

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.

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FRED NEWS FEATURES

2 Series Added to FRED from the Federal Highway Administration
posted on May 4

FRED Gets a New Look and New Features!
posted on Apr 25

20 Purchase Only House Price Indexes Added to FRED
posted on Apr 18

FRED App Now Available for iOS and Android Devices

Our FRED app is now available for iOS and Android-compatible smartphones and tablets, giving data users greater access to economic data on the go — anytime, anywhere.

Learn More

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.

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Categories

Money, Banking, & Finance (3,794)

Banking (701) | Business Lending (1,910) | Exchange Rates (98) | Financial Indicators (96) | Foreign Exchange Intervention (21) | Interest Rates (552) | Monetary Data (420)

National Accounts (704)

Federal Government Debt (18) | Flow of Funds (194) | National Income & Product Accounts (241) | U.S. Trade & International Transactions (251)

Population, Employment, & Labor Markets (2,234)

ADP Employment (13) | **Current Population Survey (Household Survey) (852)** | Establishment Survey Data (794) | Job Openings and Labor Turnover (JOLTS) (423) | Population (38) | Productivity & Costs (81) | Weekly Initial Claims (9) | Income Distribution (23)

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.

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Tools

- Download Data
- Notify Me of Updates

50 Series

Select tags below to filter series. [Learn about tags.](#)

Related Tags

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- All
 - sa x 39
 - unemployment x 36
 - rate x 21
 - civilian x 14
 - nsa x 11

Home > FRED® Economic Data > Categories > Population, Employment, & Labor Markets

Current Population Survey (Household Survey)

The Current Population Survey (Household Survey) is a monthly survey of households conducted by the Bureau of Labor Statistics. It provides a comprehensive body of data on the labor force, employment, unemployment, persons not in the labor force, hours of work, earnings, and other demographic and labor force characteristics. For more information, visit <http://www.bls.gov/news.release/empst.tn.htm>.

Categories

- Civilian Labor Force (73)
- Civilian Labor Force Participation Rate (55)
- Employment (192)
- Employment Population Ratio (73)
- Unemployment Level (151)
- Unemployment Rate (132)
- Not in Labor Force (59)
- Labor Force Participation Rate (18)
- Multiple Jobholders (20)
- Duration of Unemployment (17)
- Losers and Leavers (8)
- Entrants and Reentrants (4)

Series 1 - 50

Selected Series: Sort by: Popularity

Civilian Unemployment Rate

UNRATE, 1948-01 to 2012-04, Monthly, Percent, Seasonally Adjusted (May 4)

usa nation monthly sa bls rate unemployment civilian

Not in Labor Force

LNS15000000, 1975-01 to 2012-04, Monthly, Thousands of Persons, Seasonally Adjusted (May 4)

usa nation monthly sa bls labor force

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.

Home > FRED® Economic Data > Categories > Population, Employment, & Labor Markets > Current Population Survey (Household Survey)

Civilian Unemployment Rate (UNRATE) SHARE

Tools

- Download Data
- View Data**
- Notify Me of Updates
- Add to My Data List
- Vintage Series in ALFRED

Civilian Unemployment Rate (UNRATE)
Source: U.S. Department of Labor: Bureau of Labor Statistics

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.

Title:	Civilian Unemployment Rate
Series ID:	UNRATE
Source:	U.S. Department of Labor: Bureau of Labor Statistics
Release:	Employment Situation
Seasonal Adjustment:	Seasonally Adjusted
Frequency:	Monthly
Units:	Percent
Date Range:	1948-01-01 to 2012-04-01
Last Updated:	2012-05-04 9:00 AM CDT
Notes:	The unemployment rate represents the number of unemployed as a percentage of the labor force. Labor force data are restricted to people 16 years of age and older, who currently reside in 1 of the 50 states or the District of Columbia, who do not reside in institutions (e.g., penal and mental facilities, homes for the aged), and who are not on active duty in the Armed Forces.

DATE	VALUE
1948-01-01	3.4
1948-02-01	3.8
1948-03-01	4.0
1948-04-01	3.9
1948-05-01	3.5
1948-06-01	3.6
1948-07-01	3.6
1948-08-01	3.9
1948-09-01	3.8
1948-10-01	3.7
1948-11-01	3.8

6. Next, go back to the **Population, Employment & Labor Markets** main category, and choose the **Establishment Survey Data**.

