15-1c 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, but 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?

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 who are unemployed for one week and 3 who are unemployed for the full year. This means that $52/55$, or 95 percent, of unemployment spells end in one 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 one 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, but most unemployment observed at any given time is long-term.

15-1b Does the Unemployment Rate Measure What We Want It to Measure?

Measuring the amount of unemployment in the economy might seem a straight-forward 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.

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. 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 gives financial assistance to the unemployed or because they are working but paid "under the table" to avoid taxes on their earnings. It may be more accurate 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 prospective workers who cannot find jobs.

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

15-1a 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) in 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 four 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 full-time students, homemakers, and retirees.

Figure 1 shows the breakdown into these categories for January 2019.

15-2 Job Search

One reason economies always experience some unemployment is job search. **Job search** is the process of matching workers with appropriate jobs. If all workers and all jobs were the same, so that all workers were equally well suited for all jobs, job search would not be a problem. Laid-off workers would quickly find new jobs that were well suited for them. But in fact, workers differ in their tastes and skills, jobs differ in their attributes, and information about job candidates and job vacancies is disseminated slowly among the many firms and households in the economy.

15-2a Why Some Frictional Unemployment Is Inevitable

Frictional unemployment is often the result of changes in the demand for labor among different firms. When consumers decide that they prefer Ford cars to General Motors cars, Ford increases employment and General Motors lays off workers. The former General Motors workers must now search for new jobs, and Ford must decide which new workers to hire for the various jobs that have opened up. The result of this transition is a period of unemployment.

Similarly, because different regions of the country produce different goods, employment can rise in one region while it falls in another. Consider, for instance, what happens when the world price of oil falls. Oil-producing firms in Texas and North Dakota respond to the lower price by cutting back on production and employment. At the same time, cheaper gasoline stimulates car sales, so auto-producing firms in Michigan and Ohio raise production and employment. The opposite happens when the world price of oil rises. Changes in the composition of demand among industries or regions are called *sectoral shifts*. Because it takes time for workers to search for jobs in the new sectors, sectoral shifts temporarily cause unemployment.

Changing patterns of international trade are also a source of frictional unemployment. In Chapter 3, we learned that nations export goods for which they have a comparative advantage and import goods for which other nations have a comparative advantage. Comparative advantage, however, need not be stable over time. As the world economy evolves, nations may find themselves importing and exporting different goods than they have in the past. Workers will therefore need to move among industries. As they make this transition, they may find themselves unemployed for a period of time.

Frictional unemployment is inevitable simply because the economy is always changing. For example, in the U.S. economy from 2006 to 2016, employment fell by 980,000 in construction and 1.8 million in manufacturing. During the same period, employment rose by 706,000 in computer systems design, 2.1 million in food services,

15-1d Why Are There Always Some People Unemployed?

We have discussed how the government measures 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 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.

15-2b Public Policy and Job Search

Even if some frictional unemployment is inevitable, the precise amount is not. The faster information spreads about job openings and worker availability, the more rapidly the economy can match workers and firms. The Internet, for instance, may help facilitate job search and reduce frictional unemployment. In addition, public policy may play a role. If policy can reduce the time it takes unemployed workers to find new jobs, it can reduce the economy's natural rate of unemployment.

Government programs try to facilitate job search in various ways. One way is through government-run employment agencies, which give out information about job vacancies. Another way is through public training programs, which aim to ease workers' transition from declining to growing industries and to help disadvantaged groups escape poverty. Advocates of these programs believe that they make the economy operate more efficiently by keeping the labor force more fully employed and that they reduce the inequities inherent in a constantly changing market economy.

Critics of these programs question whether the government should get involved with the process of job search. They argue that it is better to let the private market match workers and jobs and that the government is no better—and most likely worse—at disseminating the right information to the right workers and deciding what kinds of worker training would be most valuable. They claim that these decisions are best made privately by workers and employers. In fact, most job search in our economy takes place without government intervention. Newspaper ads, online job sites, college career offices, headhunters, and word of mouth all help spread information about job openings and job candidates. Similarly, much worker education is done privately, through either schools or on-the-job training.

