

# Unemployment and Its Natural Rate

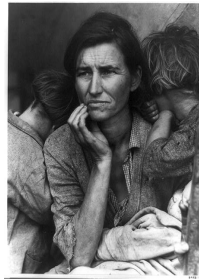
Abel Embaye

UofA

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1 / 29

## A quote ♦



*"A man willing to work, and unable to find work, is perhaps the saddest sight that fortune's inequality exhibits under the sun."*

— Thomas Carlyle

2 / 29

## Lesson Objectives

After the lesson, you will be able to answer the following questions:

- How is unemployment measured?
- What is the "natural rate of unemployment"?
- Why are there always some people unemployed?
- What are the different types of unemployment and their causes

3 / 29

## Labor Force Statistics: Household Survey

- Based on a survey of 60,000 households, the BLS divides civilian noninstitutional adult population into 3 groups:
  - **Employed**: paid employees (full or part-time), self-employed, and unpaid workers in a family business
  - **Unemployed**: people not working but who are actively looking for work.
  - **Not in the labor force**: everyone else
- The **Labor Force** is the total # of employed and unemployed people.

4 / 29

## Labor Force Statistics

- **Unemployment rate ("u-rate")**: % of the labor force that is unemployed:

$$\text{U-rate} = 100 \times \frac{\# \text{ of unemployed}}{\text{Labor force}}$$

- **Labor force participation rate**: % of the adult population that is in the labor force

$$\text{Labor Force Participation Rate} = 100 \times \frac{\text{Labor Force}}{\text{Adult Population}}$$

5 / 29

## ACTIVE LEARNING: Calculate labor force statistics

Compute the **labor force**, **u-rate**, **adult population**, and **labor force participation rate** using this data:

U.S. Adult population by age group, August 2020	
Group in the Labor force	in Millions
# of employed	147.288
# of unemployed	13.550
# not in the labor force	99.720

6 / 29

## Example 2: Calculate labor force statistics



In June 2009, at the trough of the Great Recession, the Bureau of Labor Statistics announced that of all adult Americans, 140,196,000 were employed, 14,729,000 were unemployed, and 80,729,000 were not in the labor force. Use this information to calculate:

- a. the adult population
- b. the labor force
- c. the labor-force participation rate
- d. the unemployment rate

7 / 29

## Limitations of the u-rate:

- The official u-rate understates the problem in the labor market by excluding
  - **Discouraged workers:** people not working but given up looking for a job given the state of the job market
  - **Marginally attached workers:** would like to be employed and have looked for a job in the recent past but are not currently looking for work. (The discouraged workers are part of this larger group)
  - **Underemployed:** are those who work part time because they cannot find full-time jobs.

8 / 29

## Labor Market Statistics for Different Groups

- The BLS publishes these statistics for demographic groups within the population.
- These data reveal widely different labor market experiences for different groups.

9 / 29

## Labor Force Statistics for Teens, August 2020

Teens (16 - 19 years)		
	u-rate	Labor force part. rate
Black	24.6%	14.2%
White	29.0	36.6

10 / 29

## Labor Force Statistics for 20 and older by age, race and gender, August 2020

Adults (20 years & older)		
	u-rate	Labor force part. rate
Black, male	13.2%	65.9%
Black, female	12.0	60.2
White male	6.9	70.3
White, female	7.3	56.9

11 / 29

## Labor Force Statistics for Other Groups, August 2020

All ages		
	u-rate	Lab.force part. rate
Asians	10.7%	63.8%
Hispanic	10.5	65.3

12 / 29

## Labor Force Statistics by Education Level for prime-age, August 2020

Adults (25 years & older)		
	u-rate	Labor force part. rate
Less than high Sch.	12.6%	44.9%
High School Dipl.	9.8	54.9
Some College or Assoc. Degree	8.0	64.0
Bachelor's Degree or more	5.3	72.8

13 / 29

## Active Learning: Limitations of the u-rate

In each of the following, what happens to the u-rate? Does the u-rate give an accurate impression of what's happening in the labor market?

- 1 Sue lost her job and begins looking for a new one.
- 2 Jon, a steelworker who has been out of work since his mill closed last year, becomes discouraged and gives up looking for work.
- 3 Sam, the sole earner in his family of 5, just lost his \$80,000 job as a research scientist; and he takes a part-time job at McDonald's until he can find another job in his field.

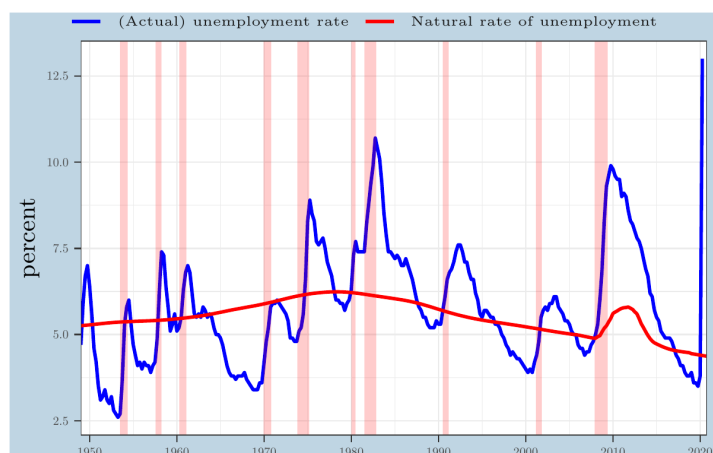
14 / 29

## The Natural Rate vs. Cyclical Unemployment

- There's always some unemployment, though the u-rate fluctuates from year to year.
  - 1 **Natural rate of unemployment (NARU, NAIRU)**, the normal rate of unemployment around which the actual unemployment rate fluctuates
  - 2 **Cyclical unemployment**, the deviation of unemployment from its natural rate associated with business cycles (recessions and booms)
- The **Actual unemployment** is the sum of these two

