# Inflation Explained

Inflation has been discussed heavily over the past few years as we have experienced levels not seen since the 1980's. While inflation has been declining from the recent peak in June of 2022, its effects continue to ripple across the economy from government policy to labor, housing, business expenditures, consumer spending and more. Inflation is one of the most studied topics in economics; however, it is still not entirely understood due to the complex adaptive global economy. As it is a frequent topic in the media and among investors, it is good to have a baseline knowledge of the subject. What is inflation? What do I need to know about it? How does inflation affect me?

## What is inflation?

Inflation is the general rise in prices in an economy over time, resulting in a gradual drop in consumer purchasing power. As prices increase, the same amount of currency is able to buy fewer goods or services, reducing the purchasing power per unit of money over time. The impact of inflation is relatively small in the short-term; but over longer periods, inflation can dramatically erode the purchasing power of wages, savings and investments. Quite simply, inflation can be viewed as a hidden tax on consumers and investors.

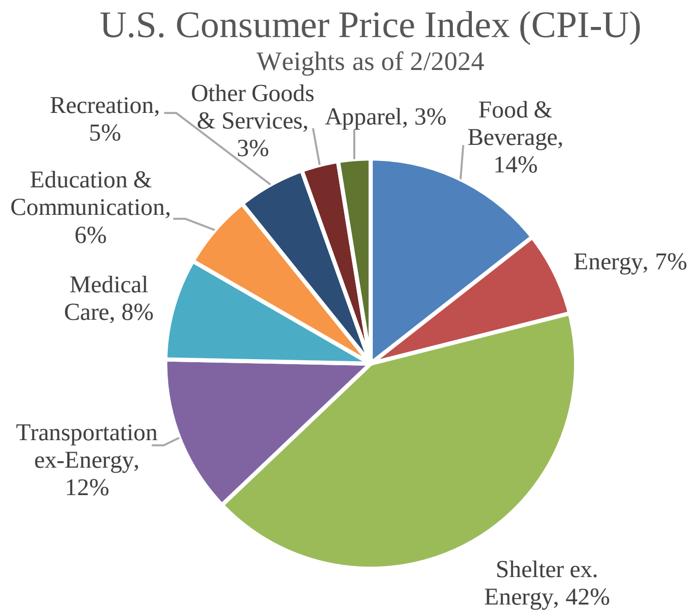
## What causes inflation?

Inflation is generally categorized into three types.

- The first type is "demand-pull" inflation, which occurs when the demand for goods and services increases, but the supply remains the same, causing prices to go up. In a healthy economy, workers make more money over time, and the increase in their purchasing power drives up demand. However, it takes time for companies to ramp up production to meet this growing demand, thus, prices rise.
- The second type of inflation, "cost-push", occurs when the demand for goods or services stays the same, but the supply becomes limited or constrained, often due to rising input costs such as raw materials or wages. This is typically caused by an external event, such as a natural disaster, which disrupts a producer's ability to make enough goods and services to keep up with demand.
- Finally, many economists believe that inflation can occur when a nation's money supply grows at a faster pace than its economy. When consumers have more money at their disposal, they will be inclined to spend it. If the economy cannot accelerate production to match this increased demand, it could result in a shortage of goods and a spike in prices. This could also be considered a subset of demand-pull inflation.

## How is inflation measured?

In the U.S., the most commonly cited inflation index is known as CPI, or the Consumer Price Index. It measures changes in the price level of a weighted-average market basket of consumer goods and services purchased by households – in essence, the "cost of living". The index is comprised of various categories, including food and beverages, housing costs, apparel, transportation, medical care, recreation expenditures, education, communication costs and other personal goods and services (See chart at right). Prices are collected periodically and the annual percentage-change in these prices is used to measure inflation. Due to the short-term volatility of food and energy prices, CPI data is also released without these two inputs as a way to more accurately measure inflation long-term. This is commonly known as Core CPI.




While CPI is the most widely used statistic, there are several other important inflation measures such as Producer Price Index (PPI), CPI for Urban Wage Earners and Clerical Workers (CPI-W) and Personal Consumption Expenditure (PCE) index, which the Federal Reserve uses. Each index has its own method of measuring inflation with its own nuances.

