

## Informational Efficiency

- According to the **Efficient Markets Hypothesis**, the stock market is **informationally efficient**: each stock price reflects all available information about the value of the company.
  - When good news about a company's prospects becomes public, the value of the company rises, so money managers buy lots of shares until the price rises to the new, higher value.
  - When bad news becomes public, the value of the company falls, so money managers sell the shares until their price falls by the same amount.

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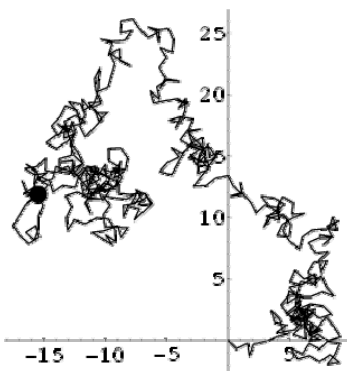
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## Random Walk

- **Random walk**: the path of a variable whose changes are impossible to predict
- The efficient markets hypothesis implies that stock prices should follow a random walk.

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## The efficient markets hypothesis

- According to this theory, the only thing that can move stock prices is **news that can change the market's perception** of the company's value.
- In other words, something that nobody but you knows.
- Such news is impossible to predict. (Otherwise it wouldn't really be news, and would already be reflected in the stock price.)

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## Trying to beat the Market?



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## Evidence: Index Funds vs. Managed Funds

- An index fund is a mutual fund that buys all the stocks in a **given** stock index.
- An actively managed mutual fund aims to buy only the **best** stocks.
- The efficient markets hypothesis implies that it is impossible to consistently "beat the market."
- If true, the returns on actively managed funds should not consistently exceed the returns on index funds.
- In fact, most actively managed funds perform worse than index funds (and have higher fees).

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## the beauty of "effortless"



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Texas Instruments 91.72 (Daily)

Is this random?



## Market Irrationality

- Economists have argued that stock price movements are partly psychological:
- 1930s: John Maynard Keynes said stock prices are driven by investors' "animal spirits" – irrational waves of pessimism and optimism



## Market Irrationality

- 1990s: Fed Chair Alan Greenspan said the stock boom reflected "irrational exuberance".
- The bubble burst around early 2000.



Track This Person

## Do you believe Market Irrationality or Market Rationality?

- It's true that stock prices often move in ways that are hard to explain rationally.
- Yet, it's impossible to know what price movements are "rational."
- And if many investors behaved irrationally, there would be profit opportunities for rational investors. Yet, beating the market is nearly impossible.

## CONCLUSION

- This chapter has introduced some of the basic tools people use when they make financial decisions.
- The efficient markets hypothesis teaches that a stock price should reflect the company's expected future profitability.

## Road Map

- **Chapter 25**, we discuss how capital and labor are among the primary determinants of output and growth.
- **In Chapter 26**, we addressed how saving converted into investment in capital goods.
- **In Chapter 27**, we will show some of the tools people and firms use when choosing capital projects in which to invest.
- Because both capital and labor are among the primary determinants of output, **Chapter 28** will address the market for labor.

## Sometimes People Say that the Key of Macroeconomics is on the Labor Market

- Why?
- Labor is one of key inputs for output production (in addition to capital);
- Employment is associated with household welfare, the fundamental reason that we engage in economic research.
- A lot of macro puzzles and stylized facts are about the labor market.

## What is the labor market all about?

- Labor supply and labor demand;
- At the equilibrium...
  - Employment (number of employees; total working hours...)
  - Wage rate (the return to labor)
- Unemployment (those who do not have jobs and are actively searching for jobs)



## Unemployment

- One of the most closely watched macro variables by policy makers.



Janet Yellen, the president and CEO of S.F. Fed, the 1997-1999 Chair of President's Council of Economic Advisors, "...Unemployment and Inflation..."

## 28 Unemployment

PRINCIPLES OF  
ECONOMICS  
FOURTH EDITION

N. GREGORY MANKIW

PowerPoint® Slides  
by Ron Cronovich

## Unemployment is not always bad!



**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?

### How is unemployment Measured? Labor Force Statistics

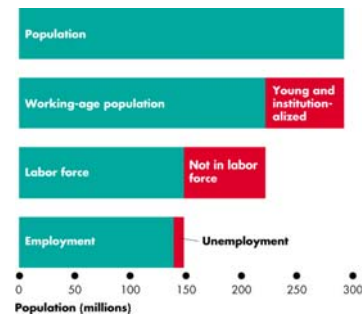
- Produced by Bureau of Labor Statistics (BLS), in the U.S. Dept. of Labor
- Based on regular monthly survey of 60,000 households – Current Population Survey (CPS)
- Based on “adult population” (16 yrs or older)

### 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:

Adult population of the U.S. by group, October 2006	
# of employed	145.3 million
# of unemployed	6.7 million
not in labor force	77.7 million

