

**ECO 103, Winter 2020, Required Homework Assignment #2**  
**Due by the start of class on February 6**

This assignment covers the use of actual GDP data. On Thursday, January 30, the Bureau of Economic Analysis reported its first estimate of GDP for the fourth quarter 2020. This assignment requires that you obtain this report and answer questions using the tables provided by the BEA. Once again, this assignment requires you to do some introductory data work using spreadsheet software.

**Instructions:** Answer all questions. In most cases, one or two concise paragraphs per question are sufficient and you should avoid the temptation to write more.

You are welcome to work together on this assignment. All students are expected, however to both individually make calculations using a spreadsheet and to individually craft your answers.

1. What were the growth rates of GDP, consumption, investment, government spending, and net exports in the fourth quarter?
2. How do your figures from #1 compare to the average growth rates of these variables in recent years?
3. Create and provide a graph showing the growth rates of consumption and investment in recent years. Note that this question is asking about the growth rate, not the level of GDP.
4. Table 3 provides both nominal and real (in 2012 dollars) measures of GDP. Use these data to calculate the GDP deflator. Is it above the 2% target that the Fed would like inflation to equal?
5. Explain why GNP differed from GDP in the fourth quarter.

The Federal Reserve Bank of St. Louis maintains the FRED database which includes a vast amount of macroeconomic data. For the following questions, you will need to collect some data or graphs from FRED.

*A leading economic variable* is one that tends to get worse before the overall economy declines and which tends to improve before the overall economy gets better. In contrast, a lagging economic variable tends to change after the overall economy. Forecasters are especially interested in leading economic indicators because they help predict upcoming changes in the economy.

6. Locate a graph of the civilian unemployment rate from FRED. Notice that recessions are in the shaded regions. Does the unemployment rate appear to be a lagging or leading economic variable?

7. Now locate a graph of a variable that measures business investment. Does the unemployment rate appear to be a lagging or leading economic variable?

Consider the following economy:

Table 1: Good and Services Purchased in 2019-20

Good or Service	Quantity (19)	Price (19) (\$)	Quantity (20)	Price (20) (\$)
Books	10	2	12	1
Bartending Classes	4	20	3	15
Imported Vodka	50	80	56	55

8. Calculate nominal GDP growth in this economy.

9. Calculate one measure of real GDP growth in this economy.

10. Calculate one measure of inflation in this economy.