M3: Advanced Matplotlib Graphing Assignment

Instructions

This assignment is to be completed using the same data file that is referenced in the time series decomposition assignment: `ConstructionTimeSeriesDatav2.csv`

- Find some aspect of the data in this file that could provide insight to viewers if that aspect were effectively highlighted in a presentation. The insight may pertain to some aspect of the data observed in your time series decomposition work on that data, or you may consider the data in its entirety. In other words, you may plot and highlight either of these:
    - the original data series for public and private construction spending;
    - one of the components that you extracted from the original data series in the time series decomposition; or
    - some other relevant subset of the data.
- Highlight your chosen aspect of interest.
    - Highlight the aspect of the data on which you are focusing by constructing a graph in Jupyter using techniques that may include, but are not limited to, the following:
        - Horizontal or vertical lines
        - Background shading
        - Breaking a data series into multiple chunks
        - Text embedded into the graph
        - Using color (be careful not to overdo it)
    - Articulate succinctly in words, using markdown in another cell, the aspect of the graph you are calling out.
- Please satisfy these other requirements for your graph.
    - Use the appropriate graph type.
    - Ensure that the x-axis tick-mark labels do not overlap and are informative (do not use integer indices, for example).
    - Format the y-axis tick-mark labels appropriately.
    - Include an appropriate figure title.
    - Include x-axis and y-axis captions.
    - Use appropriate font size in the various parts of the graph.
        - All text should be sufficiently large to be legible.
        - Relative size is also important; the figure caption should be larger font than the axes captions and any text that might appear on the graph.
    - Otherwise, declutter the graph as shown in the videos.

Requirements

- Use `pandas` to import the data from the text file and to manipulate the data to the extent required.
- Use Jupyter to complete this assignment and embed your `matplotlib` graphs within Jupyter.
- Turn in your Jupyter file, which you should call `M3Graphing.ipynb`, into the Canvas LMS.