

# MACROECONOMICS I

## Unemployment

### Lecture 5

March 11, 2022

# LOOK FOR THE ANSWERS TO THESE QUESTIONS:

- How is unemployment measured?
- What is the “natural rate of unemployment”?
- Why are there always some people unemployed?
- How is unemployment affected by unions and minimum wage laws?
- What is the theory of efficiency wages, and how does it help explain unemployment?

# LABOR FORCE STATISTICS

Produced by Bureau of Labor Statistics (BLS), in the U.S. Dept. of Labor

- Based on regular survey of 60,000 households
- Based on “adult population” (16 yrs or older)

# LABOR FORCE STATISTICS

BLS divides population into 3 groups:

- Employed: paid employees and self-employed
- Unemployed: people not working who have looked for work during previous 4 weeks
- Not in the labor force: everyone else

Labor force = Employed + Unemployed

- The total # of workers

# LABOR FORCE STATISTICS

Unemployment rate (“u-rate”):

- % of the labor force that is unemployed

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

Labor-force participation rate

- % of the adult population that is in the labor force

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

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

<b>Adult population of the U.S. by group, Feb 2021</b>	
# of employed	150.2 million
# of unemployed	9.9 million
not in labor force	100.7 million

$$\begin{aligned}\text{Labor force} &= \text{employed} + \text{unemployed} = \\ &= 150.2 + 9.9 = \mathbf{160.1 \text{ million}}\end{aligned}$$

$$\begin{aligned}\text{U-rate} &= 100 \times (\text{unemployed}) / (\text{labor force}) = \\ &= 100 \times 9.9 / 160.1 = \mathbf{6.2\%}\end{aligned}$$

$$\begin{aligned}\text{Population} &= \text{labor force} + \text{not in labor force} \\ &= 160.1 + 100.7 = \mathbf{260.8 \text{ million}}\end{aligned}$$

$$\begin{aligned}\text{LF partic. Rate} &= 100 \times (\text{labor force}) / (\text{population}) \\ &= 100 \times 160.1 / 260.8 = \mathbf{61.4\%}\end{aligned}$$

# LABOR FORCE 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.



# LABOR FORCE STATISTICS FOR WHITES & BLACKS, FEB 2021

<b>Adults (20 yrs &amp; older)</b>		
	<i>u-rate</i>	<i>LF part. rate</i>
White, male	5.3%	69.7%
White, female	5.2	56.3
Black, male	10.2	66.0
Black, female	8.9	59.7

# LABOR FORCE STATISTICS FOR WHITES & BLACKS, FEB 2021

<b>Teens (16–19 yrs)</b>		
	<i>u-rate</i>	<i>LF part. rate</i>
White	13.1%	38.9%
Black	19.8	28.7

