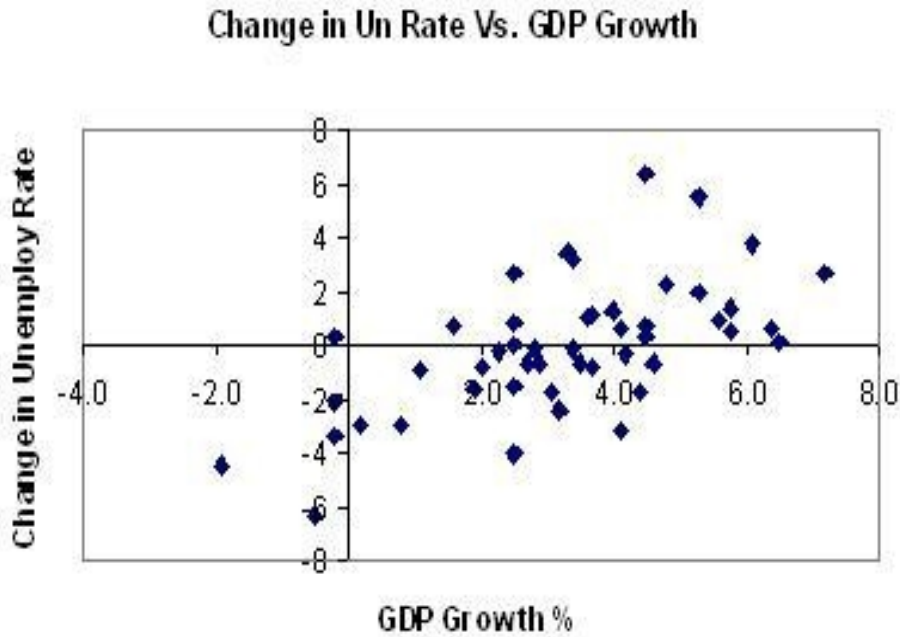


Okun's Law Worksheet

Name _____ Date _____

1. The graph "Change in Un Rate Vs. GDP Growth" plots unemployment and GDP annual data since 1960. In the scatter graph, about 20 points cluster around the X-axis. What is the approximate data point? Examine the graph and circle your answer from the list of X, Y coordinates. Circle one. (0, 3); (3, 0); (6, 4); or (0, -1)

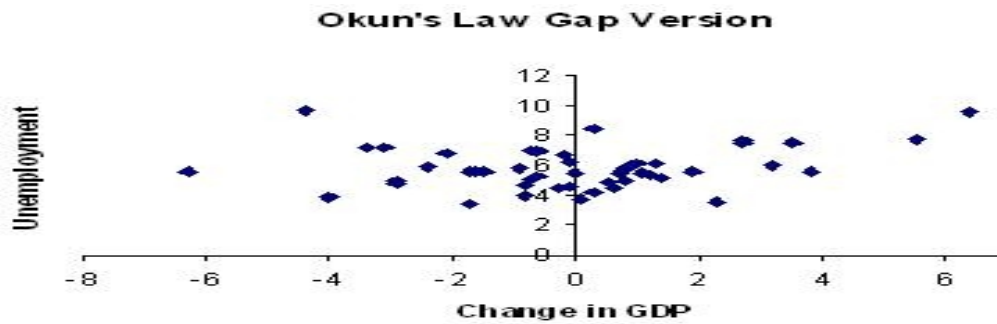


2. The plotted points represent data on unemployment and GDP since 1960. Arthur Okun found that when the U. S. Economy is growing at 3%, there was no change in the unemployment rate. Let's create a regression line that represents how the data fits together. This line is Okun's law.

- Plot the (x,y) ordered pairs in the table below on the graph, "Change in Un Rate Vs. GDP Growth.
- Use a ruler and a colored pen to connect the data points.
- Using Rise/Run, prove that the slope is -2. Show your work.
- Derive an algebraic expression for the line using the slope-intercept form of a line. That is, $y = mx + b$ where m is the slope, x is the x-coordinate, and b is the y-intercept.

3. Assume that the economy is producing at its potential output of 3% annual growth. From your graph, explain what the GDP growth would be if unemployment increased by two percent. _____

X	0	1	2	3	4	5
Y	6	4	2	0	-2	-4



4. Okun's law can be rewritten and graphed to show the natural rate of unemployment as the above graph, Okun's Law Gap Version, shows.

In the graph, Okun's Law Gap Version, the change in GDP equals zero and the unemployment rate equals 5.8%. Assume that 5.8% is the natural rate of unemployment. What is the GDP growth rate? _____ (HINT: look back at your previous graph.)

5. Assume that an equation that describes this data is: $Unemployment = 5.8 - (.5 * Output\ Gap)$. [The output gap is the change in GDP from zero.] Using this formula, compute the unemployment rate for output gaps of -4, -2, 0, 2, and Complete the table below. The first set has been computed for you.

Unemployment Rate	Output Gap
7.8	-4
	-2
	0
	2
	4

6. Draw a line on the graph, Okun's Law Gap Version, connecting your data points. Use a colored pencil. Does your line intercept the Y-axis at 5.8?

$$m = \frac{y_1 - y_2}{x_1 - x_2}$$

7. Using the slope formula, what is the slope of your line?

8. What would you predict would happen to unemployment if the economy grew at 5% or 2% above the natural growth rate? _____ What would predict would happen to unemployment if the economy grew a 4% less than it's natural growth rate? _____

9. Economics is the study of scarcity. When an economy is producing at a GDP growth rate greater than 3% or when the actual unemployment rate is less than its natural rate, labor resources become scarce. What do you predict will happen to prices paid to labor and goods in the economy? _____

10. Now the dog work is over. It's time to write what you know. When there's a change in the unemployment rate, GDP changes by less than the change in unemployment. Economists offer a couple of reasons why this is so. One reason is that some workers are needed to run a business even when times are slow. Another possible reason is technological improvements make staff more productive. Finally, some firms will face costs training costs when hiring new employees so they will just choose to work their remaining staff harder.

Write a 250-word essay, a half-page, describing the link between unemployment, GDP, and inflation. Be sure to include in your essay a statement of Okun's law and a possible reason why unemployment changes more than GDP. When writing your essay, look at a graph and describe the Natural rate of unemployment and the natural GDP growth rate.