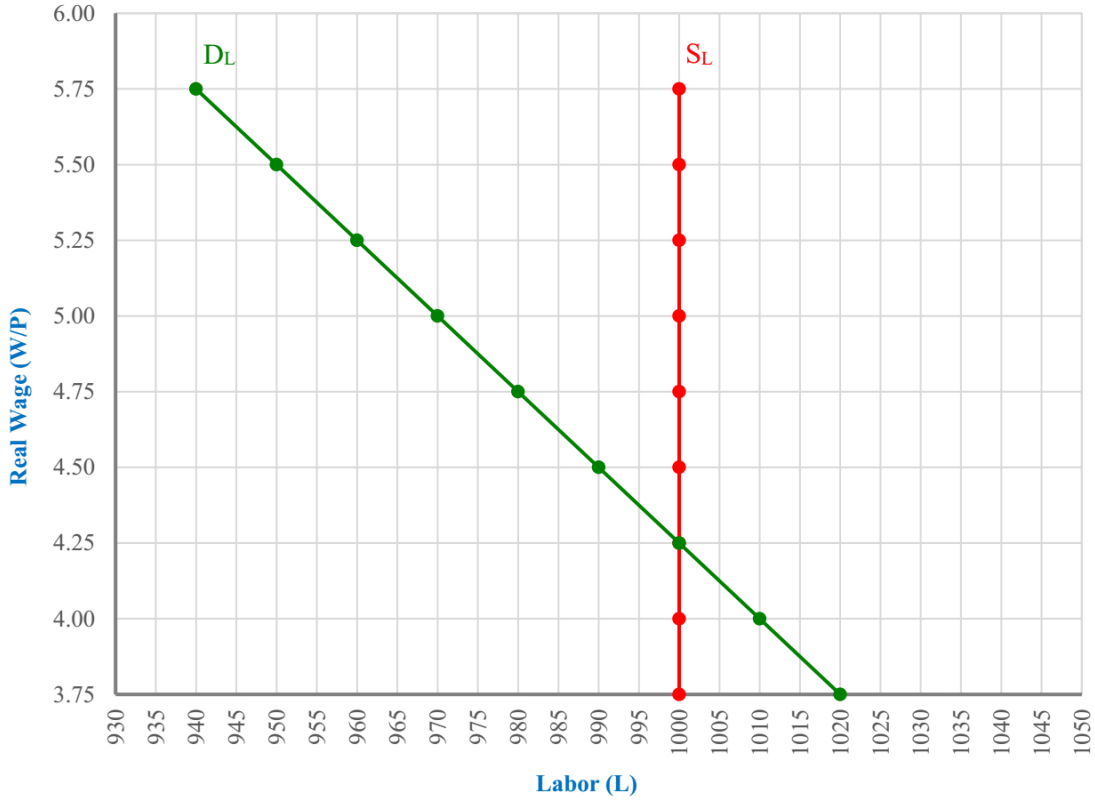
Problem 5. In a country, the overall rate of unemployment is 9 percent. The frictional rate of unemployment is 2 percent and the structural rate of unemployment is 3 percent. The potential GDP in this country equal $Y_P = 100,000$ units. Moreover, economists have estimated the Okun's alpha to be $\alpha = 2$. In this country, then, real GDP equals _____ units.

Hint 5. Use Okun's formula, and make sure to use unemployment rates as a decimal.

Problem 6. The overall rate of unemployment is 3 percent, frictional rate of unemployment is 1 percent, structural rate of unemployment is 4 percent. Potential GDP is $Y_P = 100,000$ units. Economists have estimated the Okun's alpha to be $\alpha = 1.50$. The cyclical rate of unemployment equals _____ percent and the real GDP equals _____ units.

Hint 6. Use Okun's formula, and make sure to use unemployment rates as a decimal.

Problem 7. Currently, the nominal wage equals $W = \$500$ and the general price level equals $P = \$100$. Suppose $Y_p = 100,000$, Okun's alpha is $\alpha = 2\%$, and $u_f = 2\%$.

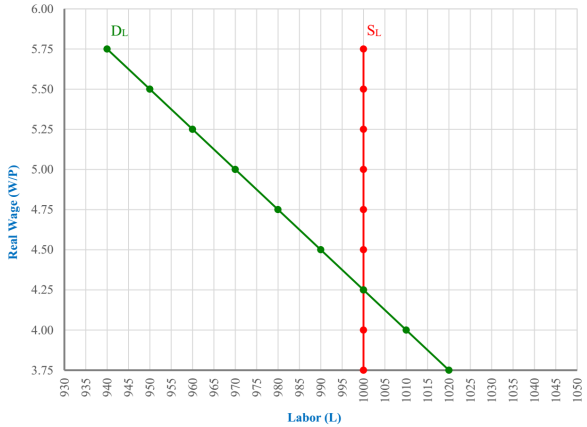


This must mean that in this country the cyclical rate of unemployment equals _____ percent and the real GDP equals _____ units.

Hint 7. Does it say anything about a recession or expansion? No? Hmm...

