Data Practice with FRED “Employment and the Labor Force Data” Objectives

In this FRED data practice, you will learn:

- Several data sources that measure the state of employment in the United States (The Bureau of Labor Statistics Employment Situation Report, The report consists of two parts: the Current Population Survey (commonly called the Household Survey) and the Establishment Survey)

- Different ways to locate data time series in the FRED database (categories, search and browse) (steps 1-3, 6-8, 17, & 20-21)

- To view and interpret data in a FRED series (steps 4-5)

- To edit graphs in FRED (step 9) by:
  - changing units (steps 10-11)
  - changing dates (Step 12-13)
  - adding a series to a graph (steps 14-18)
  - adding multiple series to a graph (steps 19-22)
Use FRED to Find Employment and the Labor Force Data

[Tasks: getting data, changing dates, changing units, adding multiple series to a graph]

Employment is an important measure of an economy’s health. Economists and policymakers examine several data sources to assess the state of employment in the United States. The data are available on the Federal Reserve Bank of St. Louis’ FRED database. The following steps give you an opportunity to access the data and make some observations.

The most important FRED data source for employment is the Bureau of Labor Statistics Employment Situation Report. This report is probably the most anticipated of all economic reports—it measures the growth (or loss) of jobs, whether individuals are in the workforce, and household earnings. The report consists of two parts: the Current Population Survey (commonly called the Household Survey) and the Establishment Survey. As you may have guessed, the Household Survey questions households about their participation in the workforce and wages earned. The Establishment Survey (sometimes called the payroll survey) questions private businesses, companies, and government agencies about their changes in staffing. This exercise begins with the Household Survey portion (it is much smaller) and then moves to the Establishment Survey portion of the report.

1. Start at the FRED website, http://research.stlouisfed.org/fred2. As you follow along in this exercise, the red arrows and circles show you where to access the information. To begin looking at employment data, click on the categories tab.
2. Under the **Population, Employment & Labor Markets** category, choose the **Current Population Survey (Household Survey)** link. The number in parentheses after each category listed indicates how many series are available in that category.

3. Scrolling down, you will see a list of possible data series. Data are sorted initially by popularity. They can also be sorted several other ways—by start or end date, units, seasonal adjustment, and update date. Choose **Civilian Unemployment Rate**, usually the first (the most popular) series. To bring up the series, click on the title.
4. The graph shows the entire history of the series and allows options to view or download the data. Now, choose **View Data** under the Tools section in the upper left corner of the page.

![Civilian Unemployment Rate (UNRATE)](image)

5. Look at the data and then answer the following question: What is the highest unemployment rate recorded since 1948 and when did it occur? The screenshot below shows some of the earliest measures of the unemployment rate.

<table>
<thead>
<tr>
<th>DATE</th>
<th>VALUE</th>
</tr>
</thead>
<tbody>
<tr>
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</tr>
<tr>
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<td>3.8</td>
</tr>
<tr>
<td>1948-03-01</td>
<td>4.0</td>
</tr>
<tr>
<td>1948-04-01</td>
<td>3.9</td>
</tr>
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<td>1948-06-01</td>
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<tr>
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<td>3.8</td>
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<td>1948-10-01</td>
<td>3.7</td>
</tr>
<tr>
<td>1948-11-01</td>
<td>3.8</td>
</tr>
</tbody>
</table>

7. Within that category, choose the Total Nonfarm category.
8. Within the **Total Nonfarm** category, choose **All Employees: Total nonfarm (PAYEMS), seasonally adjusted**. This series represents the number of people reported as employed by companies (so, if a person has two jobs, they are counted as two employed persons).

9. Below is an example of the graph of **All Employees: Total nonfarm**. To make changes to the graph, choose **Edit Graph**.
10. Open Line 1: All Employees: Total nonfarm (PAYEMS) to make several changes to the display. Two items will be changed: the units and the date range.

Graph: All Employees: Total nonfarm (PAYEMS)

11. The data are in thousands (see the label on the y-axis on the previous screenshot). To show the data as a change from the previous month, click on the pull-down next to Units, then choose Change, Thousands of Persons.
12. Next, change the data range from the default (entire range) to the last 10 years. Under the **Observation Date Range** and **Observation Quick Range** options, choose the radio button for 10yrs. When you’ve made those two changes (units are now Change, Thousands of Persons and date is 10 years), click on **Redraw Graph**.

13. Below is the graph of the change, in thousands, of persons employed by companies over the past 10 years.

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**Download Data in Graph | Print | PDF | Link | View Saved Graphs | Save Graph | Help**

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**All Employees: Total nonfarm (PAYEMS)**

Shaded areas indicate US recessions. 2012:research.stlouisfed.org
14. Going back to the category of **Establishment Survey Data**, compare the number of jobs from several different areas of the economy (for this lesson, use construction and retail). This requires locating one series and then adding others to the graph. To do this, first choose **Construction** as a category.

15. Choose the **All Employees: Construction**, seasonally adjusted, series in the category (again, sorted by popularity).
16. Below is the graph of the number of employees in construction, in thousands. To add another series for comparison, choose the **Edit Graph** link below the graph.

17. This brings up the editable graph. Scroll down and click on the green triangle to expand the **Add Data Series section**. The default option is to **add a new line** (which is what you want to do). To add a line showing the number of employees in the retail trade industry, begin typing **Employees Retail Trade**. **FRED** will suggest likely data series as you type. Choose **All Employees: Retail Trade (USTRADE)**.
18. Now you have a graph with the number of construction employees in blue, and the number of retail trade employees in red. Consider adding other industries to the graph. You may want to add All Employees: Financial Activities or All Employees: Professional and Business Services.

19. As a final way of studying employment, let's look at some labor force participation rates. This will be an opportunity to create a single graph with multiple lines from a list. Choose the Current Population Survey (Household Survey).
20. Then choose the **Civilian Labor Force Participation Rate**.

21. Select the labor force participation rates for Men and Women. Click **Add to New Graph**.
22. The line for men’s labor force participation is **blue**, the line for women is **red**.