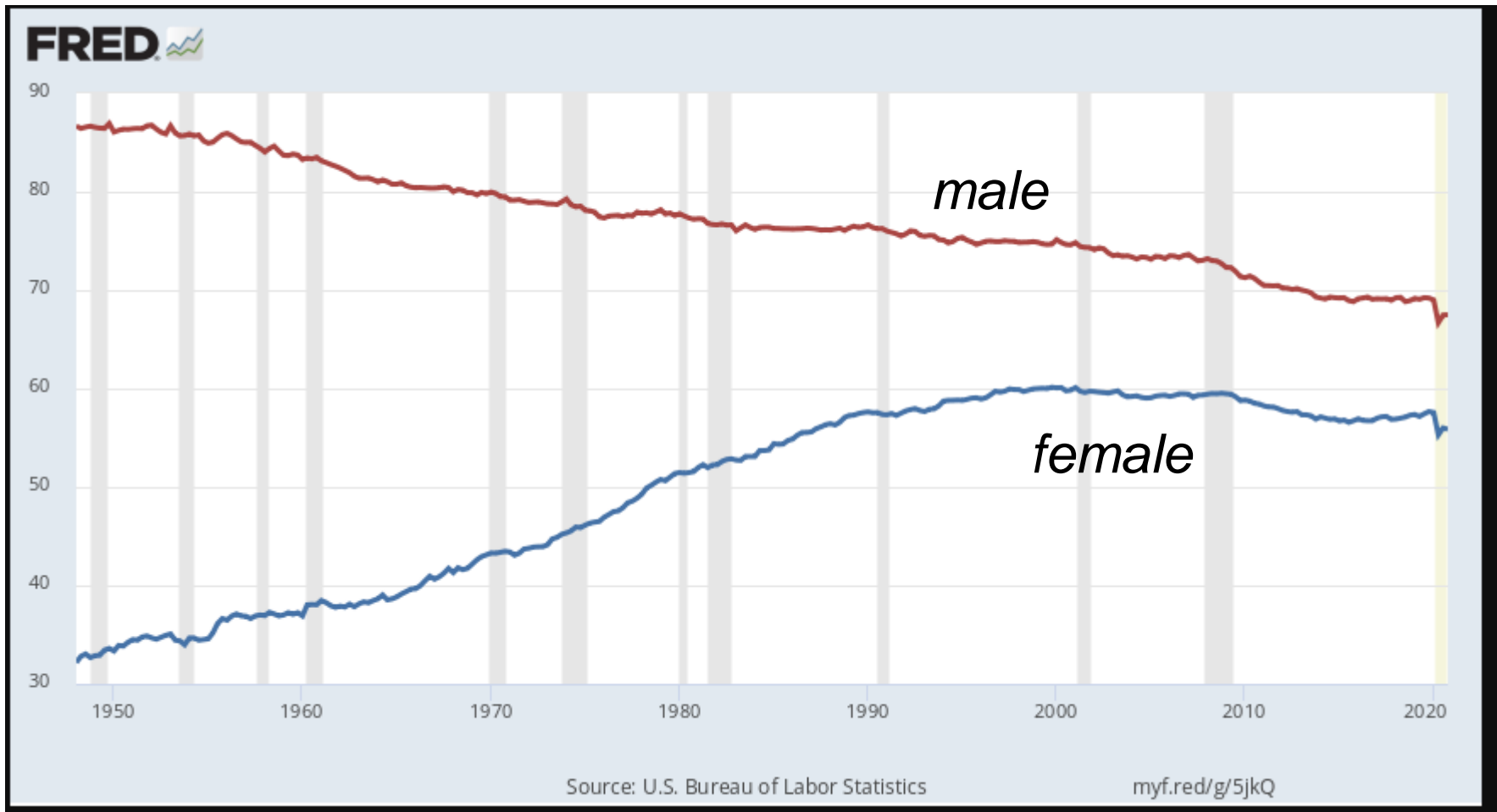
# LABOR FORCE STATISTICS FOR OTHER GROUPS, FEB 2021

<b>All ages</b>		
	<i>u-rate</i>	<i>LF part. rate</i>
Asian	5.2%	62.2%
Hispanic	8.5	65.4

# LABOR FORCE STATISTICS BY EDUCATION LEVEL, FEB 2021

<b>Adults (25 yrs &amp; older)</b>		
	<i>u-rate</i>	<i>LF part. rate</i>
less than h.s.	10.1%	45.9%
h.s. diploma	7.2	54.7
some college or assoc degree	5.9	62.7
bachelor's degree or more	3.8	71.8

# LF PARTICIPATION RATES BY SEX, 1948–2016



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?

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

A. Sue lost her job and begins looking for a new one.

u-rate rises

A rising u-rate gives the impression that the labor market is worsening, and it is.

**B.** Jon has been out of work since last year, becomes discouraged, stops looking for work.

Discouraged workers would like to work but have given up looking for jobs

- classified as “not in the labor force” rather than “unemployed”

U-rate falls because Jon is no longer counted as unemployed.

A falling u-rate gives the impression that the labor market is improving, but it is not.



- C. Sam lost his \$80,000 job, and takes a part-time job at McDonald's until he finds a better one.

U-rate unchanged because a person is “employed” whether they work full or part time. Things are worse, but the u-rate fails to show it.

# WHAT DOES THE U-RATE REALLY MEASURE?

The u-rate:

- Not a perfect indicator of joblessness or the health of the labor market
  - It excludes discouraged workers.
  - It does not distinguish between full-time and part-time work, or people working part time because full-time jobs not available.
  - Some people misreport their work status
- Still a very useful barometer of the labor market & economy.

# THE DURATION OF UNEMPLOYMENT

Most spells of unemployment are short:

- Typically 1 / 3 of the unemployed have been unemployed under 5 weeks, 2 / 3 have been unemployed under 14 weeks.
- Only 20% have been unemployed over 6 months.

