



# Unemployment

PRINCIPLES OF  
**Economics**

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## Lecture 9



In this chapter,  
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?

# 1. Labor Force Statistics

- USA: Produced by Bureau of Labor Statistics (BLS), in the U.S. Dept. of Labor
- Based on regular survey (*Current Population Survey*) of 60,000 households
- Based on “adult population” (16 yrs or older)
- *<http://www.bls.gov/CPS/>*

# Labor Force Statistics

BLS divides population into 3 groups:

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

The **labor force** is the total # of workers, including the employed and unemployed.

# 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

$$\text{labor force participation rate} = 100 \times \frac{\text{labor force}}{\text{adult population}}$$

## ACTIVE LEARNING 1

### Calculate labor force statistics

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, June 2008</b>	
# of employed	145.9 million
# of unemployed	8.5 million
not in labor force	79.2 million

## ACTIVE LEARNING 1

### Answers

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$$\begin{aligned}\text{Labor force} &= \text{employed} + \text{unemployed} \\ &= 145.9 + 8.5 \\ &= 154.4 \text{ million}\end{aligned}$$

$$\begin{aligned}\text{U-rate} &= 100 \times (\text{unemployed})/(\text{labor force}) \\ &= 100 \times 8.5/154.4 \\ &= 5.5\%\end{aligned}$$

## ACTIVE LEARNING 1

### Answers

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$$\begin{aligned}\text{Adult Population} &= \text{labor force} + \text{not in labor force} \\ &= 154.4 + 79.2 \\ &= 233.6\end{aligned}$$

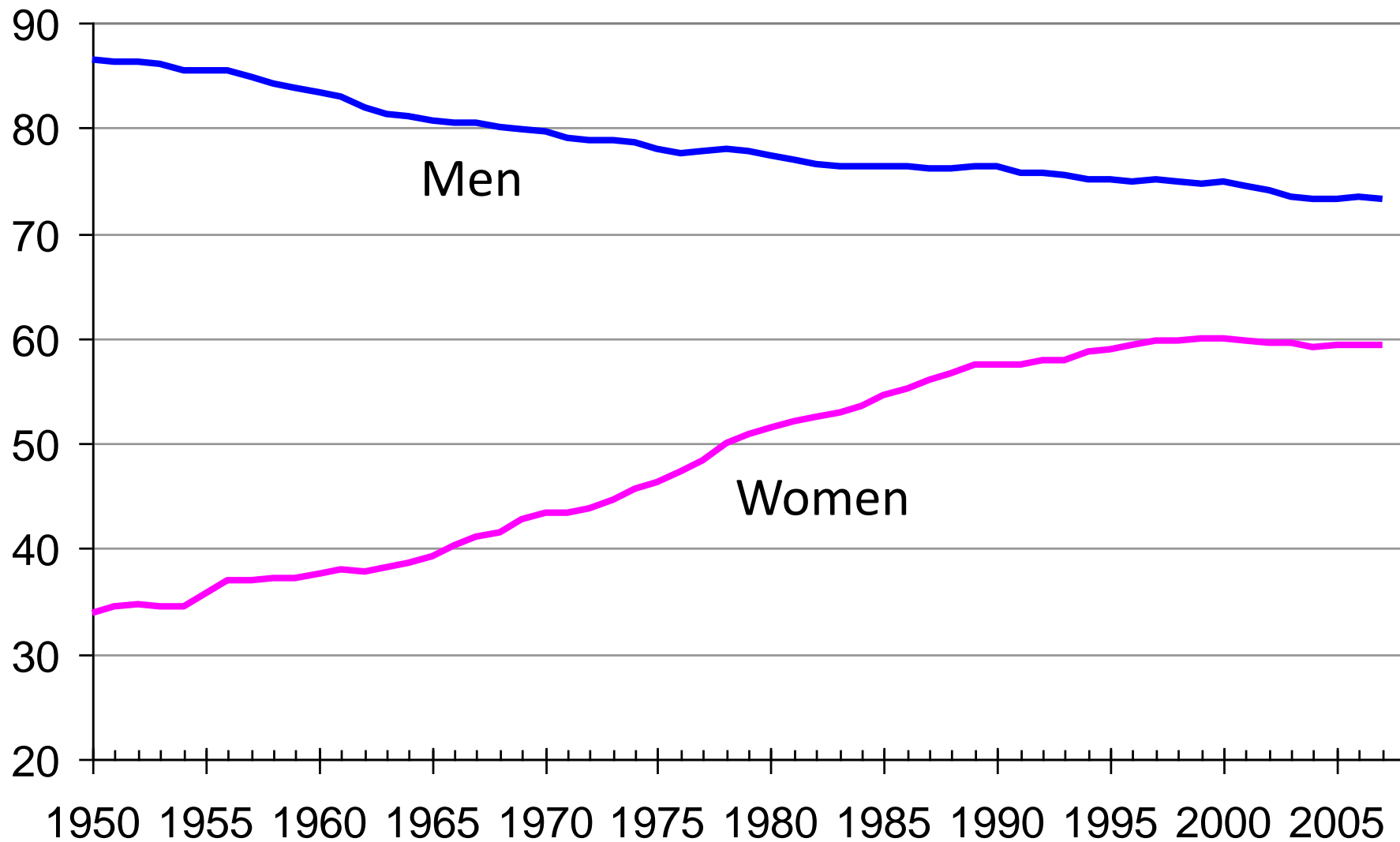
$$\begin{aligned}\text{LF partic. rate} &= 100 \times (\text{labor force})/(\text{adult pop.}) \\ &= 100 \times 154.4/233.6 \\ &= 66.1\%\end{aligned}$$



