

January 2022

U.S. Inflation in Unfamiliar Territory

For the last few months, prices have been rising across the U.S. The latest statistic released by the Bureau of Labor Statistics (BLS) shows that the Consumer Price Index (CPI) recorded a 7 percent increase for the 12 months ending December 2021.¹ This article takes a closer look at consumer price increases and discusses whether they are likely to stay or not.

Americans Are Paying More Across the Board

The 7 percent rise in the Consumer Price Index masks some harsh realities in today's economy. Some commodities have increased in price faster than others, as shown in **Table 1**. It has been no secret that gasoline prices have skyrocketed. In the past 12 months, the price of energy increased by 29 percent. Food prices were up 6.3 percent in that time period.

Outside of food and energy, the leading contributor to inflation is an unusual suspect: used cars and trucks, which recorded a 37.3 percent price increase. New vehicles also recorded price increases of almost 12 percent during the same period. People's preference for private transportation during the pandemic and shortages in supplies and workers likely have contributed to the price increases of cars, new and old.

Table 1: *Commodities with the Largest Price Increases*

Commodity	Rate of Inflation
All Items	7.0
Food	6.3
Energy	29.3
All Items less food and energy	5.5
New vehicles	11.8
Used cars and trucks	37.3
Apparel	5.8

Unfamiliar Territory

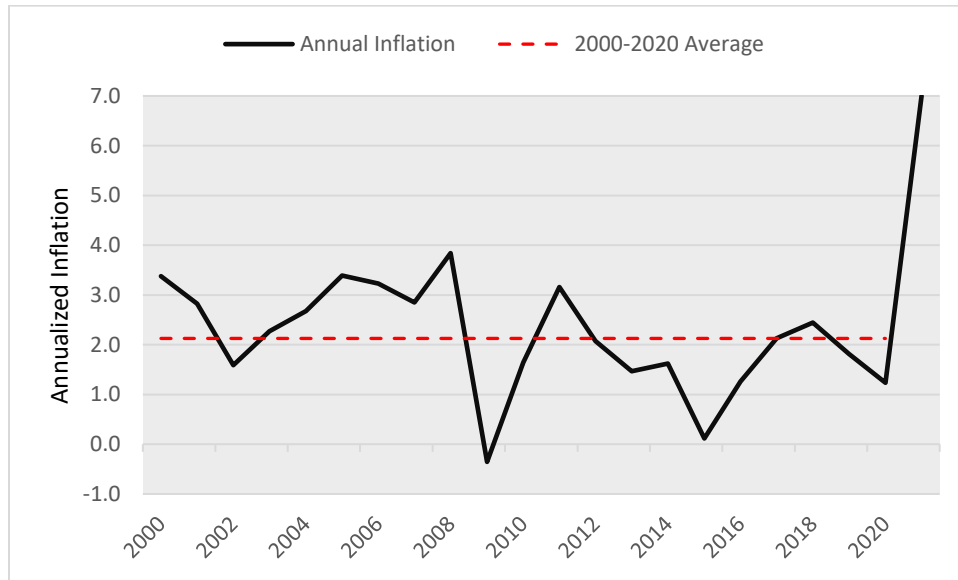
For young Americans, the current episode of inflation is unfamiliar territory. **Figure 1** shows that, for most of the last twenty years, inflation in the U.S. has fluctuated within a narrow band around two percent;² In fact, it never exceeded four percent during that timeframe. For millennials who

¹"Economic News Release – Consumer Price Index Summary." U.S. *Bureau of Labor Statistics*(January 22, 2022). <<https://www.bls.gov/news.release/cpi.nr0.htm>> (accessed Jan. 22, 2022).

² The rate of inflation is calculated based on the consumer price index for all items, which is also referred to as headline inflation.