15 / 29

## U.S. Unemployment, 1947–2020



16 / 29

## Explaining the Natural Rate: An Overview

- There is always some unemployment, even if the economy is doing well (full employment), including:
  - 1 **Frictional unemployment**
  - 2 **Structural unemployment**

17 / 29

## Frictional Unemployment

- occurs when workers spend time searching for the jobs that best suit their skills and tastes
- short-term for most workers
- more frequent in dynamic economy where there is job creation and destruction (sectoral shift)

18 / 29

## Job Search

- Workers have different tastes & skills, and jobs have different requirements.
- **Job search** is the process of matching workers with appropriate jobs.
- **Sectoral shifts** are changes in the composition of demand across industries or regions of the country due to job destruction and creation.
- Such shifts displace some workers, who must search for new jobs appropriate for their skills & tastes, creating Frictional unemployment.

19 / 29

## Gov't policies and Frictional Unemployment

- **Govt employment agencies**: provide information about job vacancies to speed up the matching of workers with jobs.
- **Public training programs**: aim to equip workers displaced from declining industries with the skills needed in growing industries.

20 / 29

## Unemployment Insurance

**Unemployment insurance (UI)**: a govt program that partially protects workers' incomes when they become unemployed

- **Cost of UI**: UI increases structural unemployment.
- **Benefits of UI**:
  - Reduces uncertainty over incomes
  - Gives the unemployed more time to search, resulting in better job matches and thus higher productivity

21 / 29

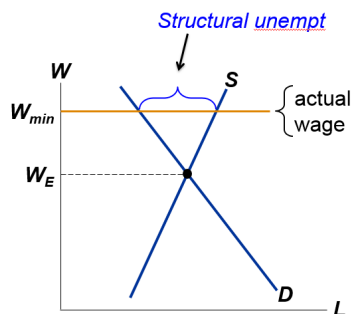
## 2. Structural unemployment:

- usually long-term (persistent) and occurs when there are fewer jobs than workers seeking jobs due to wage rate being higher than equilibrium for some reason.

22 / 29

## Explaining Structural Unemployment

- Structural unemployment occurs when there are not enough jobs to go around.
- Occurs when wage is kept above eq'm.
- There are three reasons for this higher wages ...



23 / 29

## 1. Minimum-Wage Laws

- The min. wage may exceed the eq'm wage for the least skilled or experienced workers, causing structural unemployment.
- But this group is a small part of the labor force, so the min. wage can't explain most unemployment.

24 / 29

## 2. Unions

- **Union:** a worker association that bargains with employers over wages, benefits, and working conditions
- Unions exert their market power to negotiate higher wages for workers.
- The typical union worker earns 20% higher wages and gets more benefits than a nonunion worker for the same type of work.
- When unions raise the wage above eq'm, quantity of labor demanded falls and unemployment results.
- Are unions good or bad? Economists disagree.

25 / 29

## 3. Efficiency Wages

- The theory of efficiency wages: Firms voluntarily pay above-equilibrium wages to boost worker productivity.
- Higher wages may increase productivity because
  - well paid workers are healthy (eat more and better)
  - reduces workers turnover (stay on the job longer, reducing hiring & firing costs for the firm)
  - attracts quality workers
  - deters shirking on the job.

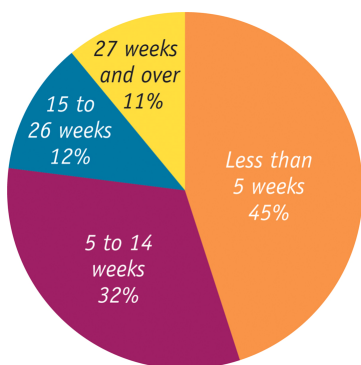
26 / 29

## Explaining the Natural Rate

Distribution of the Unemployed by Duration, 2000

+ In years when the unemployment rate is low, most unemployed workers are unemployed for only a short period.

+ The short duration of unemployment for most workers suggests that most unemployment in 2000 was frictional.



27 / 29

## ACTIVE LEARNING: Applying the concepts

Which type of unemployment is increased or decreased by each of the following?

- A. The govt eliminates the minimum wage.
- B. The govt increases unemployment insurance benefits.
- C. A new law bans labor unions.
- D. More workers post their resumes at "indeed.com", and more employers use "indeed.com" to find suitable workers to hire.
- E. Sectoral shifts become more frequent due to job creation and destruction.

28 / 29

## SUMMARY

- The natural rate of unemployment consists of
  - frictional unemployment
    - It takes time to search for the right jobs
    - Occurs even if there are enough jobs to go around
  - structural unemployment
    - When wage is above eq'm, not enough jobs
    - Due to min. wages, labor unions, efficiency wages
  - cyclical unemployment, the short-term fluctuations in unemployment associated with business cycles (more detail in later chapters).

29 / 29