# 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 (according to race, gender, educational level, etc.).

# LF Participation Rates by Sex, 1950-2007 (USA)



## Case Study: Labor-force participation of men and women in the U.S. economy

- Women's role in American society (and many other societies)
  - Changed dramatically over the past century
  - New technologies
    - Reduced the amount of time required to complete routine household tasks
  - Improved birth control
    - Reduced the number of children born to the typical family
  - Changing political and social attitudes

## Case Study: Labor-force participation of men and women in the U.S. economy

- Fall in men's labor-force participation
  - Young men - stay in school longer
  - Older men - retire earlier and live longer
  - With more women employed
    - More fathers now stay at home to raise their children
- Counted as being out of the labor force
  - Full-time students
  - Retirees
  - Stay-at-home dads

## ACTIVE LEARNING 2

### Limitations of the u-rate

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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.

## ACTIVE LEARNING 2

### Answers

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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.

## ACTIVE LEARNING 2

### Answers

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**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.

## ACTIVE LEARNING 2

### Answers

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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 is 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 (note the different practice in Hong Kong: underemployment rate is reported), or people working part time because full-time jobs not available.
  - Some people misreport their work status in the employment survey.
- Despite these issues, the u-rate is still a very useful barometer of the labor market & economy.

## 2. Cyclical Unemployment vs. the Natural Rate

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

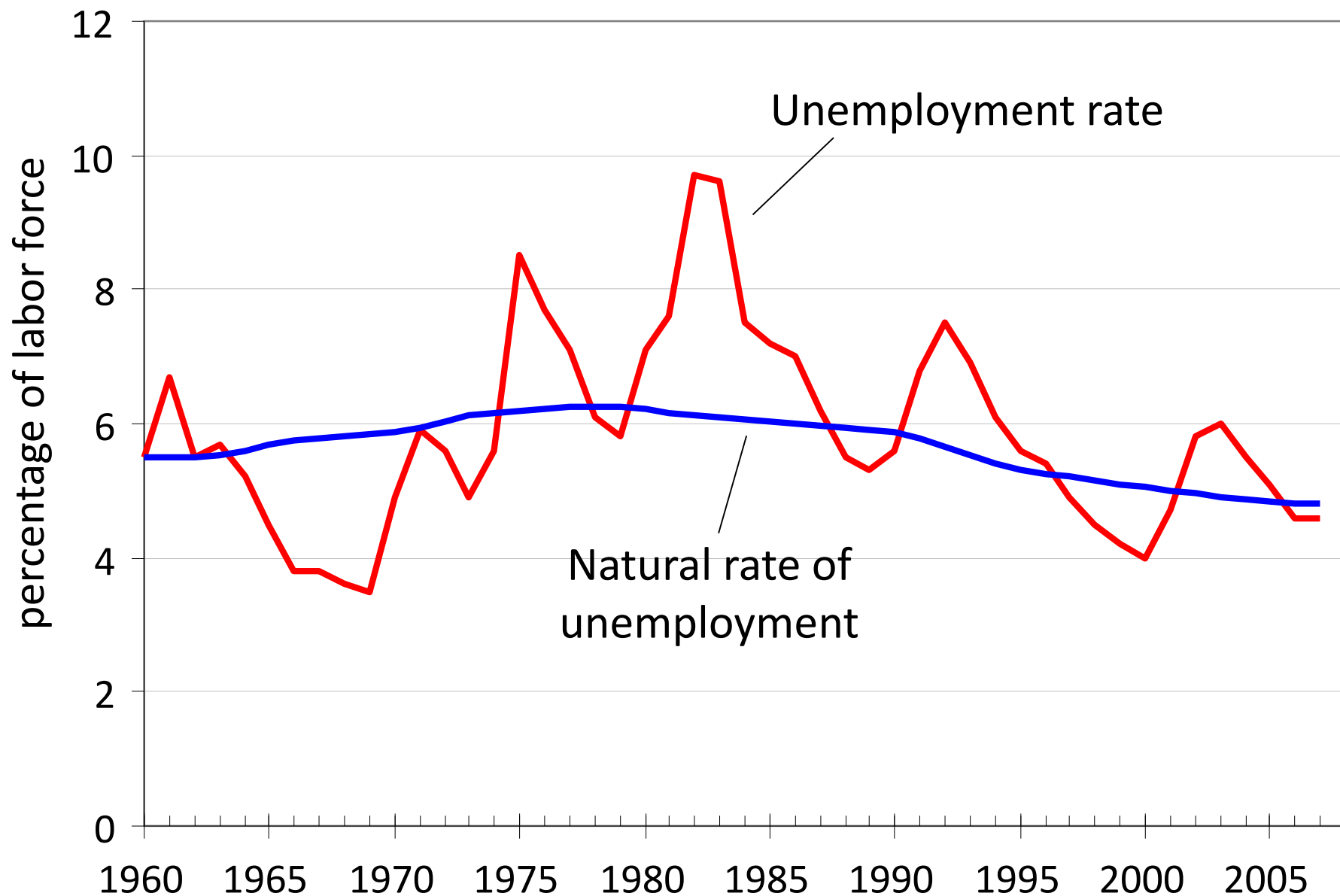
### **Natural rate of unemployment**

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

### **Cyclical unemployment**

- the deviation of unemployment from its natural rate
- associated with business cycles, which we'll study in later chapters