15-2c Unemployment Insurance

One government program that increases the amount of frictional unemployment, without intending to do so, is **unemployment insurance**. This program is designed to offer workers partial protection against job loss. The unemployed who quit their jobs, were fired for cause, or just entered the labor force are not eligible. Benefits are paid only to the unemployed who were laid off because their previous employers no longer needed their skills. The terms of the program vary over time and across states, but a typical worker covered by unemployment insurance in the United States receives 50 percent of his former wages for 26 weeks.

While unemployment insurance reduces the hardship of unemployment, it also increases the amount of unemployment. The explanation is based on one of the *Ten Principles of Economics* in Chapter 1: People respond to incentives. Because unemployment benefits stop when a worker takes a new job, the unemployed devote less effort to job search and are more likely to turn down unattractive job offers. In addition, because unemployment insurance makes unemployment less onerous, workers are less likely to seek guarantees of job security when they negotiate with employers over the terms of their employment.

Many studies by labor economists have analyzed the incentive effects of unemployment insurance. One study examined an experiment run by the state of Illinois in 1985. When unemployed workers applied to collect unemployment insurance benefits, the state randomly selected some of them and offered each a $500 bonus if they found new jobs within 11 weeks. This group was then compared to a control group not offered the incentive. The average spell of unemployment for the group offered the bonus was 7 percent shorter than the average spell for the control group. This experiment shows that the design of the unemployment insurance system influences the effort that the unemployed devote to job search.

Several other studies examined search effort by following a group of workers over time. Unemployment insurance benefits, rather than lasting forever, usually run out after 6 months or 1 year. These studies found that when the unemployed become ineligible for benefits, the probability of their finding a new job rises markedly.

15-3 Minimum-Wage Laws

Having seen how frictional unemployment results from the process of matching workers and jobs, let's now examine how structural unemployment results when the number of jobs is insufficient for the number of workers.

To understand structural unemployment, we begin by reviewing how minimum-wage laws can cause unemployment. Minimum wages are not the predominant reason for unemployment in our economy, but they have an important effect on certain groups with particularly high unemployment rates. Moreover, the analysis of minimum wages is a natural place to start because, as we will see, it can be used to understand some of the other reasons for structural unemployment.

Figure 4 reviews the basic economics of a minimum wage. When a minimum-wage law forces the wage to remain above the level that balances supply and demand, it raises the quantity of labor supplied and reduces the quantity of labor demanded compared to the equilibrium level. There is a surplus of labor. Because there are more workers willing to work than there are jobs, some workers are unemployed.

Figure 4 Unemployment from a Wage above the Equilibrium Level

In this labor market, supply and demand are balanced at the wage W_E. At this equilibrium wage, the quantity of labor supplied and the quantity of labor demanded both equal L_E. By contrast, if the wage is forced to remain above the equilibrium level, perhaps because of a minimum-wage law, the quantity of labor supplied rises to L_S and the quantity of labor demanded falls to L_D. The resulting surplus of labor, $L_s - L_D$, represents unemployment.

Case Study: Who Earns the Minimum Wage?

In 2018, the Department of Labor released a study showing what kinds of workers reported earnings at or below the minimum wage in 2017, when the minimum wage was $7.25 per hour. (A reported wage below the minimum wage is possible because some workers are exempt from the statute, because enforcement is imperfect, and because some workers round down when reporting their wages on surveys.) Here is a summary of the findings:

