

# ECO 202 Principles of Economics II

## *Lecture 4: Unemployment*

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## 1 Measuring Unemployment

- Basic Definitions
- Problems with Measuring the Unemployment Rate
- Trends and Facts
- The Establishment Survey

## 2 Types of Unemployment

- Frictional Unemployment
- Structural Unemployment
- Cyclical Unemployment

## 3 Explaining Unemployment

## Measuring Unemployment

## Definition

An **employed** person is a person who currently has a job or is *temporarily* away from his or her job.

BLS Definition: Employed persons consist of: persons who did any work for pay or profit during the survey reference week; persons who did at least 15 hours of unpaid work in a family-operated enterprise; and persons who were temporarily absent from their regular jobs because of illness, vacation, bad weather, industrial dispute, or various personal reasons.

## Definition

An **unemployed** person is a person who is not currently at work but *actively looked for* work during the previous month.

## Definition

The **labor force** is the sum of employed and unemployed persons.

## Definition

The **unemployment rate** is the percentage of the labor force that is unemployed.

## Definition

The **labor force participation rate** is the labor force as a percent of the civilian noninstitutional population.

Civilian noninstitutional population are persons 16 years of age and older residing in the 50 states and the District of Columbia who do not live in institutions (for example, correctional facilities, long-term care hospitals, and nursing homes) and who are not on active duty in the Armed Forces.

## Definition

The employment-population ratio is the employed people as a percent of the civilian noninstitutional population.

Each month, the U.S. Bureau of the Census conducts the Current Population Survey (a.k.a. the household survey).

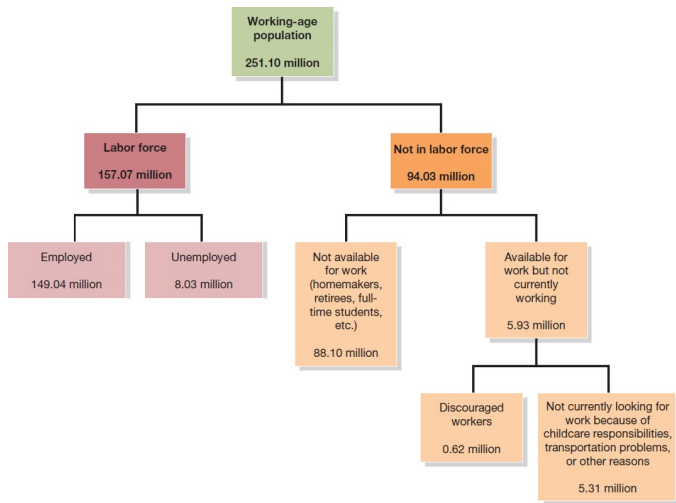
- 60,000 households selected to be “representative”
- Household members of “working age” (16+ years old)
- Asked about employment during “reference week” and recent job search activities

Then people are classified as:

- Employed: Worked 1+ hours in reference week (or were temporarily away from their jobs).
- Unemployed: Someone who is not currently at work but who is available for work and who has actively looked for work during the previous month.
- Not in the labor force, if neither of the above apply.



# The Employment Status of the Civilian Working-Age Population, August 2015



- Unemployment Rate?
- Labor force participation rate?
- Employment-population ratio?

- $$UR = \frac{\text{Number of unemployed}}{\text{Labor force}} \times 100 = \frac{8.03 \text{ million}}{157.07 \text{ million}} \times 100 = 5.1\%$$

- $$LFP = \frac{\text{Labor force}}{\text{Working-age population}} \times 100 = \frac{157.07 \text{ million}}{251.10 \text{ million}} \times 100 = 62.6\%$$

- $$EP = \frac{\text{Employment}}{\text{Working-age population}} \times 100 = \frac{149.04 \text{ million}}{251.10 \text{ million}} = 59.3\%$$

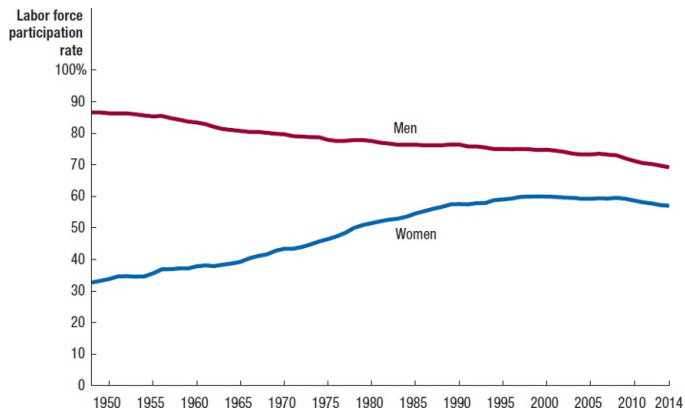
The unemployment rate measured by the BLS is not a perfect measure of joblessness. Why?

