

Unemployment and Employment: Problems

Consider the following employment data for the economy of Frogland:

| Category | Number |
|--|-------------|
| Total Population | 150,000,000 |
| Full Time Employed | 90,000,000 |
| Unemployed, Actively Searching | 10,000,000 |
| Unemployed, No Longer Searching | 5,000,000 |
| Serving in the Army of Darrin Walls Island | 20,000,000 |
| Prison Inmates | 1,000,000 |
| Full Time Students | 20,000,000 |
| Part Time Workers, Including Students | 30,000,000 |
| Children | 9,000,000 |

1. The labor force participation rate is the labor force (employed plus unemployed) divided by the adult non-institutionalized (children and inmates do not count) population. Here:

$$\frac{90 + 10}{150 - 9 - 1} = 10/14 = 71.4\% \quad (1)$$

U-3 is the unemployed over the labor force:

$$U - 3 = \frac{10}{90 + 10} = 10\% \quad (2)$$

2. I worded this question poorly. I meant to solicit discussion about how U-3 excludes discouraged workers and the underemployed. Also, there is little ambiguity in the calculation, the data are precise

3. U-6 includes discouraged workers and the underemployed for economic reasons in both the count of the unemployed and the labor force. I assume that there are 5 million discouraged workers. The data do not break down part time workers into those who are underemployed for economic reasons. So I have to make an assumption. I will assume that 1/2 of them, 15 million, are underemployed for economic reasons.

$$U - 6 = \frac{30}{120} = 25\% \quad (3)$$

4. Not very. If all 30 million part time workers are students, or if all are underemployed for economic reasons, then my calculation will be way off. The data are not precise and as a result my calculation is imprecise as well.
5. Discuss the implications on U-3 and welfare of the following changes to these data:
- i. U-3 falls to $5/95 = 5.3\%$. This is, however, likely a sign of a worse labor market although U-3 fails to detect this. Note that U-6 would be unchanged.
 - ii. U-3 falls to $5/100 = 5\%$. The labor market is getting better and the decline in U-3 reflects this.
 - iii. U-3 now equals $10/120 = 8.3\%$. This is just a change in measurement. No real economic changes have occurred.
 - iv. U-3 is now $10/101 = 9.9\%$. As with iii, this is just a change in how we measure U-3 and it reflects no real economic changes.
6. False. As of February 2020, the share of the unemployed who are long-term unemployed (27 weeks or more) remains well above its pre-recession levels.
7. False. The natural rate of unemployment is the sum of frictional and structural unemployment.
8. This is an example of structural unemployment which is unemployment resulting in broad changes to the nature (structure) of the economy. In this case, a type of job will be replaced with another, putting the employee out of work.
9. Because this policy will extend ordinary spells of unemployment, it will mostly impact frictional unemployment. But you might argue that it will allow allow spells of structural and cyclical unemployment, so there is some ambiguity here.
10. The intuition is the same as for #9 in that most of the impact will be on frictional unemployment. But because this change makes it easier for workers to find jobs, it will reduce unemployment.