Unemployment

LECTURE: 8

Overview

- ✓ What is unemployment ?
- ✓ How **unemployment** is measured and how the **unemployment rate** is calculated
- ✓ The significance of the unemployment rate for the economy
- ✓ What is the “natural rate of unemployment”?
- ✓ What are major types of unemployment?

Unemployment

Population
Number of people in a country

Labor force
Number of people in a country that are classified as either employed or unemployed
Labor Force Participation Rate
% of working age population in the labor force

Employed
People 16 years and older that have a job.
It doesn't matter if it's part-time or full-time, as long as they work at least 1 hour every 2 weeks

Unemployed
People 16 years and older that don't have a job, but have actively searched for a job in the last 2 weeks
Unemployment rate = # of unemployed / # of people in labor force

Not in Labor Force
Kids, military personnel, retired people, stay at home Moms and Dads, full-time students, your 40 year old uncle who sleeps on the couch all day, most of the homeless.

Duration of Unemployment

Duration: how long does joblessness last?

When the economy is growing, both the unemployment rate and the duration decrease.

When the economy stagnates or goes into decline, both the unemployment rate and the duration increase.

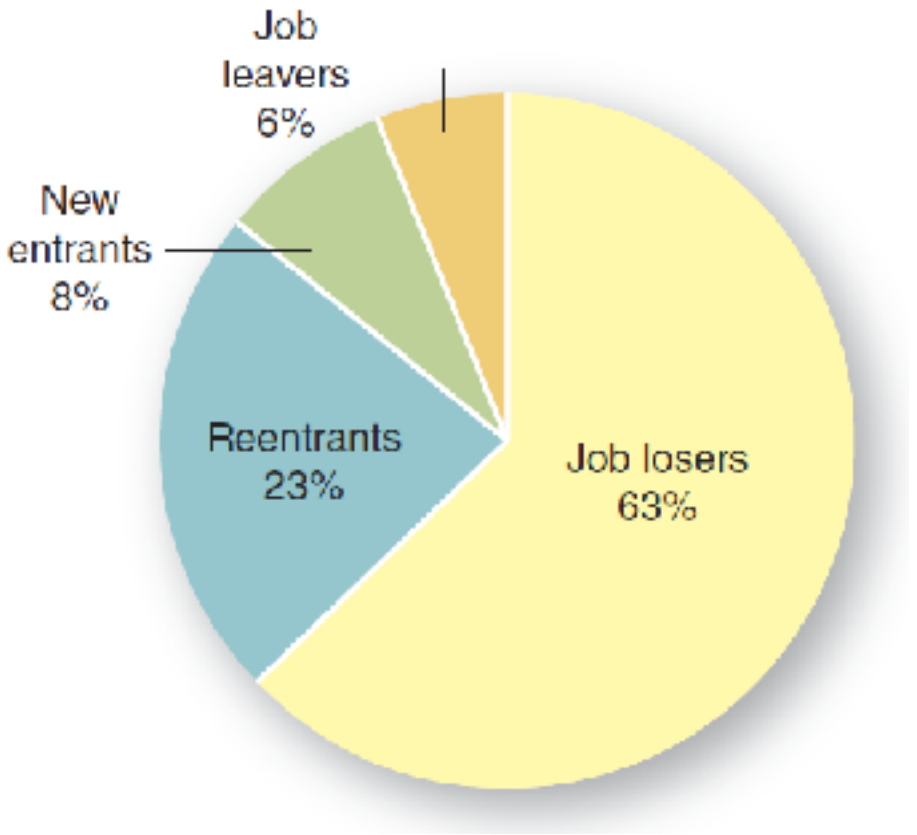
Reasons for Unemployment

Job leavers.
- They quit to seek other opportunities.

Job losers.
- They are laid off or fired.

New entrants.
- First-time job seekers.

Reentrants.
- They had left the labor force but have returned.



