



Introduction to U.S. Economy: Inflation

What Is Inflation?

Inflation is defined as a general increase in the price of goods and services across the economy, or, in other words, a general decrease in the value of money. Conversely, deflation is a general decrease in the price of goods and services across the economy, or a general increase in the value of money.

As inflation occurs, individuals can purchase fewer goods and services with the same amount of money. For this reason, an individual would need about \$326 in 2021 to purchase the same amount of goods and services as \$100 would have purchased in 1980. Measures of inflation are used to adjust money figures to keep purchasing power constant over time, allowing for more accurate comparisons across disparate time periods. Monetary figures that have been adjusted for inflation are referred to as *real*, and non-inflation-adjusted figures are referred to as *nominal*.

Measuring Inflation

The rate of inflation can be measured by observing changes in the average price of a consistent set of goods and services, often referred to as a market basket. Inflation is generally measured using a price index, such as the Consumer Price Index (CPI). A price index is constructed by dividing the price of a market basket in a given year by the price of the same basket of goods in a base year. The rate of inflation is then measured by calculating the percentage change in the price index across different periods. For example, the CPI was about 277 in October 2021 and about 298 in October 2022, which amounts to an inflation rate of about 7.8% over this 12-month period.

Alternative Measures of Inflation

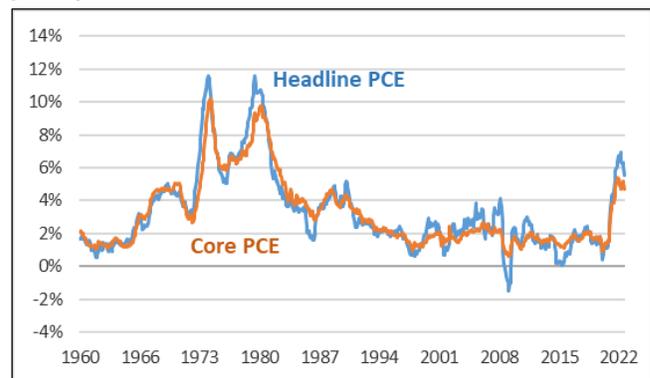
Alternative price indices will use different goods within their market baskets and are generally used for different purposes. For example, the CPI includes consumer goods and services typically purchased by households, which is often used to adjust household incomes for inflation over time. By contrast, the gross domestic product (GDP) deflator, which is generally used to adjust GDP for inflation over time, measures inflation for all of the final goods and services produced in the United States. There are a number of additional measures of inflation, including the Producer Price Index, Employment Cost Index, Personal Consumption Expenditures Index, and Import/Export Price Index. Different inflation measures are calculated differently. For example, the CPI uses a (mostly) fixed basket of goods and services, whereas the GDP deflator allows the composition of its market basket to change with spending patterns from period to period.

Additionally, within a specific price index, researchers often make separate calculations for so-called *headline inflation* and *core inflation*, as seen in **Figure 1**. Headline

inflation includes the full set of goods and services within the basket of goods, whereas core inflation excludes energy and food prices from the basket of goods. Core inflation is often used by researchers in place of headline inflation due to the volatile nature of the price of food and energy. Headline inflation can provide a more accurate sense of the price changes actually faced by individuals.

Figure 1 Annual Inflation Rate

January 1960 to November 2022



Source: Bureau of Economic Analysis.

Notes: Annual percentage change as measured by Personal Consumption Expenditures Index.

Complications in Measuring Inflation

The fundamental concept behind inflation is to measure changes in the price of the same goods and services over time. In reality, this is nearly impossible for two reasons. First, the quality of goods and services change over time. As such, some portion of increasing prices over time is due to improvements in quality rather than inflation. Second, new products are introduced into the marketplace over time that are fundamentally different than any previously available products and are only slowly incorporated into price indices with fixed baskets. Statistical agencies try to adjust data to account for these factors, because, if these complications are not correctly accounted for, measured inflation would be inaccurate and most likely overstated.

Causes of Inflation

Inflation is largely the result of two different phenomena, which are often referred to as *demand-pull* and *cost-push* inflation. Demand-pull inflation occurs when demand for goods and services within the economy exceeds the economy's capacity to produce goods and services. As demand exceeds supply within the economy—"too much money chasing too few goods"—there is upward pressure placed on prices, resulting in rising inflation.

Cost-push inflation occurs when the price of input goods and services increases. The classic example of cost-push inflation is the result of an oil shock, which sharply

decreases the supply of oil and other petroleum products. The decrease in oil supplies increases the price of oil and petroleum products. Petroleum products are an input good for a significant portion of goods and services across the economy, and as the price of this important input good increases, so does the price of the final goods and services, resulting in inflation. Cost-push inflation results in only a temporary increase in inflation unless accommodated by monetary policy.

