Unemployment, Job Creation and Job Destruction
ECON 3133
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Answers

1.

a. Job losing rate (l) is 0.03
Job finding rate (f) is 0.40
Unemployed is 9.1 million
Labor force is 130 million

Jobs found = 0.4×9.1 million = 3.64 million
Jobs lost = 0.03×130 million = 3.9 million
Newly unemployed = 9.1 + 3.9 – 3.64 = 9.36 million

b. Find the unemployment rate (u*)

For this condition to hold, $l - u^* \times f = 0$; (see page 4 of the notes)

$$0.03 - u^* \times (0.4) = 0$$
$$u^* = 0.03/0.4 = 0.075.$$
$$u^* = 7.5\%.$$

2.

a. and b.

Year	*GDP Gap*	*Potential GDP*
2000	0.8%	5,625
2001	– 1.6	6,000
2002	– 3.0	6,280
2003	– 1.8	6,600
2004	– 0.2	6,950
2005	0.8	7,150

Example for calculating potential GDP for 1990.
$(Y - Y^*)/Y^* = -2 \times (U - U^*)$
$(Y - Y^*)/Y^* = -2 \times (0.056 - 0.06)$
$(5{,}670 - Y^*)/Y^* = -2 \times (-0.004)$
$5{,}670 - Y^* = 0.008 \times Y^*$
$5{,}670 = 1.008 \times Y^*$
$Y^* = 5{,}670/1.008$
$Y^* = 5{,}625$

The average growth rate of potential GDP is $[(7{,}150/5{,}625)]^{1/5} - 1 \approx 4.91\%$.

3.

a. The natural rate falls as the rate of job destruction decreases due to less structural change and the flow into unemployment decreases.

b. The natural rate falls as fewer students enter the labor force during the summer and the flow into unemployment decreases.

c. The natural rate falls as search time decreases and the job finding rate increases.

d. The natural rate falls as the job losing rate decreases as a result of the government's conscription activities.

e. The natural rate falls as the job finding rate increases.