## The impact of inflation:

The impact of inflation is typically hard to feel in the short-term. For example, at a 2% annual inflation rate, a meal that costs $10 today will cost $10.20 in a year. However, over longer periods of time and on larger ticket items, inflation can materially impact personal finances. For instance, at a 2% annual inflation rate, a car that costs $25,000 today, will cost $45,000 in thirty years. At a 4% annual inflation rate, the car will cost $81,000.

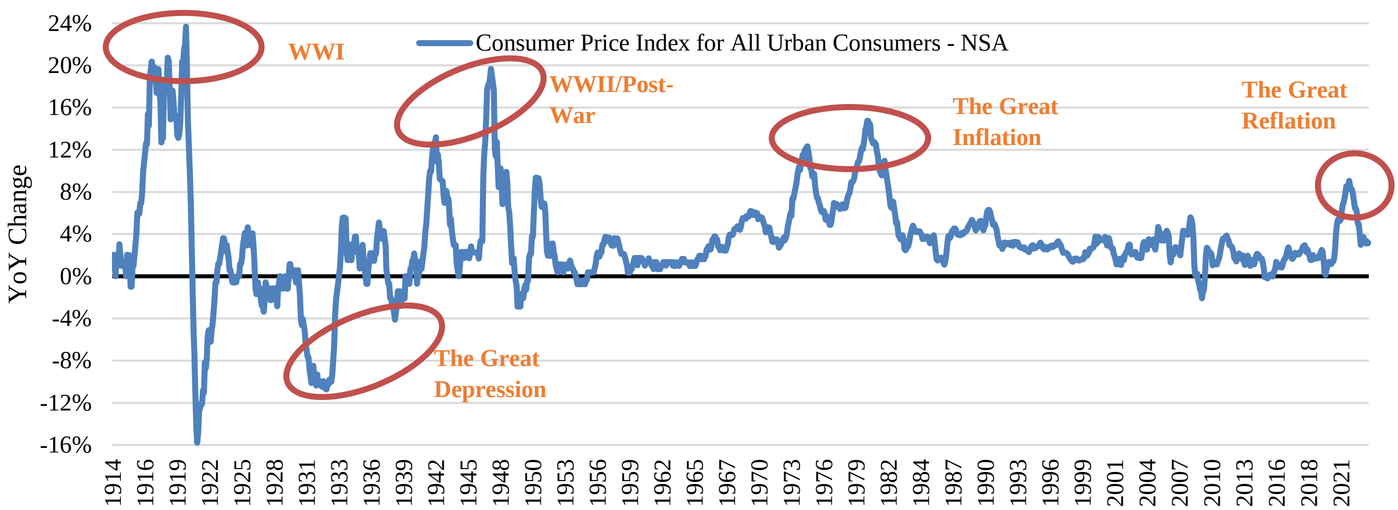
However, while relatively low levels of inflation are considered healthy, unchecked inflation can have severe detrimental effects. Hyperinflation occurs when the prices of goods and services increase rapidly, causing the value of a country's currency to plunge. While this has never happened in the United States, hyperinflation has been experienced in other parts of the world, typically during periods of civil unrest, regime changes or war. The best known example of hyperinflation occurred in Weimar Germany during the 1920s, in which inflation rose by thousands of percent each month. Other notable examples have occurred in Hungary, Zimbabwe and Venezuela.

Another type of damaging inflation is known as stagflation. This occurs when relatively high inflation is coupled with slow economic growth and high unemployment. The U.S. experienced stagflation in the 1970s as rising oil prices from the OPEC oil embargo drove inflation higher, while a mild recession lowered GDP and increased the rate of unemployment.

Most economists feel that a modest rate of inflation promotes economic growth. If wages increase in-step with inflation, then consumers are not negatively impacted. As wages grow, consumers feel "richer", which promotes increased consumer spending. This, in turn, contributes to the growth of the overall economy and promotes an increase in the number of jobs. At the same time, the knowledge that inflation will occur over time compels people to invest their cash so that it grows rather than putting it under their mattress and watching its value diminish over time. The U.S. Federal Reserve currently believes an inflation rate of approximately 2% is optimal for employment and price stability. As a result, they try to manage monetary policy to maintain inflation within this 2% range.