- It may understate unemployment
  - Distinguishing between people who are unemployed and not in the labor force requires judgment (should we exclude discouraged workers?)
  - Only measures employment, not intensity of employment (full-time vs. part-time; some people are underemployed)
- It may overstate unemployment
  - People might claim falsely to be actively looking for work
  - May claim not to be working to evade taxes or keep criminal activity unnoticed

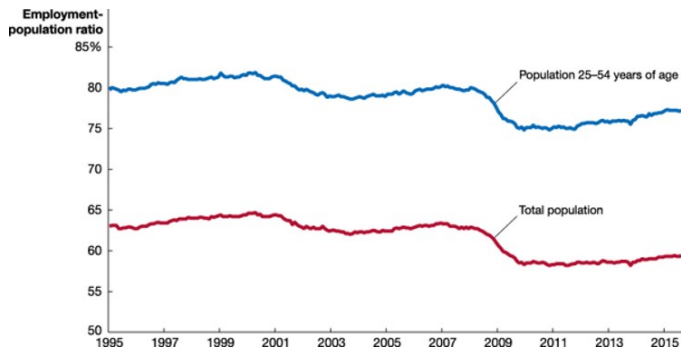
# The Official Unemployment Rate and a Broad Measure of the Unemployment Rate, 1998-2015



Some people suggest that we should include discouraged workers and underemployed workers in the unemployment statistics, to create a broader measure of unemployment (BLS series U-6).

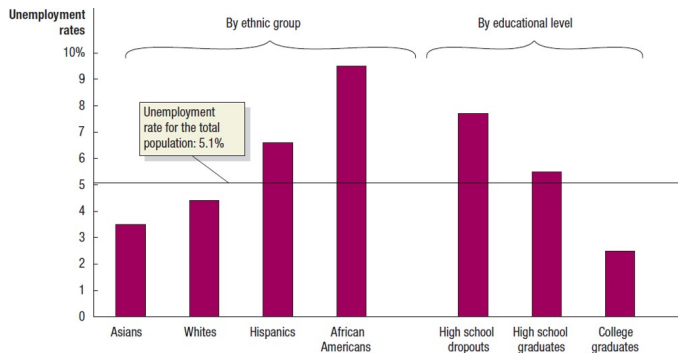


- The labor force participation rate of adult men has declined gradually since 1948.
- But it has increased significantly for adult women.



While the unemployment rate returned to normal after the 2007-2009 recession, the employment-population ratio did not. Why?

- Aging population (baby boomers reaching retirement)
- Long-term unemployment leading to skill deterioration
- Affordable Care Act making access to health care easier



- Unemployment rates vary by ethnic group and by education level.
- These two observations are statistically related.



# How Long Are People Typically Unemployed?

- Long periods of unemployment are bad for workers, as their skills decay and they risk becoming discouraged and depressed.
  - During the Great Depression of the 1930s, some people were unemployed for years at a time.
- Since World War II, average lengths of unemployment have been relatively low, but that changed dramatically with the 2007-2009 recession.
  - The average length of unemployment more than doubled, from 4 months to 10 months.

In addition to the household survey, the BLS also uses the establishment survey, (a.k.a. the payroll survey).

This survey samples approximately 300,000 establishments, or places of employment, about their employees. Disadvantages include

- Self-employed people not surveyed (not on a company payroll).
- Newly opened firms often omitted.
- Information on employment only, not unemployment.
- Numbers fluctuate depending on establishments included, often requiring large revisions.

However, a big advantage is that the data are determined by real payrolls, not self-reporting like the household survey.

	Household Survey			Establishment Survey		
	July	August	Change	July	August	Change
Employed	148,840,000	149,036,000	196,000	142,115,000	142,288,000	173,000
Unemployed	8,266,000	8,029,000	237,000			
Labor force	157,106,000	157,065,000	41,000			
Unemployment rate	5.30%	5.10%	0.2%			

Even if all surveys are truthfully and accurately answered, we do not expect the numbers to be identical between the two surveys:

- Different groups are measured.
- All surveys have measurement errors.

