

Unemployment, Job Creation and Job Destruction

ECON 3133

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Problems

1. In a particular month, the labor force is 130 million, there are 9.1 million unemployed workers, the job-losing rate is 3 percent per month, and the job-finding rate is 40 percent per month.
 - a. How many people will be unemployed next month?
 - b. At what unemployment rate would the number of unemployed remain the same from one month to the next?

2. Suppose that Okun's law relating unemployment and GDP is given by
$$(Y - Y^*)/Y^* = -2 \times (U - U^*),$$
where U is the unemployment rate, U^* is the natural rate of unemployment, Y is GDP, and Y^* is potential GDP. Unemployment is measured as a fraction. Suppose that the natural rate of unemployment, U^* , is 6 percent.
 - a. Calculate the GDP gap, $(Y - Y^*)/Y^*$, for each of the years in 2000-2005 using the following unemployment rate, U , data: 5.6, 6.8, 7.5, 6.9, 6.1 and 5.6 percent, respectively.
 - b. GDP, Y , for these same years is as follows: \$5,670, \$5,904, \$6,091.6, \$6,481.2, \$6,936.1, and \$7,207.2 billion. Using these data and your answers to Part a, calculate potential GDP, Y^* , for each of these years. What is the average growth rate of potential GDP?

3. Discuss briefly how each of the following changes would affect the natural rate of unemployment.
 - a. The economy enters a period of little structural change and all industries are growing at about the same rate.
 - b. Schools operate for the full year, so there are no students looking for summer work.
 - c. The Internet lists all the jobs available in the whole country, so it is easier for job seekers to locate potential job.
 - d. People who quit their jobs are drafted into low-wage community service jobs.
 - e. In addition to unemployment insurance, the unemployed receive a bonus for finding new jobs; the bonus is greater if the job is found in the first few weeks of search and declines with the duration of search.