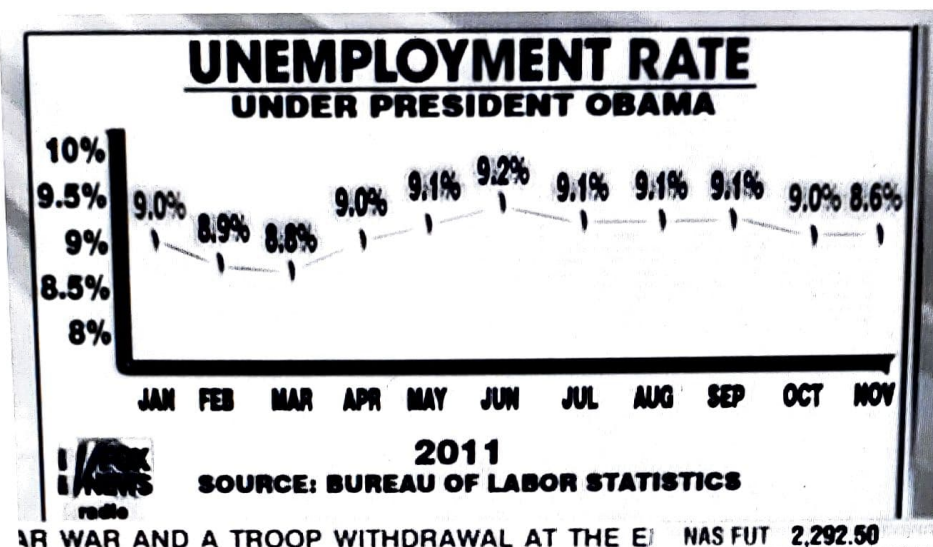


Question 1

6 points

How Did I Do?

Recall from the question in the PNL that, in December of 2011, Fox News showed a graph of the unemployment rate in the U.S. for 2011. This graph has been reproduced and criticized by many media outlets and blogs since then. Below is a screenshot of the graph that was posted by MediaMatters.org.[†]

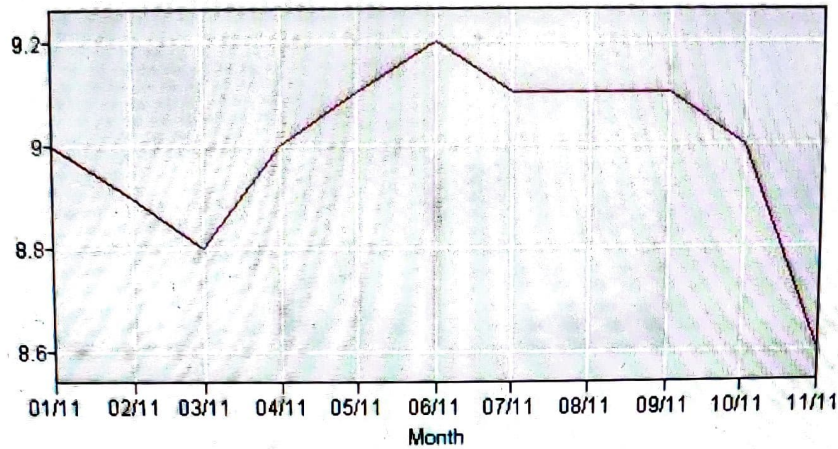


Make sure that you fill in each answer area before checking "How Did I Do?"

- a. Why might this graph be criticized? (Hint: Review your answer from the PNL Question 1(c) and think about the concepts you learned in this lesson.)




- b. MediaMatters.org also posted the chart below, saying it was "... how an honest chart of the changes to the unemployment rate during 2011 looks."



Compare and contrast this chart with the one attributed to Fox News.

The image shows a rich text editor interface. At the top, there are several toolbars: a basic editing toolbar with icons for undo, redo, bold, italic, underline, link, unlink, list, and link; a second toolbar with icons for text color, background color, and text alignment; and a third toolbar with icons for text color, background color, and text alignment. Below these toolbars is a large text area. At the bottom right of the text area, it says "Words: 0".

- c. If you wanted to present an honest and objective graph of the unemployment changes throughout 2011, how would you present the data? Create such a graph. Use a spreadsheet application and upload the resulting image.

Choose File No file chosen

Upload

Submit Assignment

Quit & Save

d. How would your graph change if the unemployment figures were all rounded to the nearest percent?

e. Calculate the relative change in the U.S. unemployment rate from January 2011 to November 2011. Express the relative change as a percentage.

Round to the nearest tenth (1 decimal place).

The relative change was a decrease of %.

f. Using the U.S. unemployment rate in January 2011 and November 2011, create a linear model for the U.S. unemployment rate as a function of the number of months since January 2011. Let R be the U.S. unemployment rate (as a percent) and let t be the number of months since January 2011.

*Use * to indicate multiplication.*

[†]Zachary Pleat, "Today In Dishonest Fox News Charts," Media Matters for America Blog, December 12, 2011, accessed August 10, 2012, <http://mediamatters.org/blog/2011/12/12/today-in-dishonest-fox-news-charts/185162>.

