

This chapter begins our study of unemployment. The problem of unemployment is usefully divided into two categories: the long-run problem and the

many of its workers standing idle. fully employed as possible, it achieves a higher level of GDP than it would if it left substantially over time and across countries. When a country keeps its workers as thousands of firms and millions of workers, the amount of unemployment varies. Although some degree of unemployment is inevitable in a complex economy with a job are not contributing to the economy's production of goods and services. ment it typically experiences. People who would like to work but cannot find obvious determinant of a country's standard of living is the amount of unemployment stock and GDP than a similar country that saves and invests less. An even more high fraction of its income, for instance, enjoys more rapid growth in its capital and growth of a country's standard of living. A country that saves and invests a In previous chapters, we have seen some of the forces that determine the level

create jobs. campaigning for office often speak about how their proposed policies will help the future, and reduced self-esteem. It is not surprising, therefore, that politicians working. A job loss means a lower living standard in the present, anxiety about ing, and many people also get a sense of personal accomplishment from Most people rely on their labor earnings to maintain their standard of living. Using a job can be the most distressing economic event in a person's life.

# Unemployment



# 28

CHAPTER

short-run problem. The economy's *natural rate of unemployment* refers to the amount of unemployment that the economy normally experiences. *Cyclical unemployment* refers to the year-to-year fluctuations in unemployment around its natural rate, and it is closely associated with the short-run ups and downs of economic activity. Cyclical unemployment has its own explanation, which we defer until we study short-run economic fluctuations later in this book. In this chapter, we discuss the determinants of an economy's natural rate of unemployment. As we will see, the designation *natural* does not imply that this rate of unemployment is desirable. Nor does it imply that it is constant over time or impervious to economic policy. It merely means that this unemployment does not go away on its own even in the long run.

We begin the chapter by looking at some of the relevant facts that describe unemployment. In particular, we examine three questions: How does the government measure the economy's rate of unemployment? What problems arise in interpreting the unemployment data? How long are the unemployed typically without work?

We then turn to the reasons economies always experience some unemployment and the ways in which policymakers can help the unemployed. We discuss four explanations for the economy's natural rate of unemployment: job search, minimum-wage laws, unions, and efficiency wages. As we will see, long-run unemployment does not arise from a single problem that has a single solution. Instead, it reflects a variety of related problems. As a result, there is no easy way for policymakers to reduce the economy's natural rate of unemployment and, at the same time, to alleviate the hardships experienced by the unemployed.

## IDENTIFYING UNEMPLOYMENT

Let's start by examining more precisely what the term *unemployment* means.

### HOW IS UNEMPLOYMENT MEASURED?

Measuring unemployment is the job of the Bureau of Labor Statistics (BLS), which is part of the Department of Labor. Every month, the BLS produces data on unemployment and on other aspects of the labor market, including types of employment, length of the average workweek, and the duration of unemployment. These data come from a regular survey of about 60,000 households, called the Current Population Survey.

Based on the answers to survey questions, the BLS places each adult (age 16 and older) of each surveyed household into one of three categories:

- *Employed*: This category includes those who worked as paid employees, worked in their own business, or worked as unpaid workers in a family member's business. Both full-time and part-time workers are counted. This category also includes those who were not working but who had jobs from which they were temporarily absent because of, for example, vacation, illness, or bad weather.
- *Unemployed*: This category includes those who were not employed, were available for work, and had tried to find employment during the previous 4 weeks. It also includes those waiting to be recalled to a job from which they had been laid off.

- *Not in the labor force:* This category includes those who fit neither of the first two categories, such as a full-time student, homemaker, or retiree.