But we get a more complete picture by considering both surveys.

Jobs are continually being created and destroyed in the U.S. economy.

- In 2014, about 29.1 million jobs were created, while about 26.1 million jobs were destroyed.
- This is a natural and normal process for the economy.

The BLS reports net changes in the number of people employed and unemployed; this does not fully represent how dynamic the U.S. job market really is.

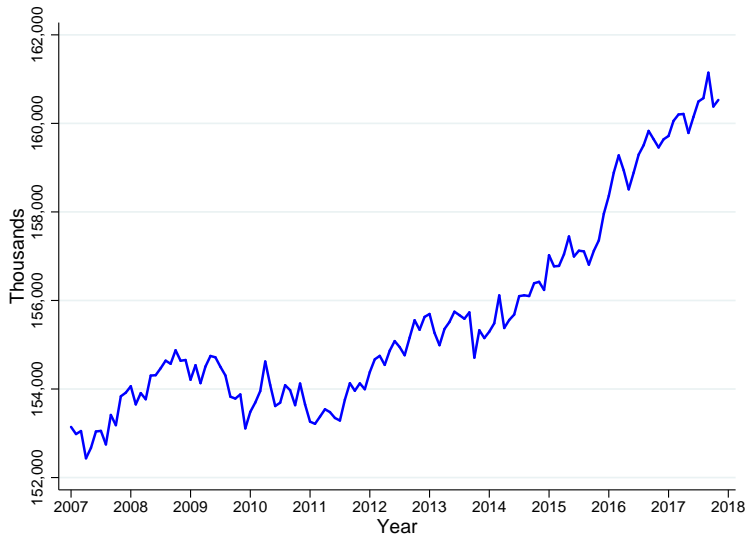


Figure: U.S. Labor Force

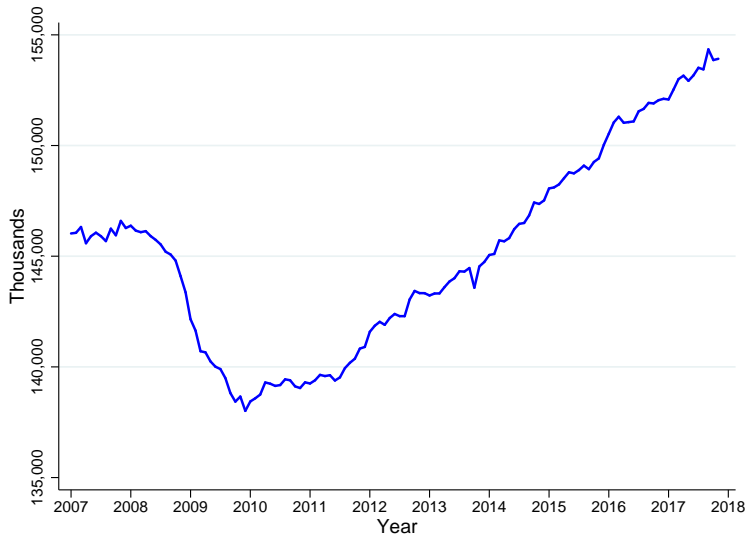


Figure: U.S. Employment

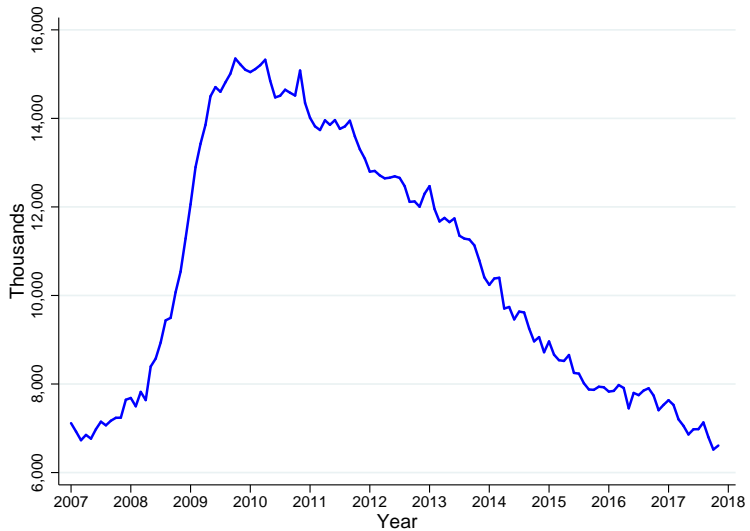