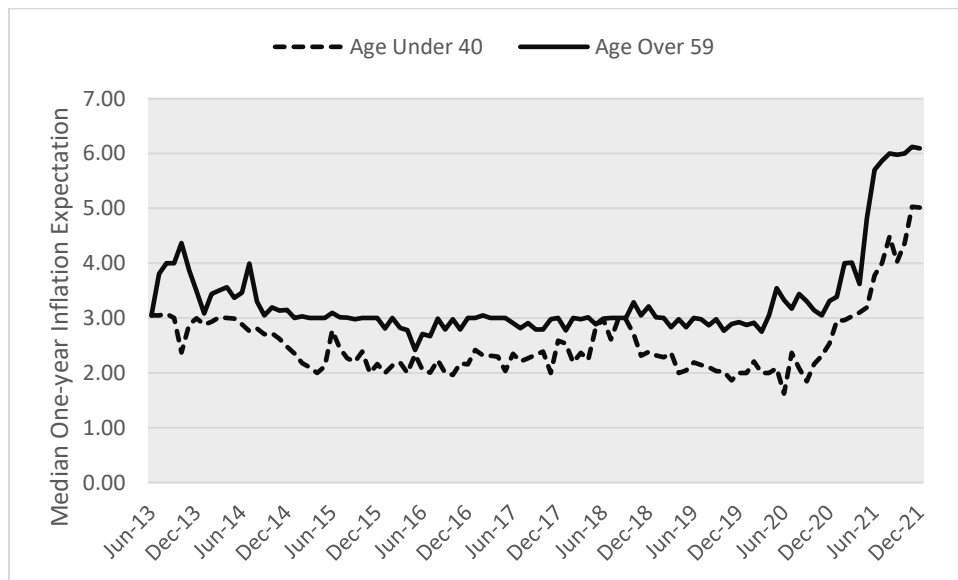
grew up in this period of slow-and-steady price increases, the current rates of inflation are unheard of except in historical accounts.

Figure 1: *Inflation in the United States, 2000-2021*



The differences in life experience tend to manifest as disparities in people’s inflation expectations as well. **Figure 2** shows that older Americans consistently hold higher inflation expectations than do younger ones.³ In September, the gap in one-year inflation expectation between those over 59 and those under 40 was at a series high of two percent. But the gap has shrunk since then, as younger Americans revised upward their inflation expectation by one percentage point.

Figure 2: *Inflation Expectation by Age*



³ "Survey of Consumer Expectations." *Center for Microeconomic Data, Federal Reserve Bank of New York.* <<https://www.newyorkfed.org/microeconomics/sce#/inflexp-6>> (accessed Jan. 12, 2022).

Transitory or Permanent

Surging prices in recent months beg the question: Are higher prices here to stay? The Hodrick-Prescott filter is used to provide one answer. The filter is a statistical tool commonly used in time series analysis, especially in the real business cycle literature.⁴ The filter was used to decompose price series into two components: permanent and cyclical. Loosely speaking, the permanent component captures more long-lasting changes while the cyclical component captures transitory forces that are more fleeting in nature.

Once the permanent and cyclical components are extracted from a price series, a variance decomposition is applied to quantify the contribution of each component to observed price movements. **Table 2** summarizes the results of this analysis.

Table 2: Contribution by *Permanent and Cyclical Components*⁵

Commodity	Percentage of Price Variation Contributed By	
	Permanent Components	Cyclical Components
All items	93.7	5.4
Food	90.6	5.9
Energy	36.8	59.6
All items less food and energy	96.8	2.6
New vehicles	33.6	49.8
Used cars and trucks	40.2	41.8
Apparel	54.9	43.0

There are two main takeaways. First, overall price inflation is more permanent than cyclical. Overall inflation refers to price increases of a large basket of goods as opposed to individual commodities. As Table 2 shows, price increases for all items and all items less food and energy have been mostly permanent and not transitory, as many believed earlier in 2021. It is not surprising, therefore, that more recently, the narrative has accepted the permanence of these higher prices.⁶ Second, there are considerable differences across individual commodities in terms of the nature of recent price increases. For some, recent price increases were mostly driven by cyclical factors. Because cyclical factors tend to even out over time, recent prices are likely poor predictors of future ones. New vehicles and energy fit within this category. For commodities such as food and, to a lesser extent, apparel, recent price increases are more likely to continue into the future.

For additional inquiries, please contact info@vegaeconomics.com.

⁴ "Hodrick, Robert J., and Edward C. Prescott. "Postwar U.S. Business Cycles: An Empirical Investigation." *Journal of Money, Credit, and Banking* Vol. 29, No. 1(1997): 1-16.

⁵ Based on monthly CPI data from January 2016 to December 2021. The sum of contributions is not equal to 100 percent when the covariance between transitory and permanent components is not zero.

⁶ "Fed's Powell floats dropping 'transitory' label for inflation." Reuters (November 30, 2021). <https://www.reuters.com/article/usa-fed-instant/feds-powell-floats-dropping-transitory-label-for-inflation-idUSKBN2IF1S0> (accessed Jan. 03, 2022).