Figure 1 shows the breakdown into these categories for 2007. Once the BLS has placed all the individuals covered by the survey in a category, it computes various statistics to summarize the state of the labor market. The BLS defines the **labor force** as the sum of the employed and the unemployed:

$$\text{Labor force} = \text{Number of employed} + \text{Number of unemployed.}$$

The BLS defines the **unemployment rate** as the percentage of the labor force that is unemployed:

$$\text{Unemployment rate} = \frac{\text{Number of unemployed}}{\text{Labor force}} \times 100.$$

unemployment rate is the percentage of the labor force that is unemployed

The BLS computes unemployment rates for the entire adult population and for more narrowly defined groups such as blacks, whites, men, women, and so on. The BLS uses the same survey to produce data on labor-force participation. The **labor-force participation rate** measures the percentage of the total adult population of the United States that is in the labor force:

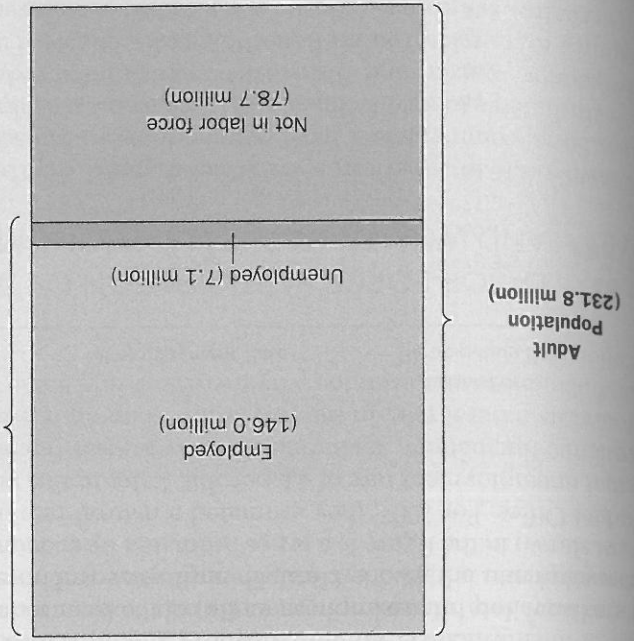
$$\text{Labor-force participation rate} = \frac{\text{Labor force}}{\text{Adult population}} \times 100.$$

labor-force participation rate is the percentage of the adult population that is in the labor force

FIGURE 1

The Breakdown of the Population in 2007  
The Bureau of Labor Statistics divides the adult population into three categories: employed, unemployed, and not in the labor force.  
Source: Bureau of Labor Statistics.

Labor Force  
(153.1 million)





This statistic tells us the fraction of the population that has chosen to participate in the labor market. The labor-force participation rate, like the unemployment rate, is computed for both the entire adult population and more specific groups.

To see how these data are computed, consider the figures for 2007. In that year, 146.0 million people were employed, and 7.1 million people were unemployed. The labor force was

$$\text{Labor force} = 146.0 + 7.1 = 153.1 \text{ million.}$$

The unemployment rate was

$$\text{Unemployment rate} = (7.1 / 153.1) \times 100 = 4.6 \text{ percent.}$$

Because the adult population was 231.8 million, the labor-force participation rate was

$$\text{Labor-force participation rate} = (153.1 / 231.8) \times 100 = 66.0 \text{ percent.}$$

Hence, in 2007, two-thirds of the U.S. adult population were participating in the labor market, and 4.6 percent of those labor-market participants were without work.

Table 1 shows the statistics on unemployment and labor-force participation for various groups within the U.S. population. Three comparisons are most apparent. First, women ages 20 and older have lower rates of labor-force participation than men, but once in the labor force, men and women have similar rates of unemployment. Second, blacks ages 20 and older have similar rates of labor-force participation as whites, but they have much higher rates of unemployment. Third, teenagers have lower rates of labor-force participation and much higher rates of unemployment than older workers. More generally, these data show that labor-market experiences vary widely among groups within the economy.