The screenshot shows the FRED Economic Data website. The top navigation bar includes links for 'FRED® Economic Data', 'Data Tools', 'Publications', 'Working Papers', 'Economists', 'More', and 'St. Louis Fed Home'. The main content area is titled 'Categories' and lists several categories with their respective item counts: 'Money, Banking, & Finance (3,794)', 'National Accounts (704)', and 'Population, Employment, & Labor Markets (2,234)'. The 'Population, Employment, & Labor Markets' category is circled in red. Below it, sub-categories are listed, including 'ADP Employment (13)', 'Current Population Survey (Household Survey) (852)', 'Establishment Survey Data (794)', 'Job Openings and Labor Turnover (JOLTS) (423)', 'Population (38)', 'Productivity & Costs (81)', 'Weekly Initial Claims (9)', and 'Income Distribution (23)'. A red arrow points from the 'Notify Me of Updates' link in the left sidebar to the circled category.

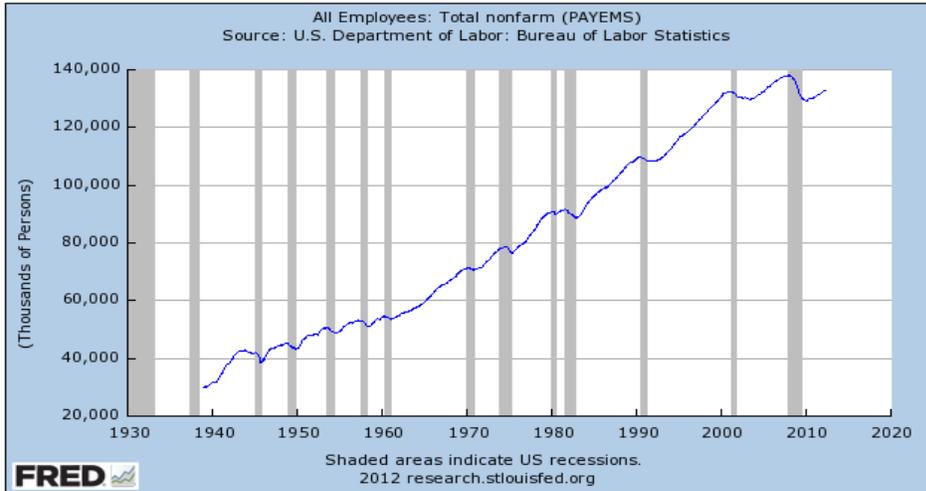
7. Within that category, choose the **Total Nonfarm** category.

The screenshot shows the FRED Economic Data website, specifically the 'Establishment Survey Data' page. The left sidebar includes the FRED logo, 'ECONOMIC DATA | ST. LOUIS FED', and sections for 'Tools' (Download Data, Notify Me of Updates) and 'Need Help?' (Tutorials, FAQs, Email Us). The main content area is titled 'Establishment Survey Data' and includes a description: 'The establishment survey provides data on employment, hours, and earnings by industry. Read More'. Below this, a 'Categories' section lists various industry categories. The 'Total Nonfarm (5)' category is circled in red. Other categories listed include 'Total Private (27)', 'Goods-Producing (27)', 'Service-Providing (1)', 'Private Service-Providing (27)', 'Mining and Logging (39)', 'Construction (41)', 'Manufacturing (31)', 'Durable Goods (61)', 'Nondurable Goods (53)', 'Trade, Transportation, and Utilities (27)', 'Wholesale Trade (33)', 'Retail Trade (55)', 'Transportation and Warehousing (47)', 'Utilities (27)', 'Information (39)', 'Financial Activities (51)', 'Professional and Business Services (55)', 'Education and Health Services (51)', 'Leisure and Hospitality (41)', 'Other Services (33)', and 'Government (23)'.

10. Open **Line1: 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)

[Download Data in Graph](#) | [Print](#) | [PDF](#) | [Link](#) | [View Saved Graphs](#) | [Save Graph](#) | [Help](#)



Settings [Restore Defaults](#) | [Save Settings](#) | [Apply Saved Settings](#)

- ▶ Graph
- ▶ **Line 1: All Employees: Total nonfarm (PAYEMS)**
- ▶ Add Data Series

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**.

