Unemployment Notes - 9-29-15

1. Unemployment is one of the main *targets* of macroeconomic pol-
    icy. In general, unemployment refers to people who are unable to
    work for economic reasons. All else equal, low unemployment is
    preferred to high unemployment. The lowest possible or feasible
    level of unemployment is called *full employment*. Low unemploy-
    ment is associated with faster GDP growth, faster growth in wages
    and a rise in the *labor share* of income, higher inflation, and a more
    equal distribution of income. High unemployment is associated
    with slower GDP growth, slower growth in wages and a decline
    in the labor share, lower inflation or deflation, and a less equal
    distribution of income. *Expansionary* policy tends to lower unem-
    ployment, while *contractionary* policy tends to raise it.

2. There are a variety of ways of defining and measuring unemploy-
    ment. The official or *headline* measure of unemployment is called
    U3. U3 defines someone as unemployed if they (a) are at least 16
    years old, and are not in the military, in prison, or otherwise insti-
    tuionalized; (b) had zero hours of paid work in the past week; (c)
    do not have a regular job from which they are temporarily absent
    due to vacation, sickness, a strike or lockout, etc.; (d) are currently
    available for work – that is, would take a job if one were offered to
    them; and (e) have actively looked for work in the past 4 weeks, by
    sending out resumes, contacting an employer, visiting a job center,
    etc. If someone had even one hour of paid work (or 15 hours or
    more of unpaid work in a family business) they are not counted
    as unemployed. U3, like other unemployment measures, is re-
    leased by the *Bureau of Labor Statistics* each month. When you see
    a reference to the "unemployment rate" without further detail it
    normally means U3.

3. The definition of U3 does not exactly match up with the cate-
    gory of people we might think of as unemployed. So the BLS also
    produces other measures, both broader and narrower. The most
    important of these alternative measures is U6. U6 includes every-
    one in U3, but also includes *involuntary part-time workers* – people
    who worked fewer than 35 hours in the past week, and say that
    they would have liked to work more but were unable to get addi-
    tional hours either at their current job(s) or at an additional one.
    U6 also includes *discouraged* and *weakly attached* workers – people
    who are not working, and say that they would take a job if offered
    one, but have made no effort in the past 4 weeks to get a job, ei-
    ther because they don't think any are available or for some other
    reason. It is often argued that U6 gives a better measure of "true"

unemployment, in the sense of people whose capacity to work is going unused, and who are suffering because of a lack of a job. In practice, it does not always matter which measure we use, since the two tend to move together – U6 is typically about double U3. Besides employed and unemployed people, there are also those *not in the labor force.* This includes all noninstitutionalized civilians 16 or over who neither have any paid employment, nor fit the definition of the unemployed. It includes people who are neithr working nor wish to work – retirees, full-time homemakers, and so on. Those under 16, in the military, or in institutions are not counted in the employment statistics at all.

4. Because of uncertainties about the best measure of unemployment, economists also sometimes look at the *employment-population ratio* – the ratio of people with paid work of any kind to the total population. This is especially useful for making comparisons across countries, since different countries' statistical agencies may define unemployment differently.

5. Unemployment and GDP growth are connectd by a statistical relationship known as *Okun's Law*. This law, which seems to have been very stable in the US over many decades, says that the change in unemployment over one year is normally equal to one half the difference between the real GDP growth rate and three. Or

$$\Delta U = 0.5(g - 3)$$

where ΔU means the change in the unemployment rate, and g is the real (inflation-adjusted) growth rate of GDP. This implies that if a year passes with no growth in real GDP, unemployment will rise by 1.5 points. It takes a real growth rate of 3 percent to hold unemployment constant. And to reduce unemployment by 1 point, requires a year of 5 percent growth, or two years of 4 percent growth, etc. While this relationship is not perfect, it is quite reliable as far as macroeconomic laws go. Similar relationships hold in other countries, but the coefficients are different. In Japan and most European countries, unemployment is less responsive to economic growth in the US (i.e. instead of an 0.5, the equation would have 0.4 or 0.3 or 0.2), while in a few countries, like Spain and Australia, unemployment seems to be more responsive to economic growth than in the US.

The reason it takes 3 points of economic growth just to hold unemployment constant is that (1) the population is growing and (2) labor productivity rises over time. So there are more people looking for work each year and, at the same time, it takes fewer people

to produce a given amount of goods and services. This means that the amount of goods and services produced must rise just to keep the unemployment rate steady.

Why does unemployment change less than proportionately with output? One reason is that when unemployment is low, more people enter the laborforce, and when it is high, they exit the labor force. Another reason is that companies often cannot, or don't wish to, adjust their staffing every time their sales change. Some jobs are *overhead labor* that the company needs just to operate, whather it is selling a lot or a little; other jobs are costly to recruit and train workers for, so the company tries to avoid hiring and laying off workers every time sales rise or fall. It is also possible that the coefficient is less than one because labor productivity rises more rapidly when unemployment is low. This last relationship is called *Verdoorn's law*; it also implies that low uemployment can improve long run economic growth.

6. Besides the question of measuring unemployment, economists also classify it based on its causes. *Cyclical* or *demand-deficiency* unemployment describes people who cannot find jobs because not enough is being produced in the economy to require their labor. *Structural* unemployment is due to a mismatch between workers and employers – either workers don't have the right skills, or they are located in the wrong part of the country, or for some other reason the available workers don't fit the available jobs. Unemployment that results from government regulations or union rules that keep wages "too high" is also considered structural. *Frictional* unemployment is unemployment that results from the normal transitions in a person's worklife – it takes time to find a job after entering the laborforce for the first time, moving to a new area, leaving the military or prison, etc., and during this period of looking the person will be unemployed.

When there is excessive unemployment, which of these causes is important will determine what kind of policy solution is called for. Cyclical unemployment will be reduced by anything that creates more spending in the economy – high government spending, higher business investment, higher exports, lower interest rates, etc. *Structural* unemployment require intrventions to improve the fit between workers and jobs, most often training or education programs,but also potentially help relocating to new areas or subsidies for businesses that match the unemployed workers. Frictional unemployment is not necessarily a problem – it's often a good thing if people take some time to search for the right job. But it can be reduced through *active labor market policies* that help place

unemployed workers in jobs. Direct job creation by government will reduce unemployment whether it is cyclical, structural or frictional.

In general, Keynesian economists argue that most variation in unemplyoment is explained by cyclical factors, while classical economists beleive structural factors are more important. The strength of Okun's Law tends to support the Keynesian position. On the other hand, there are periods whenwhen Okun's law seems to hold less well, and then there is a stronger case for looking at structural factors.

7. Another measure of whether unemployment is structural or cyclical is the *Beveridge Curve.* This compares the unemployment rate to the number of vacant jobs listed by employers. If unemployment is mainly caused by weak demand, then we will expect a negative or downward-sloping relationship – unemployment will be high when there are few job vacancies, and unemployment to be low when there are lots of job vacancies. This fits the idea that people are unemployed because there simply not jobs available. On the other hand if we observe lot sof vacant jobs at the same time as we see lots of people unemployed, that suggests that there is some mismatch between the unemployed workers and the unfilled jobs. In other words, unemployment in this case is more likely to be structural.

8. Many unemployed workers receive *unemployment insurance* (UI) that replaces part of their lost wages while they look for work. Unemployment insurance is an important policy to limit the hardship and suffering caused by unemployment, and also to support aggregate demand in recessions. It's important to know, though, that unemployment insurance has nothing to wo with how unemployment is defined or measured. A person who fits the criteria for U3 (or U6 or some other measure) is counted as unemployed regardless of whether they are receiving UI benefits.