

Handout for August 2021 Newsletter Labor Productivity Indexes in FRED®

Purpose.

1. Create a plot of real output, hours worked, and real output per hour worked.
2. Customize the units of the series.
3. Describe and discuss patterns in the evolution of labor productivity over time.

Pedagogical Rationale. This assignment requires that you first look for data and plot them into a graph. Next, you will add data series to the graph. 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 data search and graph editing 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 “Nonfarm Business Sector: Real Output.”
2. Select “Index 2012=100, Seasonally Adjusted, Quarterly.”
3. Click on EDIT GRAPH and select ADD LINE.
4. Search for “Nonfarm Business Sector: Hours of All Persons, Index 2012=100, Seasonally Adjusted, Quarterly.” and click on “Add data series.”
5. Click on ADD LINE.
6. Search for “Nonfarm Business Sector: Real Output Per Hour of All Persons, Index 2012=100, Seasonally Adjusted, Quarterly” and click on “Add data series.”
7. Click on EDIT LINE 1.
8. Change the units to “Index (Scale value to 100 for chosen date)” and use the expanded menu to select the date “2020-02-01.” Click on “Copy to all.”
9. Change the date range of the graph to start at “2019-12-01” and end at “2021-10-01.”
10. Click on ADD LINE.
11. Click on “Create user-defined line?” and then click on “Create line.”
12. Enter “100” in the boxes next to “Value start/end:”

Writing Prompts. Answer the following questions:

1. Examine the change in real output per hour worked between the first quarter of 2020 and the first quarter of 2021. Did it increase? Did it decrease? Did it remain constant?
2. Compare the change in real output to the change in hours worked between the first and the second quarters of 2020. Which index decreased more: real output or hours worked?
3. Consider the fact that labor productivity is calculated as the ratio of real output to hours worked (labor productivity = real output / hours worked). Describe how the change in labor productivity during 2020 can be explained by the different rates of growth in real output and hours worked.