## The History of Inflation in the U.S.

Throughout the first part of its history, the United States oscillated between extreme bouts of inflation and deflation as the new nation grew and developed. However, due to extensive monetary policy changes after the Great Depression, inflation has become much more stable.




In the last 80 years, there have been two notable periods of higher inflation. The first period was the immediate aftermath of World War II; though in this case, the economy was able to grow strong enough to keep up with rising prices. As a result, wartime price controls were lifted and many resources that had been heavily rationed or entirely unavailable were put back into peacetime production. The economy transitioned to a postwar boom, marking the beginning of a shift from a government-centered to a consumer-oriented economy. Things changed again in the mid-1960s as the Vietnam War and Lyndon Johnson's Great Society social programs resulted in heavy spending by both the government and consumers. Demand initially outstripped supply, which lead the Fed to raise rates to slow inflation, but helped push the economy into a recession.

Then, at the beginning of the 1970s, Nixon made several policy changes in an effort to jump-start the economy, including coming off the gold standard, keeping interest rates low and additional spending without any tax offsets. At the same time, OPEC countries blocked oil exports to the U.S., resulting in an oil price shock. In the decade that followed, the U.S. experienced periods of annualized inflation as high as 14%. Gas prices skyrocketed, throwing consumer spending and the transportation of goods into disarray. Eventually, Federal Reserve Chair Paul Volcker intervened, stamping out rampant price increases by greatly hiking interest rates to cool down demand and the overall U.S. economy. This resulted in a three decade period, from 1990-2020, where inflation was relatively stable, averaging 2.4% a year.

## The Current Environment:

Post-COVID, the U.S. has experienced the highest levels of inflation since the 1980s. This is due to a series of highly impactful events, including supply chain issues, increased money supply and the invasion of Ukraine by Russia. The complex global nature of these events have resulted in both demand-pull and cost-push inflation, as they have caused consumer demand for certain goods and services to increase, while simultaneously curtailing producers abilities to manufacture and distribute those goods.

To combat the rise in inflation, the Federal Reserve rapidly increased rates from 25bps to 550bps over the past 18 months. Inflation peaked at 9% in June of 2022 and has since been easing. Prices in core goods have come down dramatically, but inflation has remained “sticky” due to rising demand for services and housing.

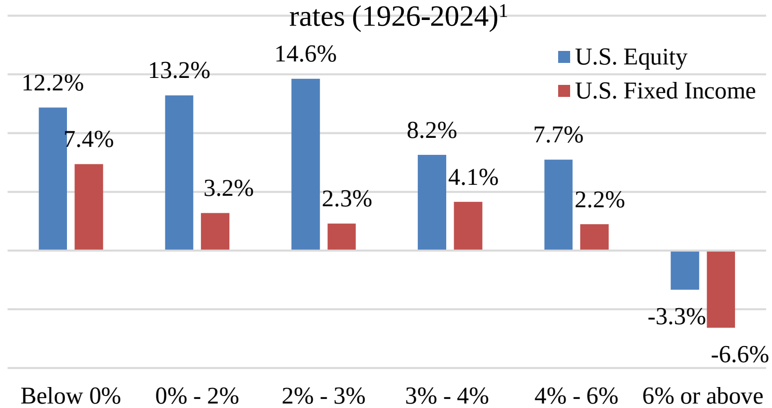
Where we go from here is anyone’s guess, as the past few years should be a cautionary tale in predicting inflation. A low supply and high demand in housing, labor dynamics, commodity underinvestment and de-globalizing trends could keep inflation higher than the Fed’s 2% target. However, technology and productivity gains are naturally deflationary, potentially offsetting the impact of a tighter labor market. In addition, the build-up of global government debt and aging demographics in the developed world also could depress the long-term inflation rate as GDP growth could slow. Both forces have historically been disinflationary and can reinforce each other.

## Inflation and Investment

We have discussed the effects of inflation on a consumer’s budget, but it also impacts long-term financing and wealth accumulation goals. For instance, those with fixed-rate debt but rising wages may find it easier to pay off these liabilities as the value of the debt over time erodes in value relative to wages. In addition, financial asset prices could be the beneficiary of too many dollars chasing too few assets.

