



## The Rise (and Fall) of Inflation During the Early 2020s

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### GLOSSARY

**Consumer price index (CPI):** A measure of the average change over time in the prices paid by urban consumers for a market basket of consumer goods and services.

**Dual mandate:** The Federal Reserve's responsibility to use monetary policy to promote stable prices and maximum employment.

**Federal Open Market Committee (FOMC):** A Committee created by law that consists of the seven members of the Board of Governors; the president of the Federal Reserve Bank of New York; and, on a rotating basis, the presidents of four other Reserve Banks. Nonvoting Reserve Bank presidents also participate in Committee deliberations and discussion.

**Federal Reserve System:** The central bank system of the United States.

**Index:** A number used to represent the change in value of a magnitude (frequently a price level) between a base date and a different date. An index typically has a value of 100 on the base date.

**Inflation:** A general, sustained upward movement of prices for goods and services in an economy.

**Inflation rate:** The percentage increase in the average price level of goods and services over a period of time.

**Market basket:** A selected group of consumer goods and services whose prices are tracked for calculating a consumer price index and measuring the cost of living.

**Maximum employment:** The highest level of employment that an economy can sustain while maintaining a stable inflation rate.

**Price stability:** A low and stable rate of inflation maintained over an extended period of time.

Here's a challenge for you. Start a conversation about a recent shopping trip and notice how long it takes for someone to bring up rising prices and inflation. In fact, many people think of them as interchangeable; that is, many people think inflation means prices are rising and that rising prices are caused by inflation. Economists make a distinction between these ideas.

In general, **inflation** means the *average level of prices* is rising. But this does not mean that rising prices are caused by inflation. Rather, the prices of individual goods and services are determined by supply and demand; prices will increase when demand increases and/or supply decreases. Inflation is simply a measure of how the average level of prices for goods and services is changing. So, inflation no more causes rising or falling prices than your bathroom scale causes weight gain or loss: In both cases, they are simply measurements of an underlying phenomenon.

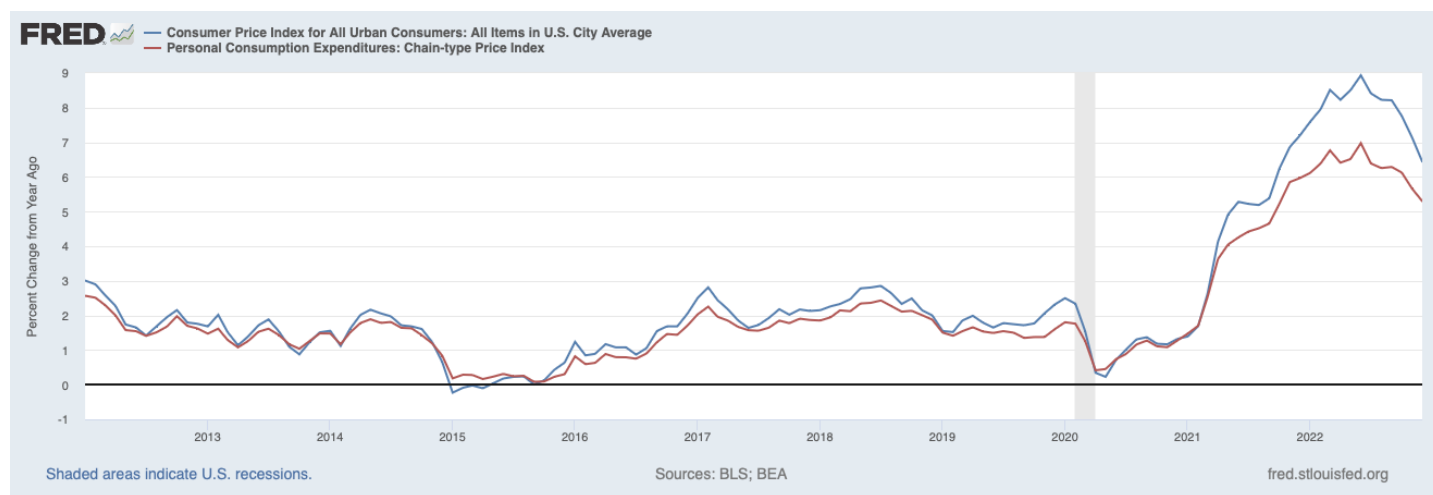
Prices have tended to rise over time, which means the **inflation rate** has been positive. And, while people generally complain about rising prices, most economists and policymakers believe a low and stable rate of inflation is beneficial for the economy. In fact, the **Federal Reserve System's Congressional dual mandate** includes promoting **price stability**—specifically, the **Federal Open Market Committee (FOMC)** seeks to achieve inflation that averages 2% over time. (Its other goal is to promote **maximum employment**.)