**ACTIVE LEARNING 1:  
Answers**

$$\begin{aligned} \text{Labor force} &= \text{employed} + \text{unemployed} \\ &= 145.3 + 6.7 \\ &= \mathbf{152 \text{ million}} \end{aligned}$$

$$\begin{aligned} \text{U-rate} &= 100 \times (\text{unemployed})/(\text{labor force}) \\ &= 100 \times 6.7/152 \\ &= \mathbf{4.4\%} \end{aligned}$$

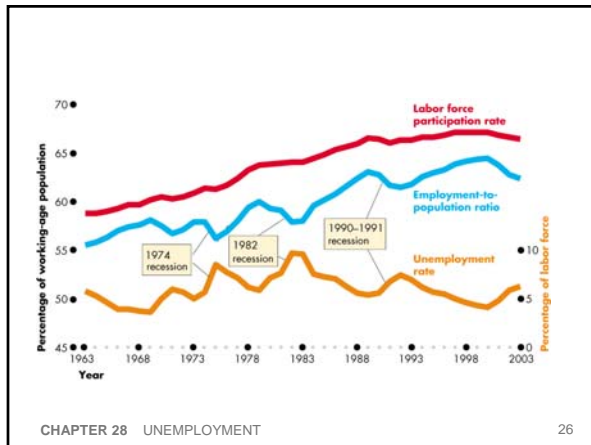
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**ACTIVE LEARNING 1:  
Answers**

$$\begin{aligned} \text{Working-age Population} &= \text{labor force} + \text{not in labor force} \\ &= 152 + 77.7 \\ &= \mathbf{229.7} \end{aligned}$$

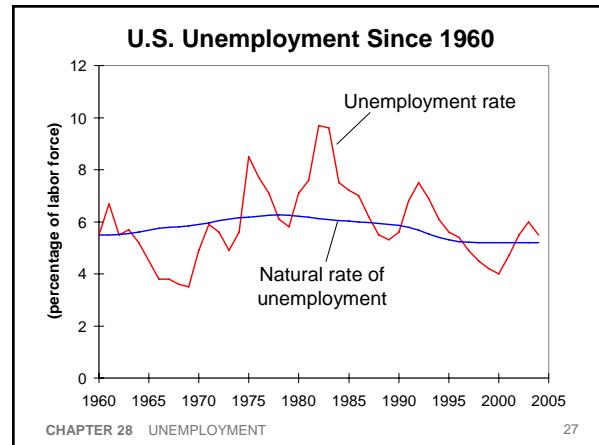
$$\begin{aligned} \text{LF partic. rate} &= 100 \times (\text{labor force})/(\text{population}) \\ &= 100 \times 152/229.7 \\ &= \mathbf{66.1\%} \end{aligned}$$

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**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.

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**Labor Market Statistics for Whites & Blacks,  
January 2006**

Adults (20 yrs & older)		
	u-rate	LF part. rate
White, male	3.6%	76.4%
White, female	3.7	59.7
Black, male	7.5	69.8
Black, female	8.1	64.4

Gender does not generate big difference in unemployment rate, but does in the participation rate; However, races play a big role in unemployment!

CH<sub>2</sub>

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**Labor Market Statistics for Whites & Blacks,**  
January 2006

Teens (16-19 yrs)		
	u-rate	LF part. rate
White	13.3	47.1
Black	31.4	30.9

However, for teens, races play a big role in both participation rate and unemployment rate!

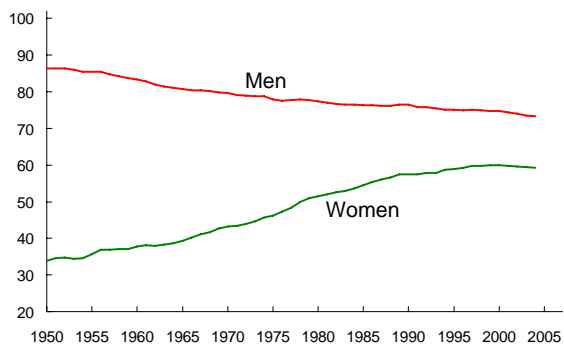
**Labor Market Statistics for Other Groups,**  
January 2006

All ages		
	u-rate	LF part. rate
Asian	3.2	65.7
Hispanic	5.8	69.3

**Labor Market Statistics by Education Level,**  
January 2006

Adults (25 yrs & older)		
	u-rate	LF part. rate
less than h.s.	7.0%	46.0%
h.s. diploma	4.4	62.5
some college or assoc degree	3.5	72.5
bachelor's degree or more	2.1	78.3

**LF Participation Rates by Sex, Since 1950**



**Why?**

- For women:
  - Technological advancement makes housework easier;
  - Job types;
  - Social attitudes.
- For men:
  - ?
  - ?

**Kramer Lifestyle of Adult Male Joblessness**

- In 2002, 8% of adult male are not attending school or working.
- Only some of jobless males are disabled;
- Most of them received some income averaged annually around \$11,000.
- And most are single.



### ACTIVE LEARNING 2: Exercise

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. Susan lost her job, and begins looking for a new one.
- B. John, 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 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.

