration of the global pandemic, some sectors shifted toward remote business activity while other areas of the global economy shut down completely. Banks and governments rapidly implemented monetary and fiscal stimulus. Inflation, which had been low to moderate since the Global Financial Crisis of 2008, fell to almost zero and then rebounded to a little over 1%. As infections fell and vaccinations began in early 2021, restrictions were (partially) rolled back, some production processes resumed, and travel started to recover.

As in 1946, consumers had increased their savings during the pandemic recession, leading to pent-up demand. But this time, it was because they were largely house-bound due to social distancing. Exacerbating the demand shock, many consumers shifted their purchases from experiences to physical goods, given ongoing restrictions. Also like 1946, there is a significant supply shortage. Businesses, expecting a severe and long recession, reduced inventories and cut production. In addition, disruptions to the global

supply chain and production issues related to continued outbreaks of COVID 19 have kept supplies of goods and services constrained.

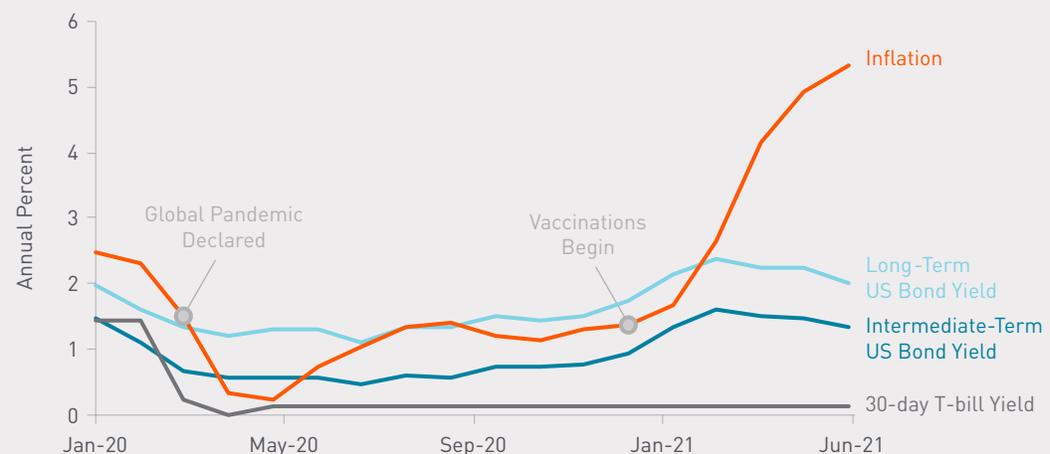
#### Inflation and Expectations

As a result, consumers had money to spend when reopening started in early 2021, but the stock of goods and services was reduced. This simultaneous rise in demand and fall in supply has been pushing up prices. Unsurprisingly, Figure 05 shows a relationship between interest rates and inflation similar to the post-World War II era. The markets, perhaps sensing this is a temporary state, have kept bond yields steady even as inflation has soared, just like 1947.

As of this writing, governments are beginning to unwind the fiscal stimulus, but monetary stimulus continues. Looking forward, we could see a situation similar to the 1940s, where supply eventually rises to meet demand as businesses recover and inflation stabilizes, though prices will likely remain above pre-pandemic levels.

How long this “temporary” situation will last is unknown. The more contagious Delta variant of COVID 19 has resulted in even more infections than the initial version, despite the availability of vaccines. Global supply chains remain disrupted as producers have difficulty transporting goods due to labor shortages. Even in the post-World War II reopening, it took 3 years for the economy to reach a new equilibrium. The current situation could

**FIGURE 05 - COVID 19 PANDEMIC (SO FAR)<sup>4</sup>**  
(JANUARY 2020 - JUNE 2021)



Sources: Datastream, First Quadrant, LLC



last even longer. As we saw in the energy crisis, monetary policy may not be effective in reducing inflation from a supply shock without a significant rise in unemployment. And with over 9 million still unemployed from the shutdown, there is little appetite from government agencies to increase the unemployment rate at all, let alone significantly.

There is concern that the massive monetary and fiscal stimulus of 2020 and 2021 to combat the pandemic may result in sustained monetary inflation. This could create a situation similar to the 1970s, when a supply shock led to monetary inflation. It does appear that we may be entering

a period of stagflation, as the growth spurt after the initial opening of the economy cools, yet inflation remains high.

These uncertainties emphasize the fact that the type and degree of inflation we will face going forward will be very hard to predict. We have shown in this paper that the market reaction is different for different types of inflation. A rational approach from an investment perspective, then, would be to hold hedges for all three types. This will be the subject of a following paper.





Endnotes

<sup>1</sup>The Fed was not independent as it is now, due to a war-time arrangement that ended in 1951.

<sup>2</sup>In this and subsequent tables, “reflation” refers to periods when trailing 12 month change in the CPI is above its 2-year median, and “disinflation” when it is below.

<sup>3</sup>See, for example, Bordo (2018) and Murphy (2018).

<sup>4</sup>Proxy definitions: Data for periods ranging from 1945 to 1983 is represented by the Ibbotson Associates (IA) Stocks, Bonds, Bills and Inflation® (SBBBI®) series: Inflation is IA SBBBI® US Inflation, Intermediate-Term US Bond Yield is IA SBBBI® US IT Government TR, Long-Term US Bond Yield is IA SBBBI® US LT Government TR, Long-Term Corporate Bond is IA SBBBI® US LT Corporate TR, Small Cap is IA SBBBI® US Small Stock TR USD, S&P 500 is IA SBBBI® US Large Stock TR, and 30-Day T-bill Yield is IA SBBBI® US 30-day TBill TR USD. For a detailed description of these series, please visit <https://www.cfainstitute.org/-/media/documents/book/rf-publication/2021/sbbi-summary-edition-2021.pdf> SBBBI® 2021 Summary Edition, Chapter 3, “Description of the Basic Series, p 40-55”. “Stocks, Bonds, Bills and Inflation” and “SBBBI” are registered trademarks of Morningstar, Inc. All rights reserved. Commodities (Gold, Copper, Oil, Wheat) uses spot prices sourced from Datastream, REITS is the FTSE Nareit All REIT Index, Basic Materials is the S&P 500 Materials Sector Index. Data for 2020-2021 (Global Pandemic) is represented by the following: Inflation is the CPI-U from the St Louis Fed, Intermediate-Term Bond Yield is the Bloomberg Barclays US Intermediate Treasury Index, Long-Term US Bond Yield is the Bloomberg Barclays US Long Treasury Index, and 30-Day T-Bill Yield is Ibbotson 30-Day T-Bill.

References

Bordo, Michael D. “The Imbalances of the Bretton Woods System 1965 to 1973: U.S. Inflation, The Elephant in the Room,” NBER Working Paper No. 25409, December 2018

Murphy, Robert P. “Removing the 1970s Crude Oil Price Controls: Lessons for Free-Market Reform.” The Journal of Private Enterprise, 33(1): 63-78 2018

For index definitions and trademark language used in this publication, please visit <https://www.firstquadrant.com/index-definitions> for further information.

**This material is for your private information. The views expressed are the views of First Quadrant, LLC, only through this period and are subject to change based on market and other conditions. All material has been obtained from sources believed to be reliable, but its accuracy is not guaranteed.**

FIRST QUADRANT, LLC | 800 E. COLORADO BLVD. SUITE 900, PASADENA, CALIFORNIA 91101  
MARKETING SERVICES INFO@FIRSTQUADRANT.COM | OFFICE 626 683 4223 | WEB FIRSTQUADRANT.COM  
Copyright © by First Quadrant, LLC, 2021, all rights reserved.