### Measures of Inflation

The most widely reported measure of the average level of prices is the **consumer price index (CPI)**. CPI inflation is the percent change in the CPI from one period to the next (e.g., month to month or year to year). The level of CPI inflation is closely followed because it is used as a cost-of-living **index** to adjust Social Security payments and income tax tables. Many entities also use CPI inflation to gauge annual cost-of-living adjustments to wages and pensions.

Another inflation measure relies on the personal consumption expenditures price index (PCEPI). Inflation derived from the CPI and PCEPI often have similar readings, but the PCEPI includes a broader set of goods and services and is better at capturing changes in consumer behavior. In fact, the FOMC

Figure 1  
Total CPI and PCEPI Inflation, 2012-2022



SOURCE: US Bureau of Labor Statistics and US Bureau of Economic Analysis via FRED®, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/graph/?g=17Q84>, accessed August 14, 2023.

Table Weights in the CPI and PCEPI Baskets		
	CPI (%)	PCEPI (%)
<b>Total inflation</b>	100	100
Food and beverages	14.3	13.2
<b>Housing</b>	<b>42.4</b>	<b>24.1</b>
Apparel	2.5	3.2
Transportation	18.2	9.2
<b>Medical Care</b>	<b>8.5</b>	<b>23.5</b>
Recreation	5.1	7.2
Education and communication	6.4	5.8
Other goods and services	2.7	13.9

SOURCE: Bureau of Economic Analysis, December 2021.

uses the PCEPI measure of inflation to evaluate how close it is to its 2% inflation goal.

The two indexes capture the prices of many categories: energy, food, goods, and services. When these numbers are released, both the CPI and PCEPI report a total measure of inflation and a core measure of inflation. Total inflation is a measure of the rate of increase in the average price level of this broad group of categories (called a **market basket**). Core inflation is a measure that strips out the energy and food components in its basket.

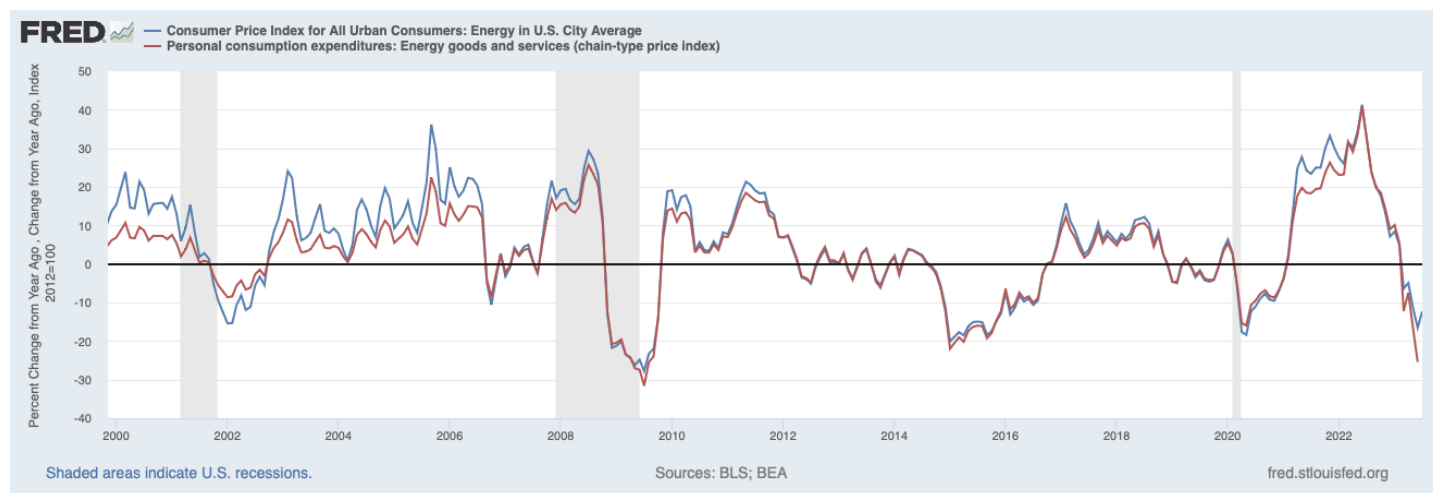
A reported inflation rate will reflect the specific components that are included in a market basket and the weight that each is given in the calculation. So, including a different set of categories in a market basket, or weighting them differently, will result in a different inflation rate. For example, the table shows that total CPI weights housing (42.4% of the consumption basket) more heavily than the PCEPI (24.1% of the consumption basket); but, the PCEPI weights other core services, such as medical care, more heavily than the CPI.