Settings [Restore Defaults](#) | [Save Settings](#) | [Apply Saved Settings](#)

- ▶ Graph
- ▼ Line 1: All Employees: Total nonfarm (PAYEMS)
 - Scale: Line Style: Line Width: Mark Type: Mark Width: Color:
 - Observation Date Range: to
 - Observation Quick Range: Custom 1yr 5yrs 10yrs Max
 - Frequency:
 - (a) All Employees: Total nonfarm (PAYEMS), Monthly, Seasonally Adjusted, 1939-01-01 to 2012-04-01
 - Units:
 - Thousands of Persons
 - Change, Thousands of Persons**
 - Create Change from Year Ago, Thousands of Persons
 - Percent Change
 - Percent Change from Year Ago
 - Compounded Annual Rate of Change
 - Continuously Compounded Rate of Change
 - Continuously Compounded Annual Rate of Change
 - Index (Scale value to 100 for chosen period)
 - ▶ Add D

[Notes on growth rate calculations, US recession dates, and frequency aggregation](#)

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**.

Settings [Restore Defaults](#) | [Save Settings](#) | [Apply Saved Settings](#)

Graph

Line 1: All Employees: Total nonfarm (PAYEMS)

Scale: Line Style: Line Width: Mark Type: Mark Width: Color:

Observation Date Range: to

Observation Quick Range: Custom 1yr 5yrs 10yrs Max

Frequency:

(a) All Employees: Total nonfarm (PAYEMS), Monthly, Seasonally Adjusted, 1939-01-01 to 2012-04-01

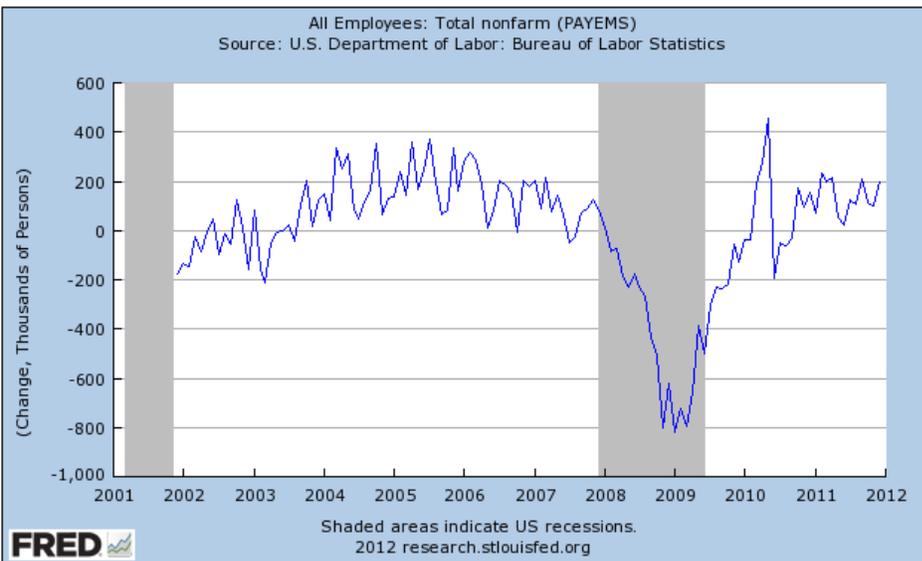
Units:

[Create Your Own Data Transformation](#)

[Add Data Series](#)

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

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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.

Home > FRED® Economic Data > Categories > Population, Employment, & Labor Markets



Establishment Survey Data

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The establishment survey provides data on employment, hours, and earnings by industry. For more information, visit <http://www.bls.gov/news.release/empst.tn.htm>.

Categories

- Total Nonfarm (5)
- Total Private (27)
- Goods-Producing (27)
- Service-Providing (1)
- Private Service-Providing (27)
- Mining and Logging (39)
- **Construction (41)**
- Manufacturing (31)
- Durable Goods (61)
- Nondurable Goods (53)
- Trade, Transportation, and Utilities (27)
- Wholesale Trade (33)
- Retail Trade (55)
- Transportation and Warehousing (47)
- Utilities (27)
- Information (39)
- Financial Activities (51)
- Professional and Business Services (55)
- Education and Health Services (51)
- Leisure and Hospitality (41)
- Other Services (33)
- Government (23)

15. Choose the **All Employees: Construction**, seasonally adjusted, series in the category (again, sorted by popularity).