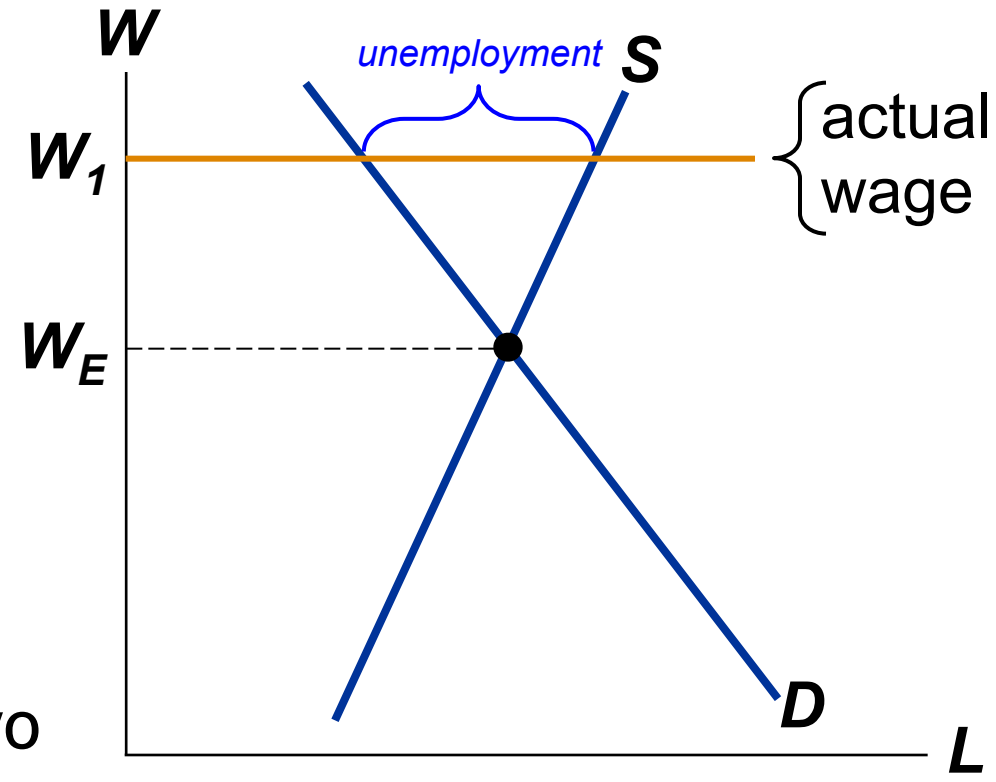
Unemployment Insurance

- **Unemployment insurance** (UI):
  a govt program that partially protects workers' incomes when they become unemployed
- UI increases frictional unemployment.
  To see why, recall one of the
  Ten Principles of Economics:
  People respond to incentives.

  UI benefits end when a worker takes a job,
  so workers have less incentive to search or
  take jobs while eligible to receive benefits.