Despite some differences across baskets, CPI and PCEPI inflation track each other and indicate the same trajectory for price changes. Figure 1 shows that total CPI and PCEPI inflation moved a bit above and below the FOMC’s 2% goal between 2012 and 2019. In particular, from January 2012 to January 2020, total CPI inflation averaged 1.6% per year and PCEPI inflation averaged 1.4% per year. Then, factors linked to the COVID-19 pandemic pushed inflation to a very elevated level (which we’ll discuss more below).

**Total and Core Inflation**

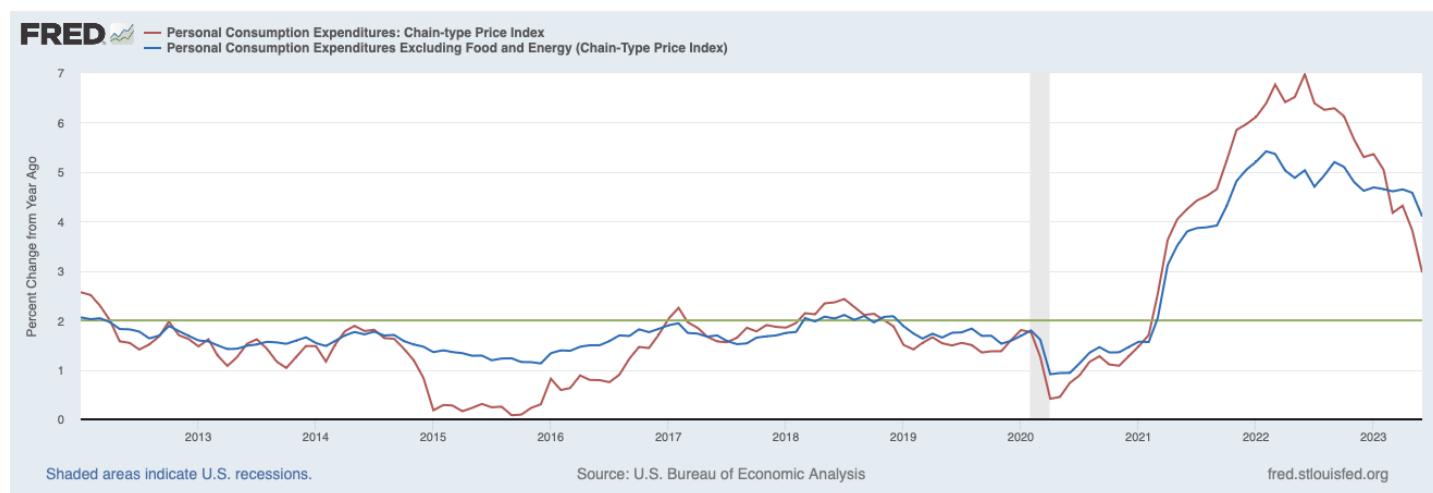
The FOMC’s 2% inflation goal is based on the total PCEPI, which includes the price changes of all items in the consumption basket. But when trying to determine how inflation will move in the future, many (if not most) forecasters and FOMC participants choose to focus on the core inflation rate, which excludes food and energy prices.