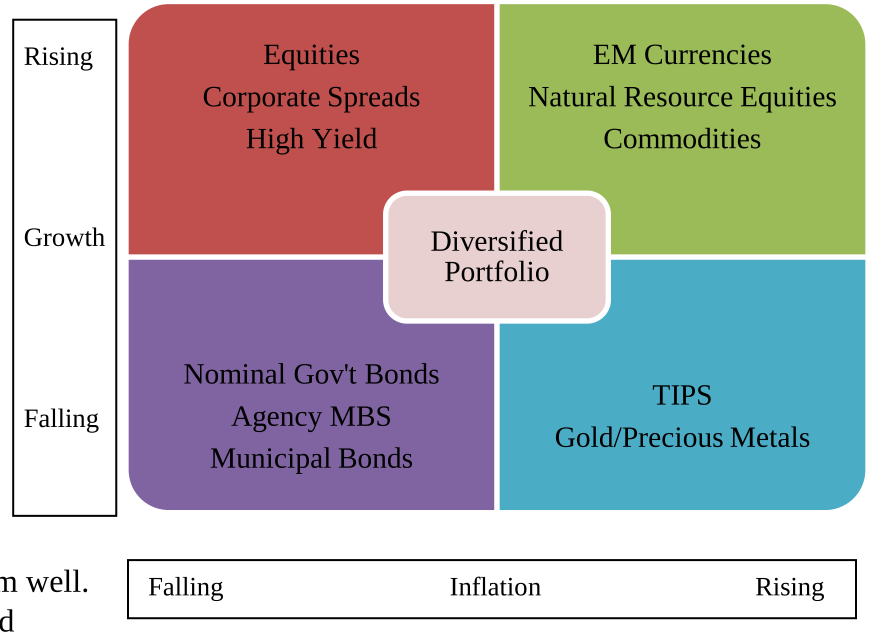
For investors to maintain purchasing power, investments must have returns higher than the inflation rate. This ostensibly simple maxim can be a challenge to put into practice, as all asset classes are affected differently by inflation and each economic/market environment is unique. Over the majority of periods, stock and bonds experience positive performance. However, some securities can perform poorly during sustained periods of very high inflation or deflation, as shown in the chart to the right.

Average real annual returns at different inflation rates (1926-2024)[1]



Below is a generalized depiction of how inflation affects different asset classes:

- When inflation is low and the economy is growing: Securities with equity risk or credit risk tend to perform better.
- When inflation is low or there is deflation and growth is either low or detracting: Government bonds and cash tend to perform better than many asset classes. In this environment, equities and commodities perform poorly and may have negative returns.
- When inflation is high and the economy is growing: Securities with equity risk or credit risk can still perform well. In addition, commodity/real asset related securities will likely have strong performance.
- When inflation is high and growth is low or detracting: TIPS and real assets likely will perform better.




In short, asset classes that benefit the most in an inflationary environment tend to be more volatile, while those that are less volatile generally produce less dramatic returns. Thus, maintaining a well-diversified portfolio can balance these tradeoffs and help sustain the ability to reach long-term goals.

## Bottom Line

The purpose of this paper is to provide an overview of inflation and its effects, rather than serving as a prescriptive roadmap. It's important to note that every economic cycle is distinct and unique. Inflation, being both influenced by and impacting all facets of the global economy, is a complex subject that cannot be simplified into a straightforward 'if this, then that' scenario.

As the economy experiences rolling recessions within industries and waves of growth in others, inflation is likely to fluctuate until a new equilibrium is established. While investors cannot directly control inflation, they can manage their responses to economic and market shifts, as well as other elements within their financial plans.

[1] Sources: Morningstar. As of 1/31/2024. All returns are inflation-adjusted real returns. U.S. equity returns represented by Ibbotson Associates SBBI U.S. Large Stock Index. U.S. Fixed Income represented by Ibbotson Associates SBBI U.S. Intermediate-Term Government Bond Index. Inflations rates are defined by the Ibbotson Associates SSBI U.S. Inflation Index.

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