

## **Handout for November 2023 Newsletter Teaching About Core Inflation in FRED®**

### **Purpose.**

1. Create a plot of two different measures of core inflation in the United States.
2. Change the graph's date range to show values since 2020.
3. Describe and discuss patterns in the evolution of core inflation over time.

**Pedagogical Rationale.** This assignment requires that you first search for data and plot them into a graph. Next, you will add other series, change the date range in the graph, and customize the graph by formatting the line style. Lastly, you will describe and discuss patterns in the evolution of the data series. These tasks will develop your proficiency in searching for, transforming, and interpreting data.

**Grading.** Your grade will be determined by (a) how precisely you complete the search and transformation data tasks and (b) how accurately you interpret the data.

### **Steps to Search for and Transform the Data.**

1. Access <https://fred.stlouisfed.org/> and search for "Consumer Price Index for All Urban Consumers: All Items in U.S. City Average (CPIAUCSL)."
2. Select "Index 1982-1984=100, Monthly, Seasonally Adjusted."
3. Click on the orange "EDIT GRAPH" button and select the "ADD LINE" tab.
4. Search for "Consumer Price Index for All Urban Consumers: All Items Less Food and Energy in U.S. City Average (CPILFESL), Index 1982-1984=100, Monthly, Seasonally Adjusted," and click on "Add data series."
5. Repeat the last two steps to search for and add:
  - a. "Personal Consumption Expenditures: Chain-type Price Index (PCEPI), Index 2017=100, Monthly, Seasonally Adjusted;"
  - b. "Personal Consumption Expenditures Excluding Food and Energy (Chain-Type Price Index) (PCEPILFE), Index 2017=100, Monthly, Seasonally Adjusted."
6. Select the tab "EDIT LINES" and click on "EDIT LINE 1."
7. Change the units to "Percent Change from Year Ago." Click on "Copy to all."
8. Change the date range of the graph to start at "2020-04-01" and end at "2023-09-01."
9. Click on the orange "EDIT GRAPH" button and select the "FORMAT" tab.
10. Select "Mark type > Circle" for "LINE 1 and LINE 3"
11. Select line colors accessible to your users.

### **Writing Prompts.** Answer the following questions:

1. Between April 2020 and September 2023, when was consumer price index (CPI) all-items inflation (the blue dotted line) higher than personal consumption expenditure (PCE) inflation (the orange dotted line)?
2. Compare CPI all-items inflation (the blue dotted line) and CPI all-items-less-food-and-energy inflation (the blue line) between February 2021 and March 2023. Briefly explain why they were different.
3. Compare PCE all-items inflation (the orange dotted line) and PCE all-items-less-food-and-energy inflation (the orange line) between February 2023 and September 2023. Briefly explain why they were different.