Figure 2  
Energy Price Inflation



SOURCE: US Bureau of Labor Statistics and US Bureau of Economic Analysis via FRED®, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/graph/?g=17LYn>, accessed August 14, 2023.

Figure 3  
Total and Core PCEPI Inflation Rate

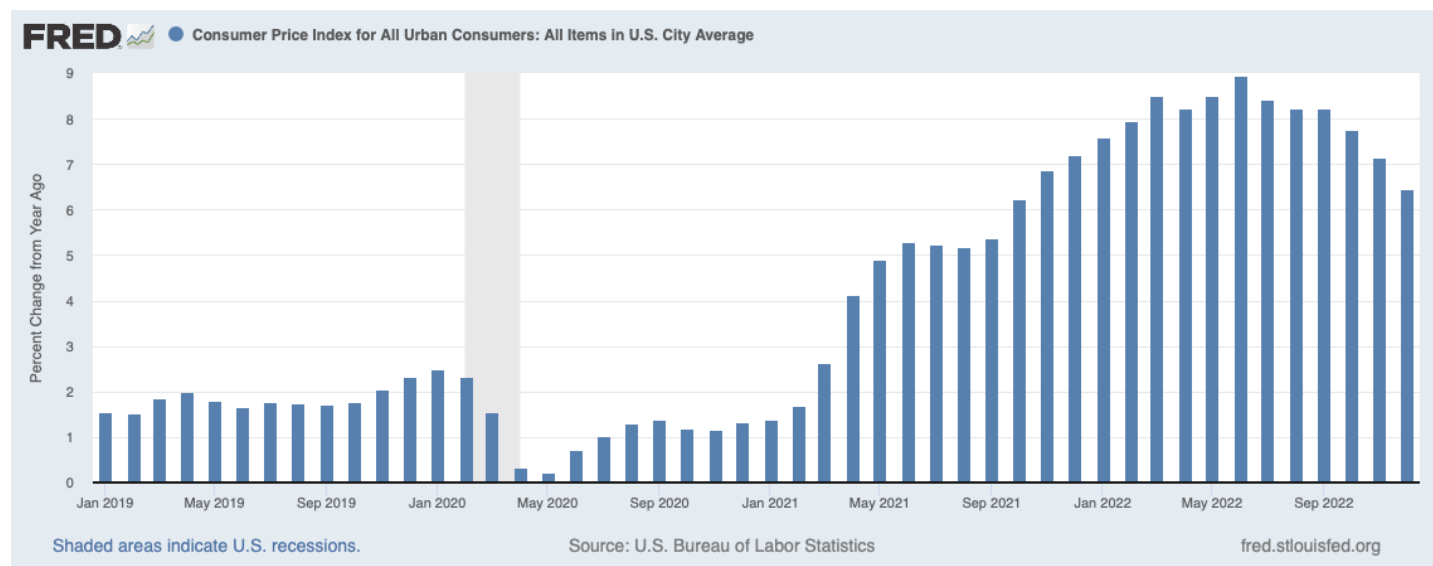


SOURCE: US Bureau of Economic Analysis via FRED®, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/graph/?g=17pwY>, accessed August 14, 2023.

To the average person, focusing on a measure that excludes prices of gasoline and food purchased at the grocery store probably doesn't seem like a good idea. After all, most people purchase gasoline to commute to work or school and pay for natural gas or electricity to heat their home—and who doesn't eat? So, is it wise for the FOMC to exclude the price increases of those items that the average person consumes on a regular basis?

FOMC policymakers don't disagree with the notion that food and energy prices are important; this is why their target is total inflation. However, they tend to focus more on the core inflation rate when thinking about how inflation will move in the future and what this means for an appropriate policy setting. This focus is because prices of food and energy tend to be highly volatile, resulting from sporadic shifts in supply and demand that have

Figure 4  
Total Inflation, 2019-2022



SOURCE: US Bureau of Labor Statistics via FRED®, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/graph/?g=16MoU>, accessed August 14, 2023.

nothing to do with monetary policy and often reverse course.