# U.S. Unemployment, 1960-2007



### 3. 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

# (A) 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.
- Such shifts displace some workers, who must search for new jobs appropriate for their skills & tastes.
- The economy is always changing, so some frictional unemployment is inevitable.

# 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
- 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.

# 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

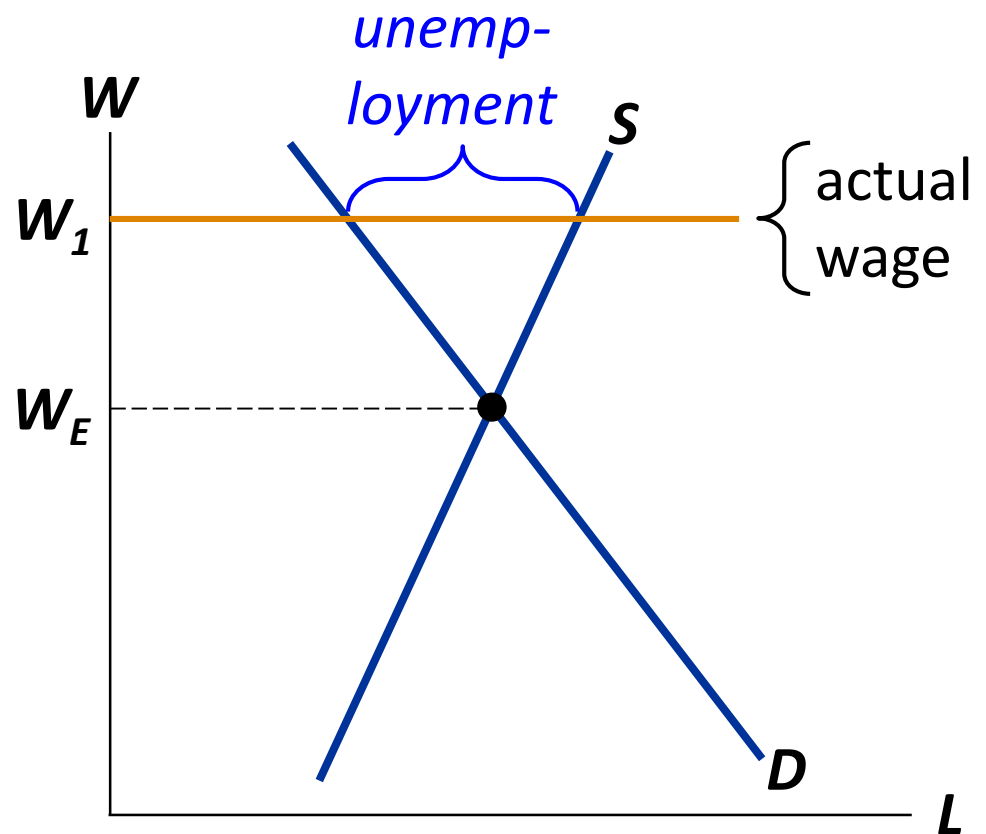


## (B) Explaining Structural Unemployment

Structural unemployment occurs when not enough jobs to go around.

Occurs when wage is kept above eq'm.

There are three reasons for this...



## (i) Minimum-Wage Laws

- The minimum 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 minimum wage can't explain most unemployment.

## (ii) 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 10-20% higher wages and gets more benefits than a non-union worker for the same type of work.

# Unions

- When unions raise the wage above eq'm, quantity of labor demanded falls and unemployment results.
- “Insiders” – workers who remain employed, they are better off
- “Outsiders” – workers who lose their jobs, they are worse off
- Some outsiders go to non-unionized labor markets, which increases labor supply and reduces wages in those markets.

# Unions

Are unions good or bad? Economists disagree.

- Critics:

Unions are cartels. They raise wages above eq'm, 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.

### (iii) 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.

# Efficiency 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.

## 2. Worker turnover

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

# Efficiency Wages

Four reasons why firms might pay efficiency wages:

## 3. Worker quality

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

## 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 eq'm wage, there aren't enough jobs to go around, so workers have more incentive to work not shirk.



# 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
  - 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

In later chapters, we will learn about *cyclical unemployment*, the short-term fluctuations in unemployment associated with business cycles.

# CHAPTER 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.

# CHAPTER 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.