

Chapter 5: Data Exploration Problems

1. Plot the percent change from a year ago of the S&P 500 stock index (FRED code: SP500). Visually, has the risk of the S&P 500 index changed over time? (LO2)

Hint: At the FRED Web site, go to “Data Tools,” then “Create Your Own Graphs,” and input “SP500” (without the quotes) in the search box. Then, change the Frequency dropdown box to “Monthly,” change the Units dropdown box to “Percent Change from Year Ago,” and select “Redraw Graph.”

2. Another way to understand stock market risk is to examine how investors *expect* risk to evolve in the near future. The DJIA volatility index (FRED code: VXDCLS) is one such measure. Plot the level of this volatility index since October 1997 and, as a second line, the percent change from a year ago of the S&P 500 index (FRED code: SP500). Compare their patterns. (LO2)

Hint: Using the figure from Data Exploration question 1, select “Add Data Series” and input “VXDCLS” (without the quotes) in the search box. Select “Copy to All Lines” to start the date range when the volatility index becomes available (1997). Set the Units dropdown box to “Percent” (to show the volatility index level) and select “Redraw Graph.”

3. For the period since 1986, plot on one graph the 30-year conventional mortgage rate (FRED code: MORTG) and the one-year adjustable mortgage rate (FRED code: MORTGAGE1US). Explain their systematic relationship using Core Principle 2. (LO2)

Hint: Recall that to plot two indicators on the same graph, start with one indicator and then add another. At the FRED Web site, go to “Data Tools,” then “Create Your Own Graphs,” and input “MORTG” (without the quotes) in the search box. Then select “Add Data Series,” type “MORTGAGE1US” (without the quotes) in the search box. At the Observation Date Range for MORTGAGE1US, select “Copy to All Lines” and then and hit “Redraw Graph.”

4. Plot the difference since 1979 between the Moody’s Baa bond index (FRED code: BAA) and the U.S. Treasury 10-year bond yield (FRED code: GS10). Comment on the trend and variability of this “credit risk premium” (see Chapter 7) before and after the 2007–2009 financial crisis. (LO1)

Hint: Go to the FRED Web site and select “Data Tools” and “Create Your Own Graph.” Then, enter “BAA” (without the quotes) in the search box under “Add Data Series.” Set the Observation Date Range to begin in January 1979; then select “Add Data Series,” choose the “Line 1” button and enter “GS10” (without the quotes) into the search box. In the Formula box, type “a – b” (without the quotes) and then select “Redraw Graph.”