The BLS data on the labor market also allow economists and policymakers to monitor changes in the economy over time. Figure 2 shows the unemployment

**1** TABLE

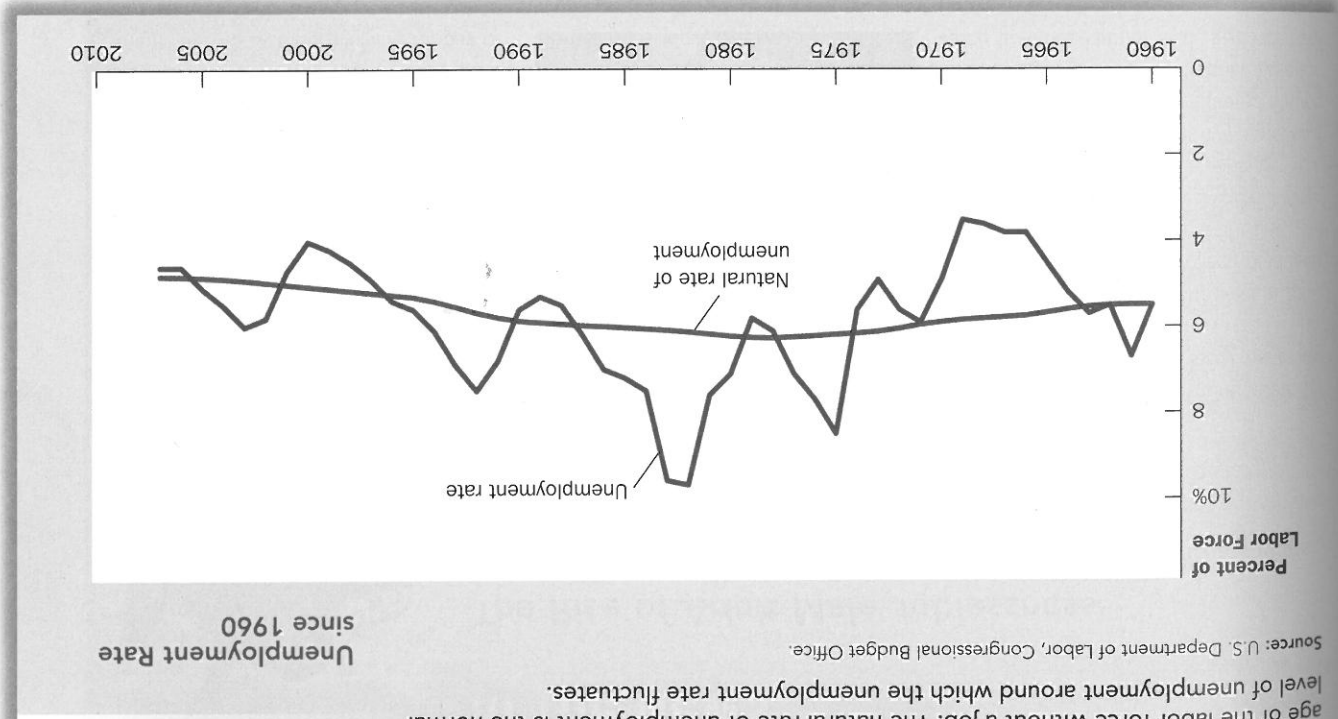
**The Labor-Market Experiences of Various Demographic Groups**

This table shows the unemployment rate and the labor-force participation rate of various groups in the U.S. population for 2007.

**Source:** Bureau of Labor Statistics.

Demographic Group	Unemployment Rate	Labor-Force Participation Rate
<b>Adults (ages 20 and older)</b>		
White, male	3.7%	76.3%
White, female	3.6	60.1
Black, male	7.9	71.2
Black, female	6.7	64.0
<b>Teenagers (ages 16–19)</b>		
White, male	15.7	44.3
White, female	12.1	44.6
Black, male	33.8	29.4
Black, female	25.3	31.2

FIGURE 2



rate in the United States since 1960. The figure shows that the economy always has some unemployment and that the amount changes from year to year. The normal rate of unemployment around which the unemployment rate fluctuates is called the **natural rate of unemployment**, and the deviation of unemployment from its natural rate is called **cyclical unemployment**. The natural rate of unemployment shown in the figure is a series estimated by economists at the Congressional Budget Office. For 2007, they estimated a natural rate of 4.8 percent, close to the actual unemployment rate of 4.6 percent. Later in this book, we discuss short-run economic fluctuations, including the year-to-year fluctuations in unemployment around its natural rate. In the rest of this chapter, however, we ignore the short-run fluctuations and examine why there is always some unemployment in market economies.