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### ACTIVE LEARNING 2: Answers

- 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.

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### ACTIVE LEARNING 2: Answers

- 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.

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### ACTIVE LEARNING 2: Answers

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

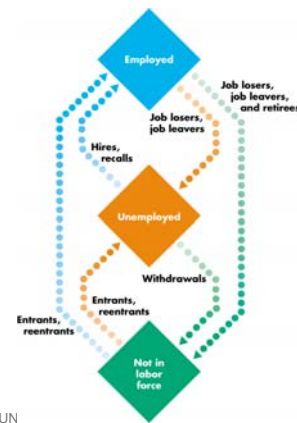
**u-rate unchanged**, because a person is "employed" whether they work full or part time.

Things are worse, but the u-rate fails to show it.

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### What Does the U-Rate Really Measure?

- The u-rate is not a *perfect* indicator of joblessness or the health of the labor market:
  - excludes discouraged workers
  - does not distinguish between full-time and part-time work, or people working part time because full-time jobs are not available.
  - Also, some people may misreport their work status in the BLS survey.
- Despite these issues, the u-rate is still a very useful meter of the labor market & economy.



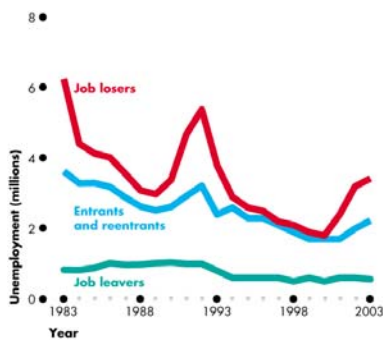
### The Duration of Unemployment

- Most spells of unemployment are short:
  - Typically 1/3 of the unemployed have been unemployed < 5 weeks, 2/3 have been unemployed < 14 weeks.
  - Only 20% have been unemployed > 6 months.
- 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.

### A small group stays unemployed all the time, while others keep moving in and out of unemployment



### Who are unemployed?



### Cyclical Unemployment vs. the Natural Rate

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

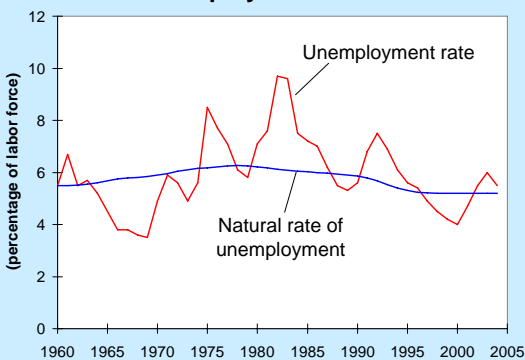
#### The natural rate of unemployment

- 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 Since 1960



### Why is unemployment rate higher in Europe and Canada?



## Explaining the Natural Rate: An Overview

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

### frictional unemployment

- It takes time to find a job that suits you.
- short-term for most workers

### structural unemployment

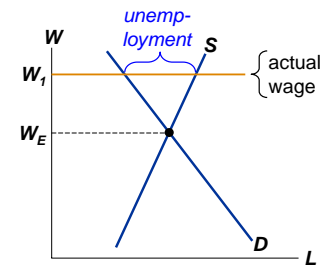
- occurs when there are fewer jobs than workers
- usually longer-term

## 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...



## 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.

## Frictional Unemployment



## To reduce friction

- Public Policy and Job Search

- Govt employment agencies: give out 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



However...  
policy may also increase frictional unemployment

## 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.



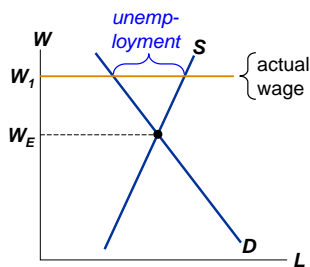
## Unemployment Insurance

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 not enough jobs to go around. Occurs when wage is kept above eq'm. There are three reasons for this...



Things that can keep wage above the equilibrium level...

### 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.

### 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.

## 2. 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.

## 2. 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.

## Henry Ford Again...



## He was very nice...

- In 1914, he paid his employees \$5 per workday, almost twice as much as the market level.
- Was he only be nice?
- After all, he is a profit maximizer.
- Workers organized in an assembly line are highly inter-dependant. If one worker is absent, other workers are less able to complete their own tasks.
- Quite rate dropped significantly after the increase in wage offered by the Ford Motor Company.

## 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.

## 3. 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.

### 3. 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.

### ACTIVE LEARNING 3: Exercise

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

- 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 Monster.com, and more employers use Monster.com to find suitable workers to hire.
- E. Sectoral shifts become more frequent.

### ACTIVE LEARNING 3: Answers

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

- A. The govt 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

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

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

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

### ACTIVE LEARNING 3: Answers

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

- D. More workers post their resumes at Monster.com, and more employers use Monster.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
  - 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.

## Why is unemployment rate higher in Europe and Canada?

## 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.