# THE DURATION OF UNEMPLOYMENT

Yet, most observed unemployment is long term.

- The small group of long-term unemployed persons has fairly little turnover, so it accounts for most of the unemployment observed over time.

Knowing these facts helps policymakers design better policies to help the unemployed.

## CYCLICAL UNEMPLOYMENT VS. THE NATURAL RATE

There's always some unemployment, though the u-rate fluctuates from year to year.

### Natural rate of unemployment

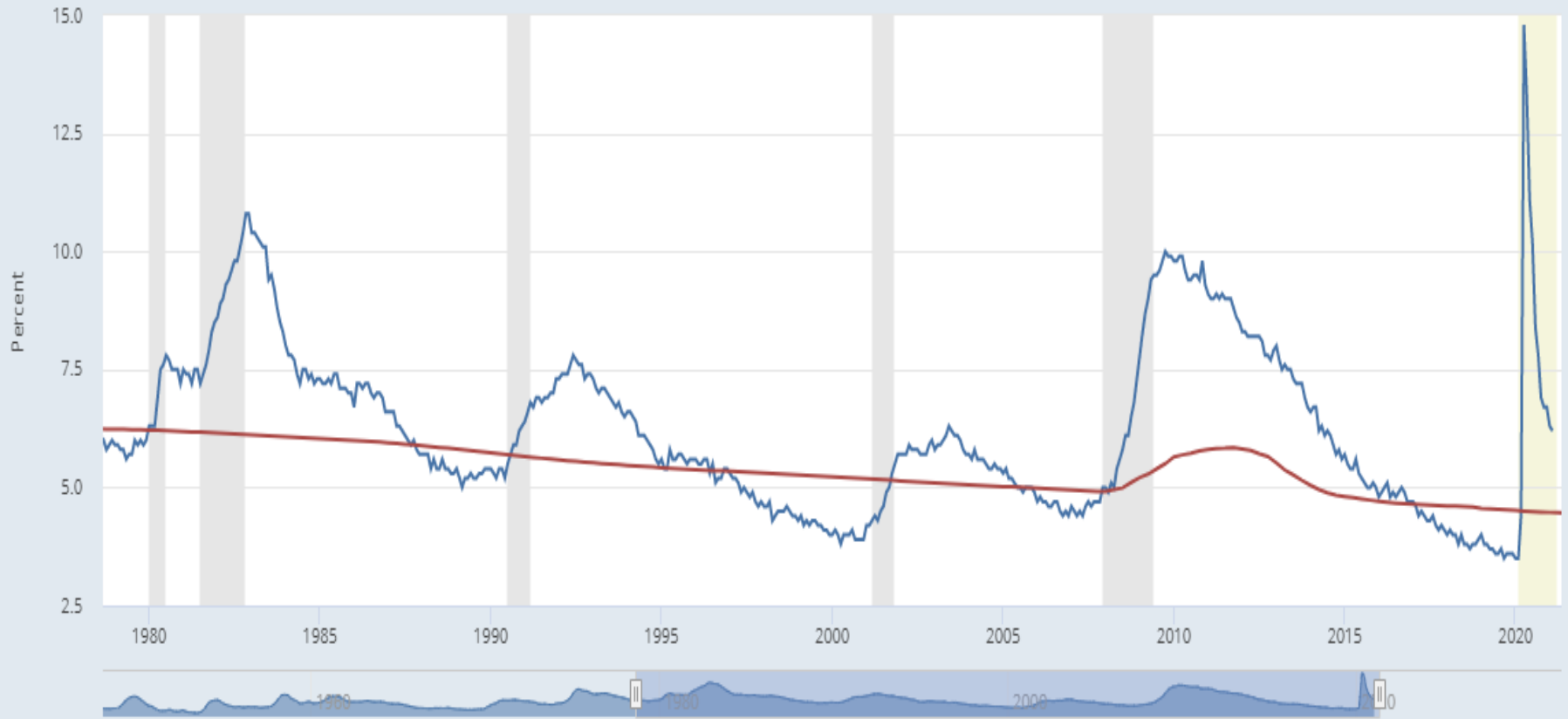
- Normal rate of unemployment around which the actual unemployment rate fluctuates

### Cyclical unemployment

- Deviation of unemployment from its natural rate
- Associated with business cycles, which we'll study in later chapters

FRED

— Unemployment Rate  
— Natural Rate of Unemployment (Short-Term)



U.S. recessions are shaded; the most recent end date is undecided.