Changes in inflation expectations can also cause changes in actual inflation. Individuals form expectations around the future rate of inflation and incorporate those expectations when setting prices at the firm level or when bargaining for wages as a worker. For example, if the general consensus is that prices will increase 2% in the next year, businesses will want to increase prices by at least 2%, and workers will want at least a 2% raise.

Inflation's Impact on the Economy

Inflation tends to interfere with pricing mechanisms in the economy, resulting in individuals and businesses making less than optimal spending, saving, and investment decisions. Additionally, in the presence of inflation, economic actors often engage in actions to protect themselves from the negative impacts of inflation, diverting resources from other more productive activities.

Ultimately, these inefficient decisions reduce incomes, economic growth, and living standards. For this reason, it is generally accepted that inflation should be kept low to minimize these distortions in the economy. Some would argue that an inflation rate of zero is optimal. However, a target of zero inflation makes a period of accidental deflation more likely, and deflation is thought to be even more costly than inflation, as it can be associated with recessionary conditions. In an effort to balance these two risks, policymakers, including the Federal Reserve, often target a positive but low inflation rate, generally around 2%, which reduces inefficiencies within the economy while protecting against deflation.

The Federal Reserve and Inflation

The Federal Reserve has been charged with promoting stable prices by statute since the late 1970s, largely as a result of the volatile and exceptionally high inflation experienced in the years preceding the law, as shown in **Figure 1**. Beginning in 2012, the Federal Reserve began explicitly targeting a long-run inflation rate of 2%. In 2020, the Federal Reserve amended this strategy slightly to target an *average* rate of 2%. The Federal Reserve generally uses its ability to impact short-term interest rates to combat demand-pull and cost-push inflation in an effort to decrease the volatility of inflation and keep inflation close to its target rate.

Beginning in the 1980s, the rate of core inflation, which excludes energy and food prices, started to decrease, as did the volatility seen in the measure. Beginning in the late 1990s, the inflation rate remained relatively close to 2%, and large swings in inflation mostly disappeared. The moderation of inflation largely seen between the 1970s and the current high inflation has largely been attributed to the

actions undertaken by the Federal Reserve as part of its mandate to promote stable prices.

In the time between the financial crisis and the COVID-19 pandemic, inflation ran below 2% fairly consistently, despite an 11-year economic expansion that ended in 2020 and several notable periods of quantitative easing by the Federal Reserve. However, inflation started rising in March 2021 and has been high since then. In response to this high inflation, the Federal Reserve has raised the federal funds rate consistently beginning in March 2022, tapered asset purchases, and begun shrinking the balance sheet. The Fed has indicated that it will continue tightening monetary policy until inflation comes down. For more information about inflation since COVID-19, see CRS Report R47273, *Inflation in the U.S. Economy: Causes and Policy Options*, by Marc Labonte and Lida R. Weinstock.

Adjusting for Inflation

Comparing figures in real terms is often beneficial to observe actual changes in purchasing power over time rather than changes in the number of dollars.

Figure 2. How to Adjust for Inflation

$$\text{Real Figure} = \text{Nominal Figure} \times (\text{CPI Target Year} / \text{CPI Base Year})$$

Source: CRS.

To adjust nominal figures for inflation, multiply the nominal figure by the ratio of the price index value in the target year to the price index value in the base year, as shown in **Figure 2**. For example, median household income in 1990 (the base year) was \$29,943 in nominal terms. To determine the equivalent income in terms of purchasing power for 2019 (the target year) using CPI, multiply \$29,943 by the ratio of CPI in 2019 (256) to the CPI in 1990 (131), which comes out to about \$58,515.

As discussed previously, there are a number of different price indices, and within those indices more specific deflators are available to make inflation adjustments. It is important to use the most relevant index for the subject being researched. For example, when looking at corporate revenues in the United States, it would be advisable to use the Producer Price Index, which uses a market basket consisting of the price of goods and services sold by domestic producers, as opposed to the CPI, which is designed to reflect the goods and services purchased by the typical household.

Resources

The Bureau of Labor Statistics and the Bureau of Economic Analysis both create various price indices, which are available at <http://www.bls.gov/bls/inflation.htm> and <https://www.bea.gov/data/prices-inflation>, respectively.

(Note: This In Focus was originally authored by Jeffrey Stupak, former CRS Analyst in Macroeconomic Policy.)

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