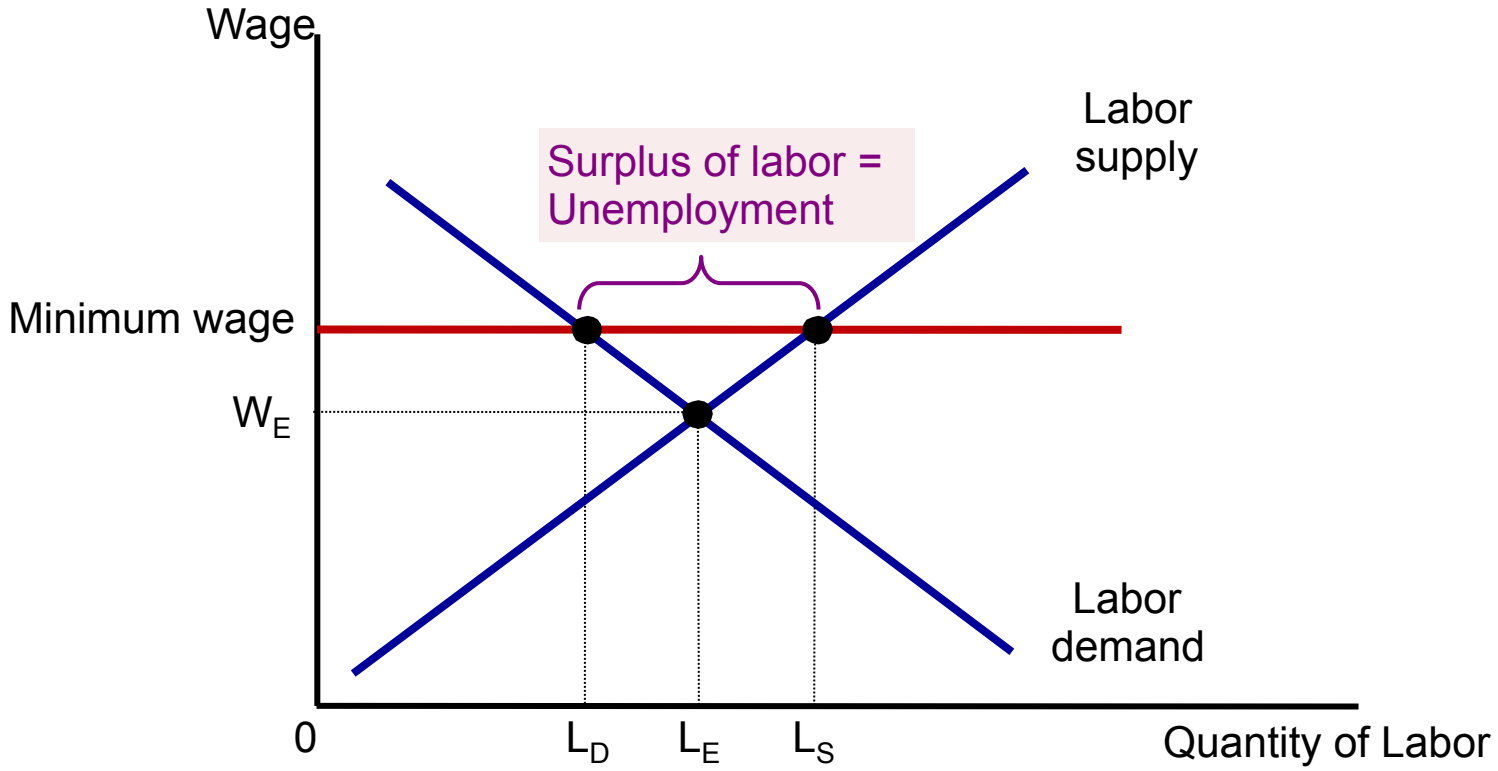
Explaining Structural Unemployment

Structural unemployment occurs when not enough jobs to go around.



Occurs when wage is kept above eq'm.

There are ~~three~~ one surprising, one weak and two bad reasons for this…



In this labor market, the wage at which supply and demand balance is W_E. At this equilibrium wage, the quantity of labor supplied and the quantity of labor demanded both equal L_E. By contrast, if the wage is forced to remain above the equilibrium level, perhaps because of a minimum-wage law, the quantity of labor supplied rises to L_S, and the quantity of labor demanded falls to L_D. The resulting surplus of labor, $L_S - L_D$, represents unemployment.

Who is unemployed? Sort the statements into the correct categories:

Unemployed	Not Unemployed
An adult looking for a job who was not paid for work last week. A 17-year-old high school student with no job who is looking for a job at a supermarket.	A 15 year old with no job who is looking for a job. An engineer working at a fast food restaurant while looking for a job in her career field.
A 16-year-old who was paid for yard work last week and is looking for a job in retail.	An adult who has no job and has given up looking for a job.

Unemployment Rate

The ***unemployment rate*** is an i*ndicator* of the state of the labor market, but should NOT be taken literally as a measure of the fraction of people who want to work but can't find jobs

How is unemployment measured?

Unemployment rate
- Percentage of labor force that is unemployed

$$\text{Unemployment rate} = \frac{\text{Number of unemployed}}{\text{Labor force}} \times 100$$

Labor-force participation rate
- Percentage of adult population that is in the labor force

$$\text{Labor - force participation rate} = \frac{\text{Labor force}}{\text{Adult population}} \times 100$$

How Is the Unemployment Rate Computed?

$$\mathbf{UR} = \frac{\textbf{Number of Unemployed}}{\textbf{Labor Force}}$$

Number employed + Number unemployed = Labor Force

How Is the Unemployment Rate Computed?

$$UR = \frac{\text{Number of Unemployed}}{\text{Labor Force}}$$

$$UR = \frac{\text{Number employed} + \text{Number unemployed}}{\text{Labor Force}}$$

$$UR = \frac{5{,}650{,}000}{140{,}399{,}000}$$

July 2017 Number unemployed = 5,650,000

+ Number employed = 134,749,000

Labor Force = 140,399,000

How Is the Unemployment Rate Computed?

$$UR = \frac{\text{Number of Unemployed}}{\text{Labor Force}}$$

$$UR = \frac{5{,}650{,}000}{140{,}399{,}000}$$

UR = .0424245 = 4.2 %

Number employed

+ Number unemployed

Labor Force

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Calculating the Unemployment Rate