Sources: BLS; CBO

fred.stlouisfed.org



# EXPLAINING THE NATURAL RATE: AN OVERVIEW

Even when the economy is doing well, there is always some unemployment, including:

## Frictional unemployment

- Occurs when workers spend time searching for the jobs that best suit their skills and tastes
- Short-term for most workers

## Structural unemployment

- Occurs when there are fewer jobs than workers
- Usually longer-term

# JOB SEARCH

Workers have different tastes & skills, and jobs have different requirements.

## Job search

- Process of matching workers with appropriate jobs

## Sectoral shifts

- Changes in the composition of demand across industries or regions of the country.
- Displace some workers, who must search for new jobs appropriate for their skills & tastes.



# PUBLIC POLICY AND JOB SEARCH

## Government 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.

# UNEMPLOYMENT INSURANCE

Unemployment insurance (UI):

- A government program that partially protects workers' incomes when they become unemployed
- Increases frictional unemployment.
  - 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.

# UNEMPLOYMENT INSURANCE

## Benefits of UI:

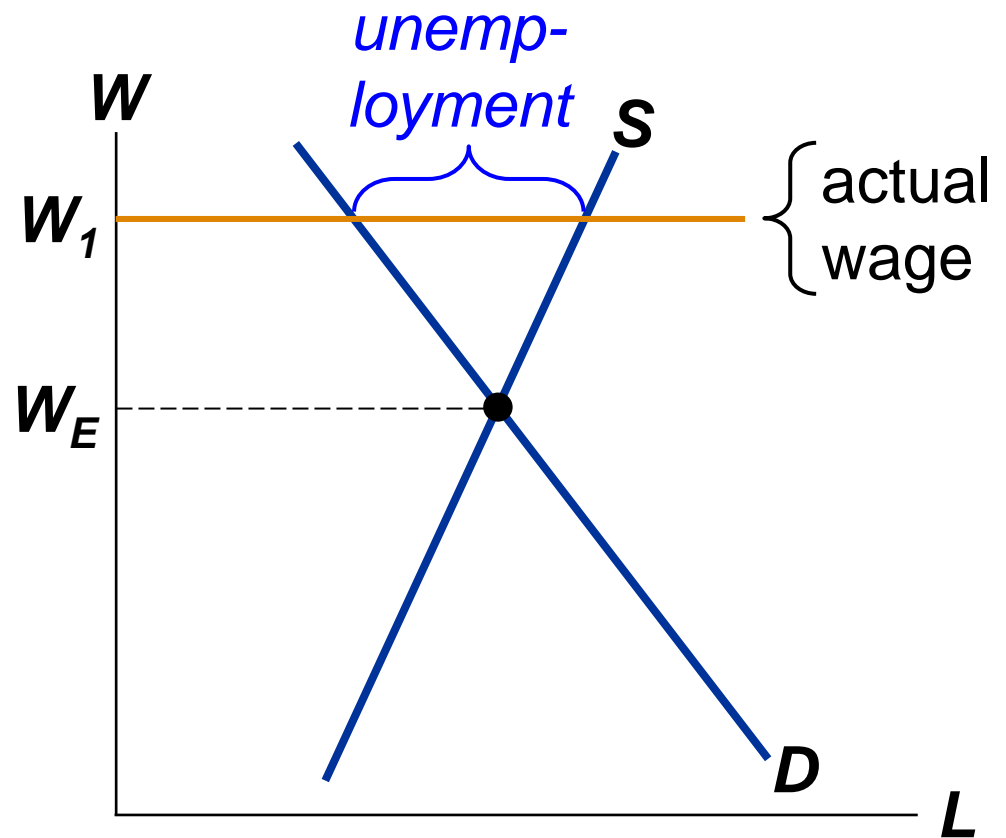
- Reduces uncertainty over incomes
- Gives the unemployed more time to search, resulting in better job matches and thus higher productivity

# EXPLAINING STRUCTURAL UNEMPLOYMENT

Structural unemployment occurs when there are not enough jobs to go around.

Occurs when wage is kept above equilibrium.

There are three reasons for this...



# 1. MINIMUM-WAGE LAWS

The minimum wage

- May exceed the equilibrium 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.