For example, variation in food prices is often related to weather, such as a drought in a major crop-producing area of the world that temporarily reduces the supply of corn or wheat. And, as Figure 2 shows, energy prices have moved up and down quite substantially over time: In early 2022 there was a spike of a little more than 40% in energy price inflation, which then fell below zero a little less than a year later. Many of the upward spikes in energy price inflation were related to decisions by the Organization of the Petroleum Exporting Countries (OPEC) to decrease crude oil production, while many downward spikes were related to OPEC's decisions to increase crude oil production.

We can see the effects of volatile food and energy prices from the broad measures of inflation in Figure 3. Total inflation moves below or above core inflation for periods of time, but it eventually moves back to the core inflation trend. Focusing on core inflation, therefore, provides policymakers a better understanding of the underlying momentum of inflation in the economy.

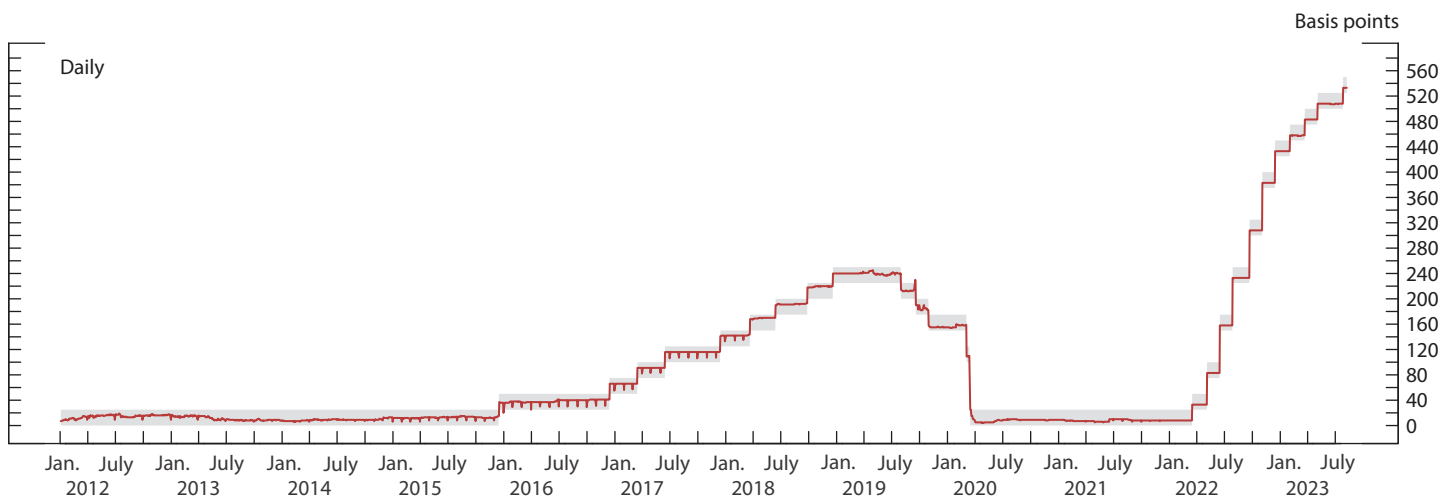
### Recent Experience with (High) Inflation

Inflation has remained elevated and newsworthy during 2021-2023. This is because everyone was used to inflation hovering around 2% before the COVID-19 pandemic. But the pandemic's arrival in early 2020 unleashed new inflation forces on the economy (Figure 4). Initially, inflation fell sharply in 2020—a 12-month change from 2.5% in January 2020, to 0.2% in May 2020, to 1.3% at the end of the year.