**CASE STUDY**  
LABOR-FORCE PARTICIPATION OF MEN AND WOMEN IN THE U.S. ECONOMY

Women's role in American society has changed dramatically over the past century. Social commentators have pointed to many causes for this change. In part, it is attributable to new technologies, such as the washing machine, clothes dryer, refrigerator, freezer, and dishwasher, which have reduced the amount of time required to complete routine household tasks. In part, it is attributable to improved birth control, which has reduced the number of children born to the typical family. This change in women's role is also partly attributable to changing political

natural rate of unemployment  
the normal rate of unemployment around which the unemployment rate fluctuates  
cyclical unemployment the deviation of unemployment from its natural rate



## In The News

### The Rise of Adult Male Joblessness

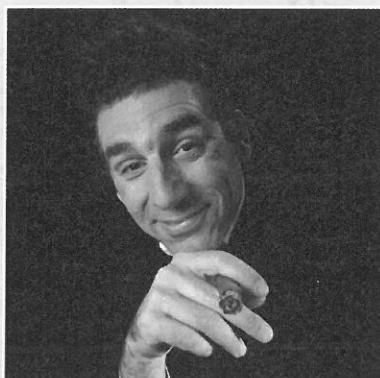
An increasing number of men are neither working nor looking for work.

#### A Growing Number of Men Are Not Working, So What Are They Doing?

By Alan B. Krueger

A growing number of men in their prime working years are pursuing what might be called the Kramer lifestyle, after the enigmatic "Seinfeld" character: neither working nor attending school. In 1967, 2.2 percent of noninstitutionalized men age 25 to 54 spent the entire year without working for pay or attending school. That figure climbed to 8 percent in 2002, the latest year available from the Bureau of Labor Statistics.

This trend is partly related to the rising disability rolls. More than half of male nonworkers reported themselves as sick or disabled. But the number of long-term jobless men who were able-bodied—a



"YOU WOULDN'T CATCH ME IN THE LABOR FORCE."

diverse group including young retirees, men who cannot find work, and family care providers—grew at a faster rate than the number who were disabled over the last 35 years.

The problem is much more severe for some groups than others. Nearly one in five men age 25 to 54 with less than a high school degree did not work even one week in 2002. The nonworking rate for college graduates was only 3.3 percent. In central cities, 10.8 percent of men spent the year without work, compared with 7.1 percent elsewhere.

Joblessness is persistent over time, so it ends up being highly concentrated among a small cadre of men who frequently spend long stretches without work. Just 3 percent of men accounted for more than two-thirds of the total number of years that men spent not working in the period from 1987 to 1997, according to an analysis by Jay Stewart, an economist at the Bureau of Labor Statistics.

Long-term joblessness among mature men has become a much more important phenomenon than unemployment. Many

PHOTO: © PATRICK HARRON/LANDOV

and social attitudes, which in turn may have been facilitated by the advances in technology and birth control. Together these developments have had a profound impact on society in general and on the economy in particular.

Nowhere is that impact more obvious than in data on labor-force participation. Figure 3 shows the labor-force participation rates of men and women in the United States since 1950. Just after World War II, men and women had very different roles in society. Only 33 percent of women were working or looking for work, in contrast to 87 percent of men. Over the past several decades, the difference between the participation rates of men and women has gradually diminished, as growing numbers of women have entered the labor force and some men have left it. Data for 2007 show that 59 percent of women were in the labor force, in contrast to 73 percent of men. As measured by labor-force participation, men and women are now playing a more equal role in the economy.