The ***unemployment rate*** – the number of unemployed individuals divided by the number of people in the civilian labor force then multiplied by 100.

$$\text{Unemployment rate} = \frac{\text{number unemployed}}{\text{labor force}} \times 100$$

Types of Unemployment

Frictional	Structural	Cyclical	Seasonal
• "between jobs", voluntary, good for individuals and society	• Associated with lack of skills or declining industry (ex. High school dropouts, type-writer repairmen). Think "Creative Destruction"	• Associated with downturns in business cycle. Bad for society and individuals.	• Mall Santas, Schlitterbahn Life-guards, Ride operators at Fiesta Texas, Golf-pros in Alaska during January.

Frictional Unemployment
The frictionally unemployed are people who are between jobs or just entering or reentering the labor market
Usually weeks or months pass before positions are filled
At any given time, about 2 or 3 percent of the labor force is frictionally unemployed

Unemployment as Government's Problem
Frictional unemployment is the unemployment caused by:
New entrants into the job market, and
People quitting a job just long enough to look for and find another one.

Structural Unemployment

Structural unemployment is that caused by economic restructuring making some skills obsolete.

A person who is out of work for a relatively long period of time, say, a couple of years, is structurally unemployed. Some examples are:
Steelworkers and coal miners who are out of work because local steel plants and coal mines have closed
Clerical workers, typists, inventory control clerks who have been made obsolete by a computer system
People who are functionally illiterate and who are virtually shut out of the labor force
One in five adult Americans is functionally illiterate
Our educational system turns out 1 million more functional illiterates every year
About 2 to 3 percent of our labor force is always structurally unemployed

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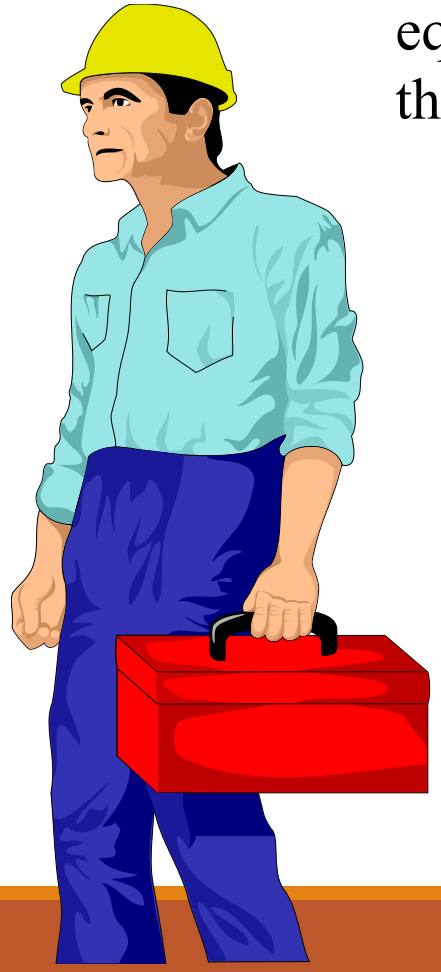
Cyclical Unemployment
Cyclical unemployment is anything above the sum of frictional and structural unemployment
Caused by the ups and downs in our economy known as the business cycle
Fluctuations in our unemployment rate are due to cyclical unemployment

Natural Unemployment Rate

The average rate of unemployment around which the economy fluctuates is called the ***natural rate of unemployment.*** The natural rate is the rate of unemployment toward which the economy gravitates in the long run. Let's start with some fundamental equations that will build a model of labor-force dynamics that shows what determines the natural rate.