Problem 8. Suppose that households and firms become pessimistic about the future state of the economy and reduce their purchase of goods and services. This reduction in demand for goods and services affects the labor market in two ways. First, as firms lay off workers, the nominal wage decreases by 1 percent. Second, the general price level decreases by 10 percent.

Suppose $Y_p = 100,000$, Okun's alpha is $\alpha = 2\%$, and $u_f = 2\%$.

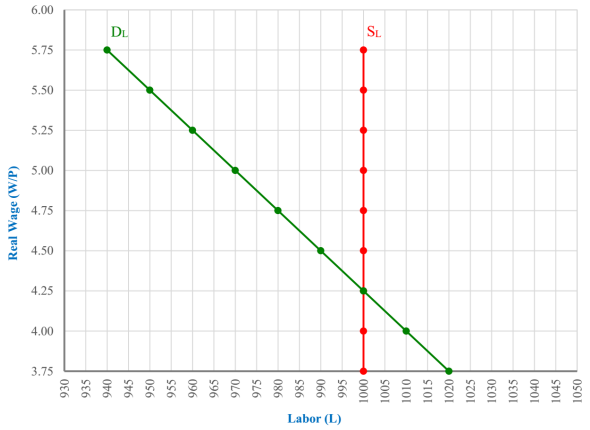


As a result the cyclical rate of unemployment increases to _____ percent and the real GDP equals _____ units.

Hint 8. Decrease W by 1%, decrease P by 10%, and use them find the new real wage. At the new real wage, find excess labor supply (i.e. labor supplied minus labor demanded). From the previous question, we know how many of them are structural. Hence the remainder must be cyclical. The number of cyclical over the labor force gives u_c. Use that with Okun's law.

Problem 9. Ignore what happened in Question 8 above and start from the base case as presented in Question 7. Suppose now that households and firms become overly optimistic about the future state of the economy and unexpectedly increase their purchase of goods and services. This increase in demand for goods and services affects the labor market in two ways. First, as firms try to hire new workers, the nominal wage increases by 1 percent. Second, the general price level increases by 6.31 percent.

Suppose $Y_p = 100,000$, Okun's alpha is $\alpha = 2\%$, and $u_f = 2\%$.

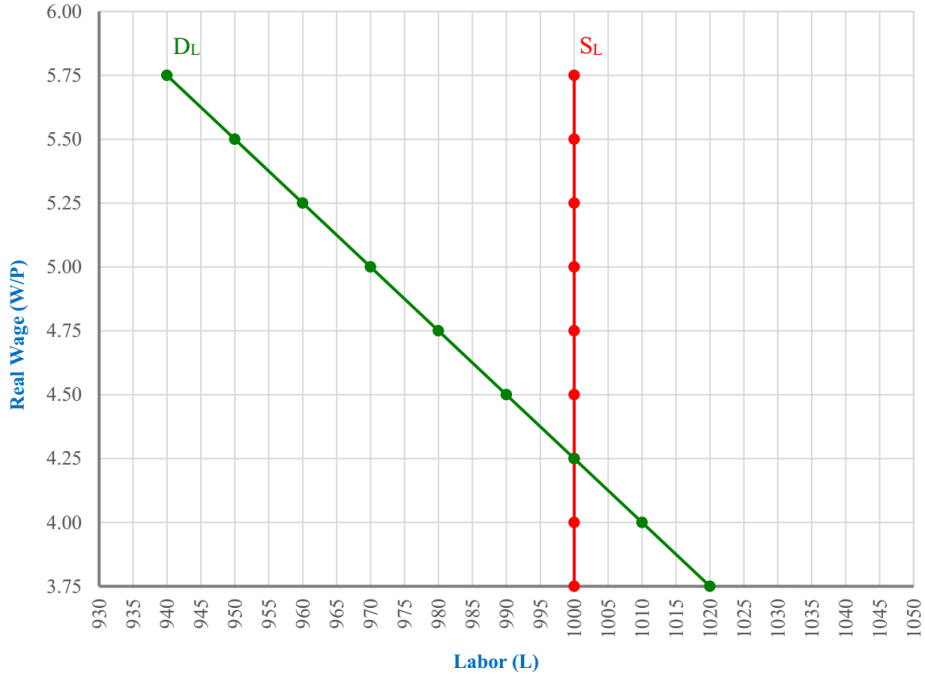


As a result the cyclical rate of unemployment equals _____ percent and the real GDP equals _____ units.

Hint 9. Follow the same logic as the preceding, and don't freak out if the result seems kinda odd. Numbers will align with the numbers given on the graph after rounding properly.

Problem 10. Suppose that in this country there are no minimum wage laws, no efficiency wages, and no labor contracts so that wages and prices are fully flexible. In that case, the overall unemployment rate in the long run equals _____ percent.

Suppose $Y_p = 100,000$, Okun's alpha is $\alpha = 2\%$, and $u_f = 2\%$.



Hint 10. What is it telling us about structural unemployment? What is cyclical unemployment in the long run?