The increase in women's labor-force participation is easy to understand, but the fall in men's may seem puzzling. There are several reasons for this decline. First,



of nonworking men age 25 to 54 received income from some source in 2002. Among those with unearned income, the average amount was \$11,551, with the largest sums coming from Social Security and disability payments.

Not surprisingly, wives are also an important source of financial support for nonworking men, but only 42 percent of male nonworkers between age 25 and 54 are married, compared with 68 percent of their employed counterparts. Twenty-nine percent of nonworkers live with their parents or other relatives, substantially higher than the 9 percent of workers in such a living arrangement.

The experiences of nonworking adults men are quite varied, and many have severe disabilities. Although these statistics paint a picture of nonworking men struggling to get by financially, many manage to live as if every day were Sunday. As one man from Brooklyn who has not worked since 1998 told me this week, he thinks of the Off-Track Betting parlor in Midtown Manhattan as his "club," and he sees many of the same men there day after day.

On workdays, the average full-time worker devoted only 3.5 hours to leisure and recreation and one hour to housework. Men worked an average of 8.6 hours on days when they performed some work for pay. Comparing workers and nonworkers over a full week, nonworkers spent about a quarter of their extra time in "home production," which includes household chores, cleaning and repairs. The bulk of their extra time went into leisure and recreation, particularly watching television, socializing and playing sports and games. Nonworkers also slept 10 percent more (44 minutes) a night than workers. Both groups devoted relatively little time to child care, at least as a primary activity.

By contrast, nonworking women spend half their extra time engaged in household work and child care.

Supporting a Kramer lifestyle is not easy, especially if your neighbors are less magnanimous than Jerry Seinfeld. Nearly two-thirds of nonworkers live in households with a female head of household, and 10 percent live in households with a female head of household who is also a nonworker. The average day of a male nonworker looks very much like the average day of a worker—on his day off. Nonworkers devoted 8.4 hours a day to leisure and

recreation and 3.3 hours to housework. On their days off, workers devoted almost the same amount of time—8 and 3.4 hours, respectively—to these activities.

A new working paper by Mr. Stewart of the Labor Bureau provides the most comprehensive answers to date. The study, "What Do Male Nonworkers Do?", draws on information from several national data sets on the time allocation, living arrangements and income sources of male nonworkers in their prime earning years.

In short, the average day of a male nonworker looks very much like the average day of a worker—on his day off. Nonworkers devoted 8.4 hours a day to leisure and recreation and 3.3 hours to housework. On their days off, workers devoted almost the same amount of time—8 and 3.4 hours, respectively—to these activities.

How are these men spending their time and getting by?

How are these men spending their time and getting by?

Source: *New York Times*, April 29, 2004.

Young men now stay in school longer than their fathers and grandfathers did. Second, older men now retire earlier and live longer. Third, with more women employed, more fathers now stay at home to raise their children. Full-time students, retirees, and stay-at-home dads are all counted as being out of the labor force.