Inflation then rose sharply in 2021 and into 2022. From January 2021 to December 2021, CPI inflation rose from 1.4% to 7.2%. Inflation continued to rise further over the first half of 2022, peaking at 8.9% in June 2022—a 40-year high! The acceleration in prices over this period was broad-based; that is, in 2022 most components of the market basket had prices rising noticeably, and few were falling. Economists suggested both supply and demand factors drove prices higher and higher over this period.<sup>1</sup>

Few forecasters anticipated this sharp and continued acceleration in inflation. Even the FOMC at its April 2021 meeting noted that “inflation has risen, largely reflecting transitory factors.” Part of the Fed's thinking was that goods prices surged because of shortages—caused by a disruption in global supply chains, which curtailed production of many goods, and by bottlenecks at key US ports,

Figure 5  
Federal Funds Rate Path



NOTE: Shaded area is the federal funds rate target range.

SOURCE: Federal Reserve Bank of New York.

which slowed distribution of goods—but that the shortages would be resolved in a reasonable amount of time.

Yet as the US economy strengthened, households began to return to normal activities while supply issues remained: It was a classic case of demand growing faster than supply. Many economists attributed strong demand to the record-high savings balances consumers had accumulated during the pandemic (from reduced opportunities to spend and income payments from the federal government) that were only slowly being depleted.

With inflation showing few signs of moderating by the end of 2021, the FOMC removed “transitory” from its December statement. Against the backdrop of rising inflation, brisk growth in real GDP, and a falling unemployment rate, the FOMC moved to tighten monetary policy to return inflation to its 2% target.

### Federal Reserve Response to High Inflation

In January 2022 the FOMC noted that, with a strong labor market and inflation well above 2%, it would soon raise the target range for the federal funds rate.<sup>2</sup> Between March 16, 2022, and July 26, 2023, the FOMC raised its target range for the federal funds rate from its near-zero rate of 0-0.125% to 5.25-5.5% (Figure 5). The FOMC raised the policy rate by an unprecedented 75 basis points at four consecutive meetings in 2022. These were very

large increases, which reflected that inflation was far above the FOMC’s 2% goal for some time and that the Committee did not see inflation quickly decreasing.

When the FOMC changes the target range for the federal funds rate, it is affecting financial conditions in the economy because its policy interest rate transmits to other interest rates: This affects household and business spending, saving, and investment decisions. As the FOMC increased the policy rate in 2022-2023, for example, the [30-year fixed mortgage rate](#) quickly rose from about 3% in December 2021 to near 7% in summer 2023. This increased the cost of buying a home and caused single-family home starts and sales to slow over this period. By tightening financial conditions quickly and sizably, the Fed hoped to better align the demand-supply imbalance that had developed and that spurred the high-inflation economy. Since the Fed cannot affect the supply of goods and services, its only remedy is to reduce the demand for goods, services, and labor—which puts downward pressure on inflation.

Inflation slowed noticeably by summer 2023, reflecting both the tightening in monetary policy and unwinding of some supply constraints. Total CPI inflation declined from its peak of near 9% in mid-2022 to about 3% in July 2023.

Looking forward, the [forecast](#) is for inflation to continue to decline,<sup>3</sup> which economists believe is because (i) monetary policy is sufficiently restrictive to bring demand down toward supply and (ii) supply chain issues continue to be resolved (helping to boost supply). Because of this forecast, the FOMC has signaled it believes its policy rate may not need to be increased much more. At the June 2023 meeting, the Committee skipped on raising the policy rate to assess whether additional rate hikes were necessary. Then, at the July meeting, it raised the target range only 25 basis points. Future policy decisions will be based on how the FOMC believes the economy is doing as the Committee works to achieve maximum employment and inflation at a rate of 2% over the longer run. ■

## Notes

<sup>1</sup> See, for example, the San Francisco Fed's estimates of supply- and demand-driven contributions to inflation: <https://www.frbsf.org/economic-research/indicators-data/supply-and-demand-driven-pce-inflation/>.

<sup>2</sup> The FOMC began tapering its large-scale asset purchases in November 2021, and it stopped all purchases in March 2022.

<sup>3</sup> One can look at forecasts from the FOMC or other professional forecasters, such as Blue Chip. They all show a continued decline in inflation toward 2%.

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