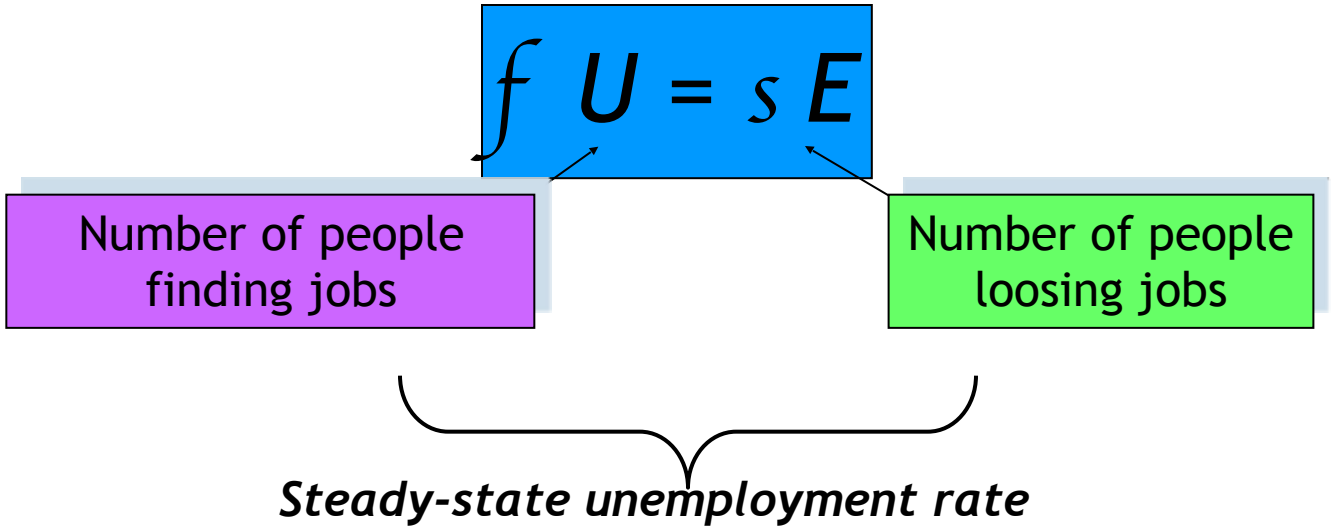


Using this notation, the rate of unemployment is ***U/L.***

$$L = E + U$$

Labor force is composed of Number of unemployed workers + Number of employed workers

Now, we'll denote the rate of job separation as s. Let f denote the rate of job finding. Together these determine the rate of unemployment.



From an earlier equation, we known that $E = L - U$, that is the number of employed equals the labor force minus the number of unemployed. If we substitute $(L\text{-}U)$ for E in the steady-state condition, we find:

$$f\ U = s\ (L - U)$$

Then, divide both sides by L and to obtain:

$$f\ U/L = s\ (1\text{-}U/L)$$

Now solve for U/L for find :

$$U/L = s\ /\ (s + f)$$

$$U/L = s/(s+f)$$

This can also be written as:

$$U/L = 1/(1+f/s)$$

This equation shows that the steady-state rate of unemployment U/L depends on the rates of job separation s and job finding f.

Natural Unemployment Rate

Most economists estimate the natural unemployment rate to be 5 or 6 percent. If we take a 5 percent unemployment rate as our working definition of full employment, anything above 5 percent would be cyclical unemployment

	Frictional	2.5%	(Natural)
+	Structural	2.5%	(Natural)
		5.0%	(Full unemployment)
+	Cyclical	1.7%	(Not natural)
	Unemployment Rate	6.7%	

Natural Unemployment Rate

- If it is increasingly difficult to find employees, employers will bid up wage rates, pushing up the rate of inflation

- Once the unemployment rate falls below its natural rate, then inflationary wage pressure emerges

SUMMARY

1. Inflation and unemployment are the main concerns of macroeconomic policy.
2. **Employment** is the number of people employed; **unemployment** is the number of people unemployed and actively looking for work. Their sum is equal to the **labor force,** and the **labor force participation rate** is the percentage of the population age 16 or older that is in the labor force.
3. The **unemployment rate** can overstate because it counts as unemployed those who are continuing to search for a job despite having been offered one (that is, workers who are frictionally unemployed). It can understate because it ignores frustrated workers, such as **discouraged workers, marginally attached workers,** and the **underemployed.**
4. The unemployment rate is affected by the business cycle. The unemployment rate generally falls when the growth rate of real GDP is above average and generally increases when the growth rate of real GDP is below average.
5. Job creation and destruction, as well as voluntary job separations, lead to **job search** and **frictional unemployment.** In addition, a variety of factors such as minimum wages, unions, **efficiency wages,** and government policies designed to help laid-off workers result in a situation in which there is a surplus of labor at the market wage rate, creating **structural unemployment.** As a result, the **natural rate of unemployment,** the sum of frictional and structural employment, is well above zero, even when jobs are plentiful.
6. The actual unemployment rate is equal to the natural rate of unemployment plus **cyclical unemployment.**
7. The natural rate of unemployment changes over time.

Thanks for your attention!