## DOES THE UNEMPLOYMENT RATE MEASURE WHAT WE WANT IT TO?

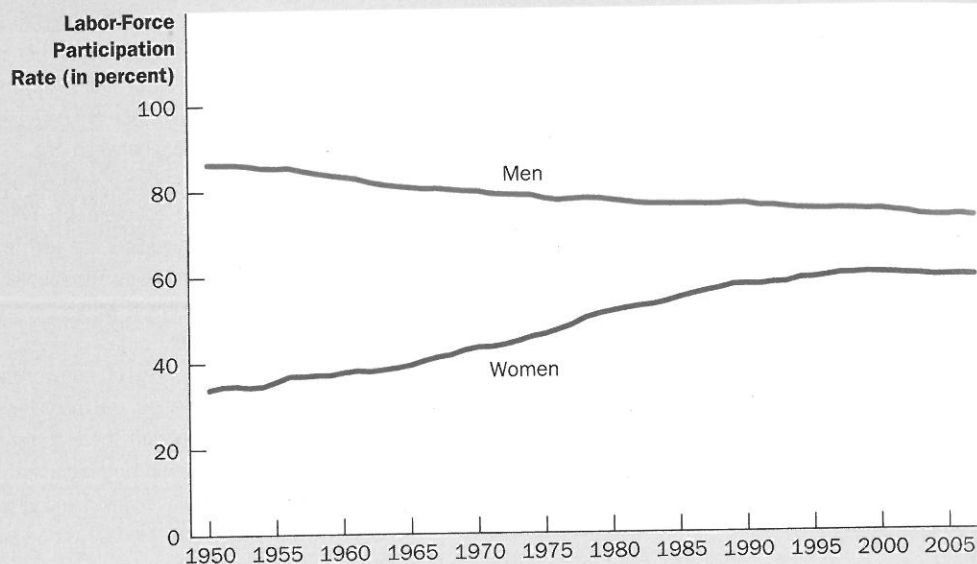
Measuring the amount of unemployment in the economy might seem a straightforward task, but it is not. While it is easy to distinguish between a person with a full-time job and a person who is not working at all, it is much harder to distinguish between a person who is unemployed and a person who is not in the labor force.

### 3 FIGURE

#### Labor-Force Participation Rates for Men and Women since 1950

This figure shows the percentage of adult men and women who are members of the labor force. It shows that over the past several decades, women have entered the labor force, and men have left it.

Source: U.S. Department of Labor.



Movements into and out of the labor force are, in fact, common. More than one-third of the unemployed are recent entrants into the labor force. These entrants include young workers looking for their first jobs, such as recent college graduates. They also include, in greater numbers, older workers who had previously left the labor force but have now returned to look for work. Moreover, not all unemployment ends with the job seeker finding a job. Almost half of all spells of unemployment end when the unemployed person leaves the labor force.

Because people move into and out of the labor force so often, statistics on unemployment are difficult to interpret. On the one hand, some of those who report being unemployed may not, in fact, be trying hard to find a job. They may be calling themselves unemployed because they want to qualify for a government program that financially assists the unemployed or because they are actually working but paid "under the table" to avoid taxes on their earnings. It may be more realistic to view these individuals as out of the labor force or, in some cases, employed. On the other hand, some of those who report being out of the labor force may want to work. These individuals may have tried to find a job and may have given up after an unsuccessful search. Such individuals, called **discouraged workers**, do not show up in unemployment statistics, even though they are truly workers without jobs.

Because of these and other problems, the BLS calculates several other measures of labor underutilization, in addition to the official unemployment rate. These

**discouraged workers**  
individuals who would like to work but have given up looking for a job



alternative measures are presented in Table 2. In the end, it is best to view the official unemployment rate as a useful but imperfect measure of joblessness.

### HOW LONG ARE THE UNEMPLOYED WITHOUT WORK?

In judging how serious the problem of unemployment is, one question to consider is whether unemployment is typically a short-term or long-term condition. If unemployment is short-term, one might conclude that it is not a big problem. Workers may require a few weeks between jobs to find the openings that best suit their tastes and skills. Yet if unemployment is long-term, one might conclude that it is a serious problem. Workers unemployed for many months are more likely to suffer economic and psychological hardship.

Because the duration of unemployment can affect our view about how big a problem unemployment is, economists have devoted much energy to studying data on the duration of unemployment spells. In this work, they have uncovered a result that is important, subtle, and seemingly contradictory: *Most spells of unemployment are short, and most unemployment observed at any given time is long-term.*

To see how this statement can be true, consider an example. Suppose that you visited the government's unemployment office every week for a year to survey the unemployed. Each week you find that there are four unemployed workers. Three of these workers are the same individuals for the whole year, while the fourth person changes every week. Based on this experience, would you say that unemployment is typically short-term or long-term?

TABLE 2

### Alternative Measures of Labor Underutilization

The table shows various measures of joblessness for the U.S. economy. The data are for February 2008.

Source: U.S. Department of Labor.