# 1. MINIMUM-WAGE LAWS

Current Population Survey – study by the BLS:

- 267K earns min. wage (\$5.85); 1.5 m earns less
- Min wage earners are more likely to be women (1% of men, 3% of women)
- Young: ~50% are under 25
- More likely to be part-time workers
- Leisure and hospit. has highest proportion

## 2. UNIONS

Union:

- Worker association that bargains with employers over wages, benefits, and working conditions
- 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.

## Percent of Workers Covered by Collective Bargaining

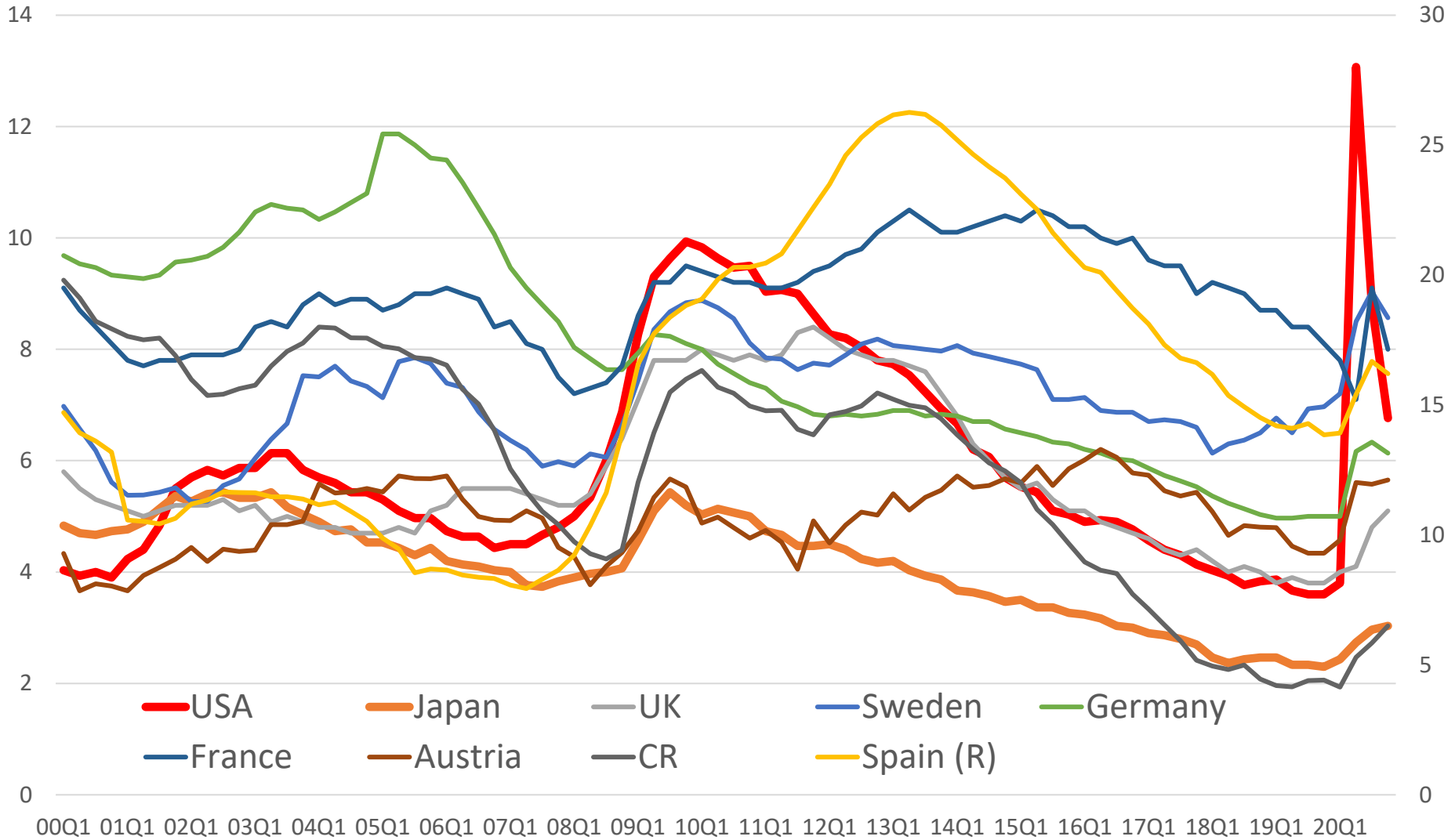
United States	18%
Japan	23
Canada	38
United Kingdom	47
Switzerland	53
New Zealand	67
Spain	68
Netherlands	71
Norway	75
Portugal	79
Australia	80
Sweden	83
Belgium	90
Germany	90
France	92
Finland	95
Austria	98