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Tools

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41 Series

Select tags below to filter series. [Learn about tags.](#)

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- ▶ Geography Types
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Home > FRED® Economic Data > Categories > Population, Employment, & Labor Markets > Establishment Survey Data

Construction

Series 1 - 41

Selected Series: Sort by:

All Employees: Construction ■■■■■■■■■■

USCONS, 1939-01 to 2012-04, Monthly, Thousands of Persons, **Seasonally Adjusted** (May 4)

usa nation monthly sa bls employment construction

All Employees: Construction: Residential Building ■■■■■■■■■■

CES2023610001, 1985-01 to 2012-04, Monthly, Thousands of Persons, Seasonally Adjusted (May 4)

usa nation monthly sa bls employment construction buildings residential

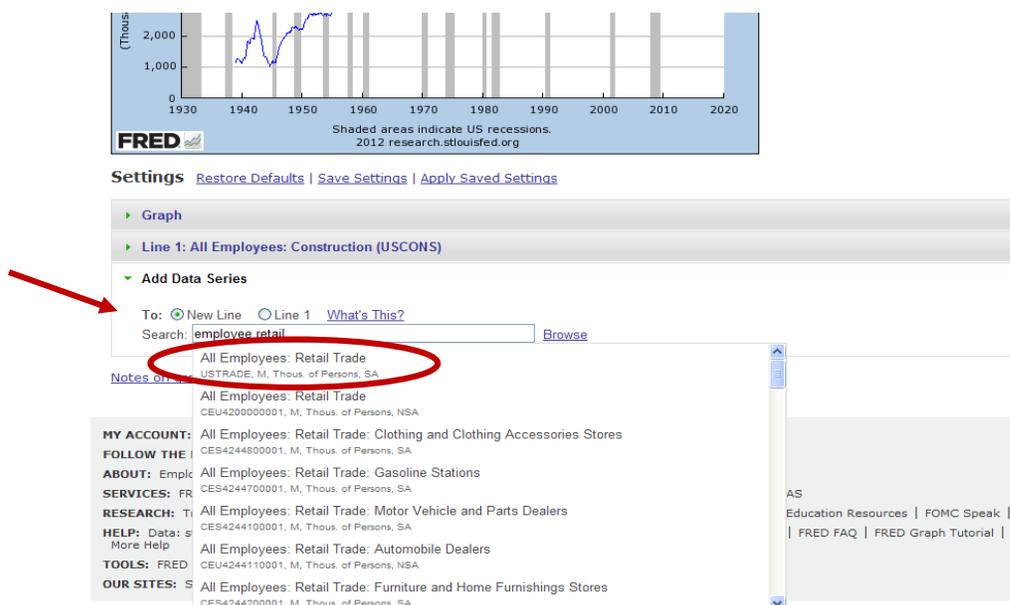
Average Hourly Earnings of Production and Nonsupervisory Employees: Construction ■■■■■■■■■■

CES2000000008, 1947-01 to 2012-04, Monthly, Dollars per Hour, Seasonally Adjusted (May 4)

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.