Measure and Description	Rate
U-1 Persons unemployed 15 weeks or longer, as a percentage of the civilian labor force (includes only very long-term unemployed)	1.6%
U-2 Job losers and persons who have completed temporary jobs, as a percentage of the civilian labor force (excludes job leavers)	2.5
U-3 Total unemployed, as a percentage of the civilian labor force (official unemployment rate)	4.8
U-4 Total unemployed, plus discouraged workers, as a percentage of the civilian labor force plus discouraged workers	5.1
U-5 Total unemployed plus all marginally attached workers, as a percentage of the civilian labor force plus all marginally attached workers	5.8
U-6 Total unemployed, plus all marginally attached workers, plus total employed part-time for economic reasons, as a percentage of the civilian labor force plus all marginally attached workers	8.9

Note: The Bureau of Labor Statistics defines terms as follows:

- Marginally attached workers are persons who currently are neither working nor looking for work but indicate that they want and are available for a job and have looked for work sometime in the recent past.
- Discouraged workers are marginally attached workers who have given a job-market-related reason for not currently looking for a job.
- Persons employed part-time for economic reasons are those who want and are available for full-time work but have had to settle for a part-time schedule.

Some simple calculations help answer this question. In this example, you meet a total of 55 unemployed people over the course of a year; 52 of them are unemployed for 1 week, and 3 are unemployed for the full year. This means that 52/55, or 95 percent, of unemployment spells end in 1 week. Yet whenever you walk into the unemployment office, three of the four people you meet will be unemployed for the entire year. So, even though 95 percent of unemployment spells end in 1 week, 75 percent of the unemployment observed at any moment is attributable to those individuals who are unemployed for a full year. In this example, as in the world, most spells of unemployment are short, and most unemployment observed at any given time is long-term.

This subtle conclusion implies that economists and policymakers must be careful when interpreting data on unemployment and when designing policies to help the unemployed. Most people who become unemployed will soon find jobs. Yet most of the economy's unemployment problem is attributable to the relatively few workers who are jobless for long periods of time.

### WHY ARE THERE ALWAYS SOME PEOPLE UNEMPLOYED?

We have discussed how the government measures the amount of unemployment, the problems that arise in interpreting unemployment statistics, and the findings of labor economists on the duration of unemployment. You should now have a good idea about what unemployment is.

This discussion, however, has not explained why economies experience unemployment. In most markets in the economy, prices adjust to bring quantity supplied and quantity demanded into balance. In an ideal labor market, wages would adjust to balance the quantity of labor supplied and the quantity of labor demanded. This adjustment of wages would ensure that all workers are always fully employed.

Of course, reality does not resemble this ideal. There are always some workers without jobs, even when the overall economy is doing well. In other words, the unemployment rate never falls to zero; instead, it fluctuates around the natural rate of unemployment. To understand this natural rate, the remaining sections of this chapter examine the reasons actual labor markets depart from the ideal of full employment.

To preview our conclusions, we will find that there are four ways to explain unemployment in the long run. The first explanation is that it takes time for workers to search for the jobs that are best suited for them. The unemployment that results from the process of matching workers and jobs is sometimes called **frictional unemployment**, and it is often thought to explain relatively short spells of unemployment.

The next three explanations for unemployment suggest that the number of jobs available in some labor markets may be insufficient to give a job to everyone who wants one. This occurs when the quantity of labor supplied exceeds the quantity demanded. Unemployment of this sort is sometimes called **structural unemployment**, and it is often thought to explain longer spells of unemployment. As we will see, this kind of unemployment results when wages are, for some reason, set above the level that brings supply and demand into equilibrium. We will examine three possible reasons for an above-equilibrium wage: minimum-wage laws, unions, and efficiency wages.

#### frictional

#### unemployment

unemployment that results because it takes time for workers to search for the jobs that best suit their tastes and skills

#### structural

#### unemployment

unemployment that results because the number of jobs available in some labor markets is insufficient to provide a job for everyone who wants one