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*Source: OECD Employment Outlook 2004, as reported in Alberto Alesina, Edward Glaeser, and Bruce Sacerdote, "Work and Leisure in the U.S. and Europe: Why So Different?" NBER Macroeconomics Annual 2005.*



# UNEMPLOYMENT RATES ACROSS THE WORLD



## 2. UNIONS

Unions raise the wage above equilibrium:

- Quantity of labor demanded falls and unemployment results.
- “Insiders” – workers who remain employed, are better off.
- “Outsiders” – workers who lose their jobs, are worse off.
- Some outsiders go to non-unionized labor markets, which increases labor supply and reduces wages in those markets.

## 2. UNIONS

Are unions good or bad? Economists disagree.

Critics:

- Unions are cartels.
- They raise wages above equilibrium, which causes unemployment and/or depresses wages in non-union labor markets.

Advocates:

- Unions counter the market power of large firms, make firms more responsive to workers' concerns.

### 3. EFFICIENCY WAGES

The theory of efficiency wages:

- Firms voluntarily pay above-equilibrium wages to boost worker productivity.

Different versions of efficiency wage theory suggest different reasons why firms pay high wages.

# FOUR REASONS WHY FIRMS MIGHT PAY EFFICIENCY WAGES:

## 1. Worker health

- In less developed countries, poor nutrition is a common problem.
- Paying higher wages allows workers to eat better, makes them healthier, more productive.

# FOUR REASONS WHY FIRMS MIGHT PAY EFFICIENCY WAGES:

## 2. Worker turnover

- Hiring & training new workers is costly.
- Paying high wages gives workers more incentive to stay, reduces turnover.

## 3. Worker quality

- Offering higher wages attracts better job applicants, increases quality of the firm's workforce.

# FOUR REASONS WHY FIRMS MIGHT PAY EFFICIENCY WAGES:

## 4. Worker effort

- Workers can work hard or shirk. Shirkers are fired if caught.
- Is being fired a good deterrent?
  - Depends on how hard it is to find another job.
  - If market wage is above equilibrium wage, there aren't enough jobs to go around, so workers have more incentive to work, not shirk.

Which of the following would be most likely to reduce frictional unemployment?

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



# ACTIVE LEARNING 3

# ANSWERS

- A. The government eliminates the minimum wage.
- C. A new law bans labor unions.

These are likely to reduce structural unemployment, not frictional unemployment.

# ACTIVE LEARNING 3

# ANSWERS

- B.** The government increases unemployment insurance benefits.
- E.** Sectoral shifts become more frequent.

These are likely to increase frictional unemployment, not reduce it.

# ACTIVE LEARNING 3

# ANSWERS

**D.** More workers post their resumes at LinkedIn.com, and more employers use LinkedIn.com to find suitable workers to hire.

Likely to speed up the process of matching workers & jobs, which would reduce frictional unemployment.

# EXPLAINING THE NATURAL RATE OF UNEMPLOYMENT: A SUMMARY

The natural rate of unemployment consists of:

- **Frictional unemployment:** it takes time to search for the right jobs
  - Even if there are enough jobs to go around
- **Structural unemployment:** when wage is above equilibrium, not enough jobs
  - Min. wages, labor unions, efficiency wages

Later chapters discuss cyclical unemployment, the short-term fluctuations in unemployment associated with business cycles.

# SUMMARY

- The unemployment rate is the percentage of those who would like to work, who do not have jobs.
- Unemployment and labor force participation vary widely across demographic groups.
- The natural rate of unemployment is the normal rate of unemployment around which the actual rate fluctuates. Cyclical unemployment is the deviation of unemployment from its natural rate and is connected to short-term economic fluctuations.

# SUMMARY

- The natural rate includes frictional unemployment and structural unemployment.
- Frictional unemployment occurs when workers take time to search for the right jobs.
- Structural unemployment occurs when above-equilibrium wages result in a surplus of labor.
- Three reasons for above-equilibrium wages include minimum wage laws, unions, and efficiency wages.