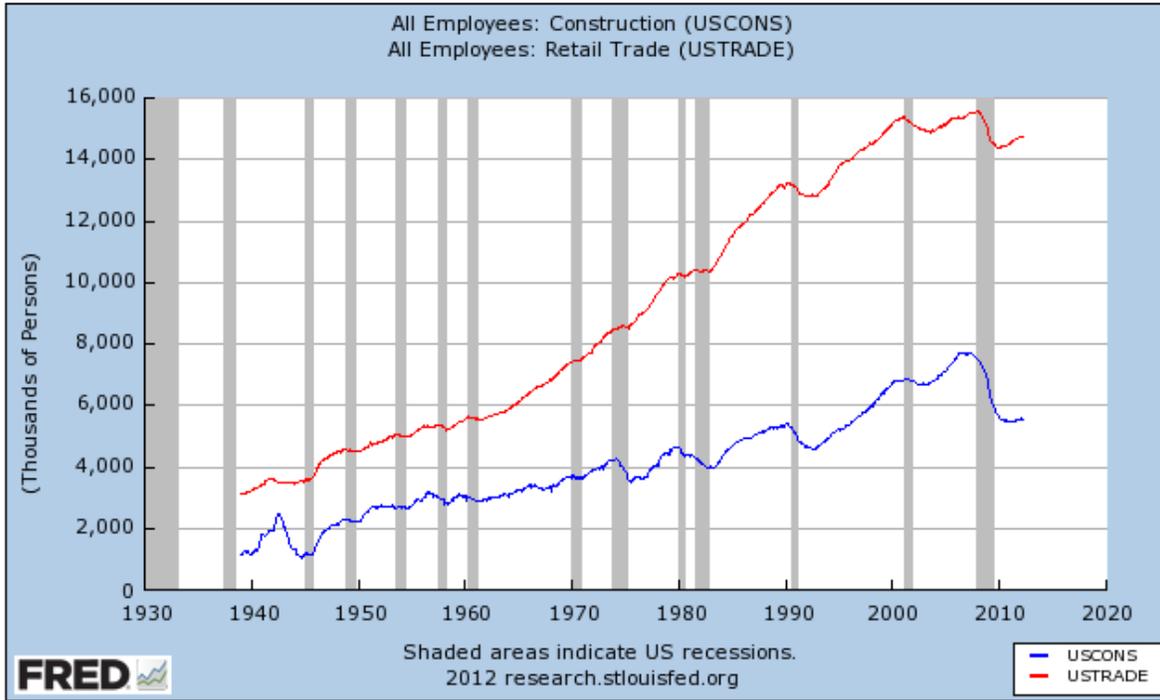
17. This brings up the editable graph. Scroll down and click on the green triangle to expand the **Add Data Series** section. The default option is to **add a new line** (which is what you want to do). To add a line showing the number of employees in the retail trade industry, begin typing **Employees Retail Trade**. FRED will suggest likely data series as you type. Choose **All Employees: Retail Trade (USTRAD)**.



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**.

FRED Graph

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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)**.

TOOLS

- Download All Data
- Notify Me of Updates
- My Data Lists
- FRED Graph
- FRED Mobile Apps

Population, Employment, & Labor Markets (2,234)

ADP Employment (13) | **Current Population Survey (Household Survey) (852)** |
Establishment Survey Data (794) | Job Openings and Labor Turnover (JOLTS) (423) |
Population (38) | Productivity & Costs (81) | Weekly Initial Claims (9) | Income Distribution (23) |

20. Then choose the **Civilian Labor Force Participation Rate**.

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Tools

- Download Data
- Notify Me of Updates

50 Series

Select tags below to filter series. [Learn about tags.](#)

Related Tags

Search Tags

Home > FRED® Economic Data > Categories > Population, Employment, & Labor Markets

Current Population Survey (Household Survey)

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Categories

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- Duration of Unemployment (17)
- Losers and Leavers (8)
- Entrants and Reentrants (4)

Series 1 - 50

21. Select the labor force participation rates for Men and Women. Click **Add to New Graph**.

series. [Learn about tags.](#)

Related Tags

Search Tags

- Sources
- Seasonal Adjustments
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- Geographies
- Concepts
- All
 - 18 years + x 18
 - females x 15
 - males x 15
 - veterans x 15
 - 20-year x 8
 - disability x 8
 - gulf war x 6
 - 16 to 19 years x 4
 - 16 to 64 years x 4
 - 25 years + x 4
 - african american x 4

Selected Series: Sort by: Popularity

- Civilian Labor Force Participation Rate**
LNU01300000, 1948-01 to 2012-04, Monthly, Percent, Not Seasonally Adjusted (May 4)
usa nation monthly bls nsa rate civilian labor force
- Civilian Labor Force Participation Rate - Bachelor's degree and higher, 25 years and over**
LNU01327662, 1992-01 to 2012-04, Monthly, Percent, Not Seasonally Adjusted (May 4)
usa nation monthly bls nsa rate civilian labor force education 25 years + bachelor's degree
- Civilian Labor Force Participation Rate - Men**
LNU01300001, 1948-01 to 2012-04, Monthly, Percent, Not Seasonally Adjusted (May 4)
usa nation monthly bls nsa rate civilian labor force males
- Civilian Labor Force Participation Rate - Women**
LNU01300002, 1948-01 to 2012-04, Monthly, Percent, Not Seasonally Adjusted (May 4)
usa nation monthly bls nsa rate civilian labor force females

22. The line for men's labor force participation is **blue**, the line for women is **red**.