Figure: U.S. Unemployment

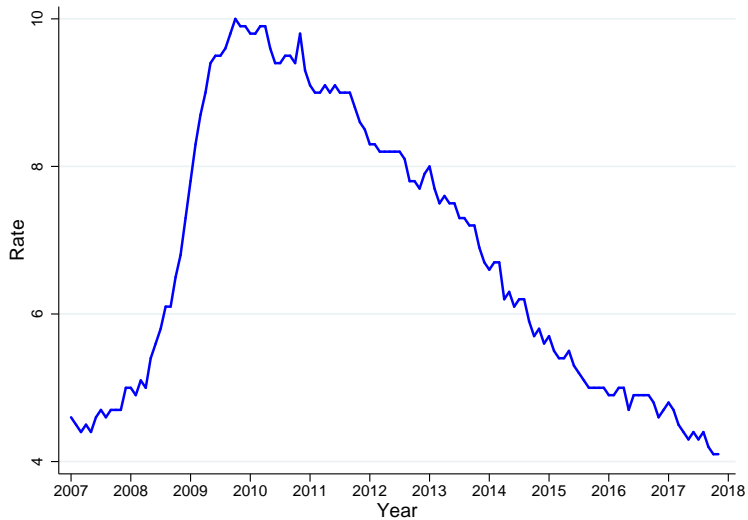


Figure: U.S. Unemployment Rate





Figure: U.S. Employment Population Ratio



Figure: U.S. Labor Force Participation Rate

## Kentucky Labor Force Participation Rate Household Survey



Figure: Kentucky Labor Force Participation Rate

## Kentucky Employment to Population Ratio Household Survey

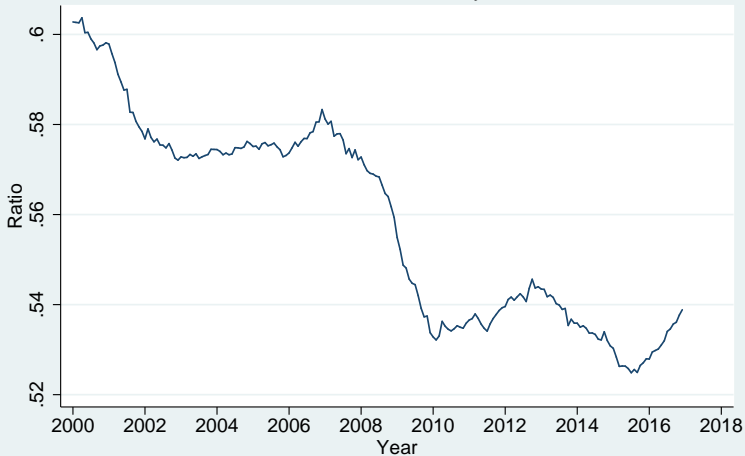


Figure: Kentucky Employment to Population Ratio

## Kentucky Employment to Population Ratio Establishment Survey

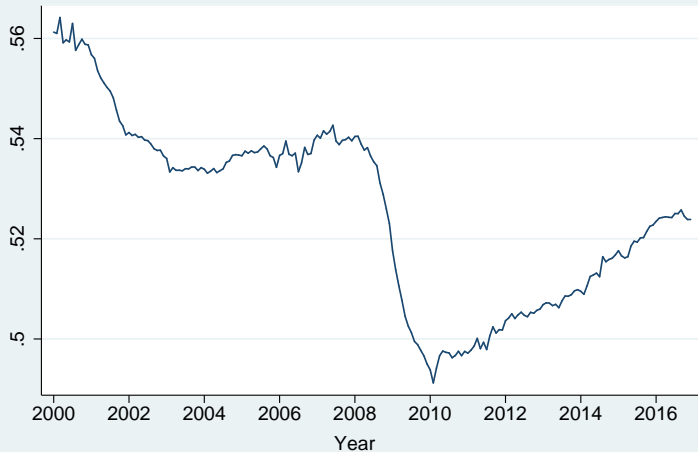
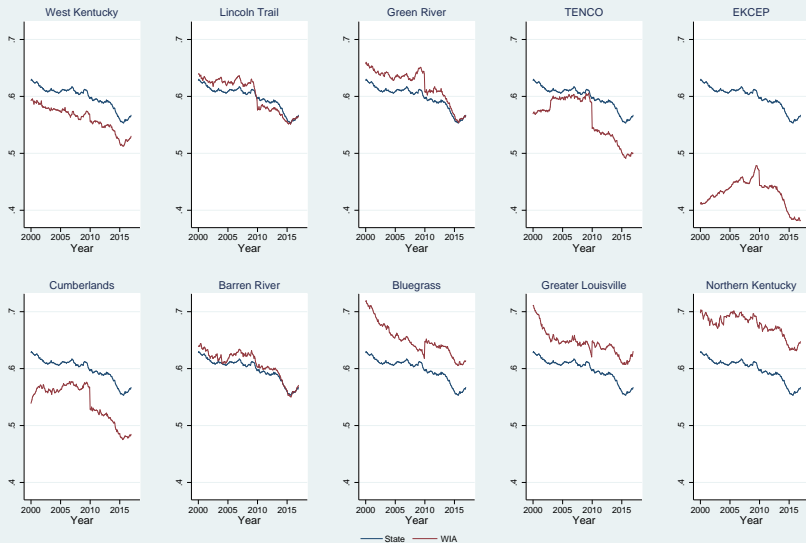