3 points

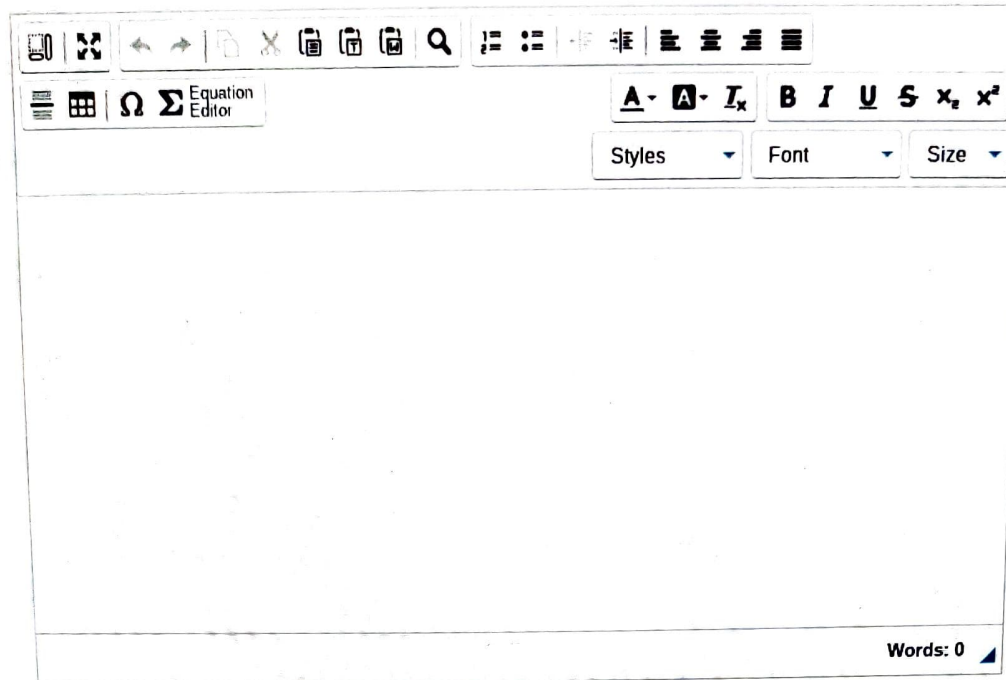
Amount Paid in Income Tax in 2014 by Income Group
(in trillions of dollars)

A horizontal bar chart with three bars representing different income groups. The x-axis is labeled 'Dollars (in trillions)' and ranges from 0 to 1.2 with major grid lines every 0.2 units. The y-axis is labeled 'Income Group' and lists three categories: 'Bottom 50%', 'Between 50% and Upper 25%', and 'Upper 25%'. The bars are blue. The 'Bottom 50%' bar is the shortest, ending at approximately 0.05. The 'Between 50% and Upper 25%' bar is longer, ending at approximately 0.15. The 'Upper 25%' bar is the longest, extending to the 1.2 mark on the x-axis.

Income Group	Amount Paid (in trillions of dollars)
Bottom 50%	0.05
Between 50% and Upper 25%	0.15
Upper 25%	1.20

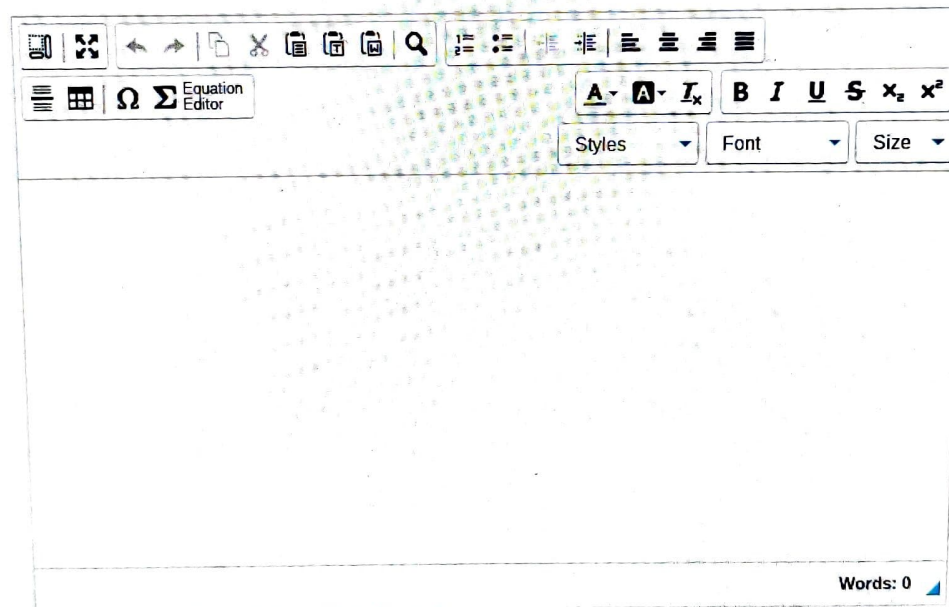
- a. Using the information in the above graph, critique the statement, "Americans in the Upper 25% income group pay more income taxes than Americans in the other income groups."

- b. Assuming that the information in the above chart is correct, does it allow one to easily compare the total amount of money paid in income tax by Americans in the different income groups? Explain carefully.



Words: 0

- c. What additional information, if any, could have been provided to help interpret the information being presented?



Words: 0