Figure: Kentucky Employment to Population Ratio

# Kentucky Labor Force Participation Rate by Region



## Types of Unemployment

- Frictional unemployment
- Structural unemployment
- Cyclical unemployment



## Definition

Frictional unemployment: **Short-term** unemployment that arises from the process of **matching** workers with jobs.

- Frictional unemployment occurs mostly because of **job search**: entering or re-entering the labor force or being between jobs.
- It also occurs because of seasonal unemployment: some jobs fluctuate in availability due to seasonal demand, like ski instructor or farm work.
  - To control for this, the BLS releases raw and seasonally-adjusted employment figures.
- Some frictional unemployment actually increases economic efficiency by allowing for better job matches.

## Definition

Structural unemployment: Unemployment that arises from a **persistent mismatch** between the skills and attributes of workers and the requirements of jobs.

- Structural unemployment is associated with longer unemployment spells.
- Workers who are structurally unemployed may require retraining in order to obtain modern jobs.

## Definition

Cyclical unemployment: Unemployment caused by a business cycle recession.

- In normal recoveries after a recession, unemployment due to cyclical factors will fall.
- When all unemployment is due to frictional and structural factors, we say that the economy is at **full employment**.
  - This means there will **always** be some unemployment in the economy.
- Economists call this the *natural rate of unemployment*: The normal rate of unemployment, consisting of frictional unemployment and structural unemployment.
- The general consensus of economists is that the U.S. natural rate of unemployment is somewhere between 4.5 percent and 5.5 percent.

## Example

In 2015, JPMorgan Chase announced it was laying off 5,000 employees, averaging two tellers per branch. What type of unemployment is this?

## Example

It also decided to exit certain lines of business, including student loans. What type of unemployment is this?

- In the first case, these tellers were unneeded due to technological change; they are likely structurally unemployed.
- In the second case, other institutions will make student loans; these workers are likely frictionally unemployed.
- No cyclical unemployment.

## Explaining Unemployment

- In the real world, governments often attempt to directly influence unemployment.
- Examples such as training programs will help workers gain skills and reduce structural unemployment.
- Other policies try to reduce frictional unemployment, for example by subsidizing new hires.

However, some policies may increase unemployment.

- Suppose you have just lost your job. You want to find another and have two main options:
  - Take a new low-paying job immediately or
  - Search for a better job
- If unemployment insurance payments are available to you, you will probably be more likely to choose the second option.
- In the U.S., unemployment insurance payments are typically not very generous
- Unemployment benefits are more generous, and unemployment rates higher, in western European countries.

Do you think this makes sense?



- Federal minimum wage law was introduced in 1938: \$0.25/hour.
- Today the federal minimum wage is \$7.25/hour.
- Many states and cities have higher minimum wages.

Studies suggest a 10 percent increase in the minimum wage reduces teenage employment by about 2 percent. Overall effect on unemployment rate is small at current levels.

- Labor unions are organizations of workers that bargain with employers for higher wages and better working conditions.
- Unions are probably not a significant cause of unemployment in the United States.
- While they raise the wage, only about 9 percent of private sector workers are unionized, limiting the effect that unions have on the wider economy.

- Efficiency wage: An above-market wage that a firm pays to increase workers' productivity.
- Firms want to get the best performance they can out of their workers.
- But monitoring workers is difficult or costly; an alternative is to pay them a relatively high wage, making them motivated to perform well in order to keep their job.
- These above-market wages are probably another reason why unemployment exists even when cyclical unemployment is zero.