- In 2017, 80 million workers were paid at hourly rates (as opposed to being salaried or self-employed), representing about half of the labor force. Among hourly paid workers, about 2.3 percent reported wages at or below the prevailing federal minimum. Thus, the federal minimum wage directly affects about 1 percent of all workers.
- Minimum-wage workers tend to be young. Among employed teenagers (ages 16 to 19) paid by the hour, about 8 percent earned the minimum wage or less, compared with 1 percent of hourly paid workers age 25 and older.
- Minimum-wage workers tend to be less educated. Among hourly paid workers age 16 and older, about 4 percent of those without a high school diploma earned the minimum wage or less, compared with about 2 percent of those who completed a high school diploma (but did not attend college) and about 1 percent of those with a college degree.
- Minimum-wage workers are more likely to be working part-time. Among part-time workers (those who usually work less than 35 hours per week), 6 percent were paid the minimum wage or less, compared with 1 percent of full-time workers.
- The industry with the highest proportion of workers with reported hourly wages at or below the minimum wage was leisure and hospitality (11 percent). About three-fifths of all workers paid at or below the minimum wage were employed in this industry, primarily in restaurants and other food services. For many of these workers, tips supplement their hourly wages.
- The percentage of hourly paid workers earning the prevailing federal minimum wage or less has changed substantially over time. It has declined from 13.4 percent in 1979, when data collection first began on a regular basis, to 2.3 percent in 2017. One reason for this change is that the federal minimum wage has not kept up with inflation. If it had, the minimum wage in 2017 would have been about $10 rather than $7.25

A union is a type of cartel. Like any cartel, a union is a group of sellers acting together in the hope of exerting their joint market power. Most workers in the U.S. economy discuss their wages, benefits, and working conditions with their employers as individuals. By contrast, workers in a union do so as a group. The process by which unions and firms agree on the terms of employment is called **collective bargaining**.

When a union bargains with a firm, it asks for higher wages, better benefits, and better working conditions than the firm would offer in the absence of a union. If the union and the firm do not reach agreement, the union can organize a withdrawal of labor from the firm, called a **strike**. Because a strike reduces production, sales, and profit, a firm facing a strike threat is likely to agree to pay higher wages than it otherwise would. Economists who study the effects of unions typically find that union workers earn about 10 to 20 percent more than similar workers who do not belong to unions.

When a union raises the wage above the equilibrium level, it raises the quantity of labor supplied and reduces the quantity of labor demanded, resulting in unemployment. Workers who remain employed at the higher wage are better off, but those who were previously employed and are now unemployed are worse off. Indeed, unions are often thought to cause conflict between different groups of workers—between the *insiders* who benefit from high union wages and the *outsiders* who do not get the union jobs.

The outsiders can respond to their status in one of two ways. Some of them remain unemployed and wait for the chance to become insiders and earn the high union wage. Others take jobs in firms that are not unionized. Thus, when unions raise wages in one part of the economy, the supply of labor increases in other parts of the economy. This increase in labor supply, in turn, reduces wages in industries that are not unionized. In other words, workers in unions reap the benefit of collective bargaining, while workers not in unions bear some of the cost.

The role of unions in the economy depends in part on the laws that govern union organization and collective bargaining. Normally, explicit agreements among members of a cartel are illegal. When firms selling similar products agree to set high prices, the agreement is considered a "conspiracy in restraint of trade," and the government prosecutes the firms in civil and criminal court for violating the antitrust laws. Unions, however, are

15-4b Are Unions Good or Bad for the Economy?

Economists disagree about whether unions are good or bad for the economy as a whole. Let's consider both sides of the debate.

Critics argue that unions are merely a type of cartel. When unions raise wages above the level that would prevail in competitive markets, they reduce the quantity of labor demanded, cause some workers to be unemployed, and reduce the wages in the rest of the economy. The resulting allocation of labor, critics argue, is both inefficient and inequitable. It is inefficient because high union wages reduce employment in unionized firms below the efficient, competitive level. It is inequitable because some workers benefit at the expense of other workers.

Advocates contend that unions are a necessary antidote to the market power of the firms that hire workers. The extreme case of this market power is the "company town," where a single firm does most of the hiring in a geographical region. In a company town, if workers do not accept the wages and working conditions that the firm offers, they have little choice but to move or stop working. In the absence of a union, therefore, the firm could use its market power to pay lower wages and offer worse working conditions than it would if it had to compete with other firms for the same workers. In this case, a union may be necessary to check the firm's market power and protect the workers from being at the mercy of the firm's owners.

Advocates of unions also claim that unions are important for helping firms respond efficiently to workers' concerns. Whenever a worker takes a job, the worker and the firm must agree on many attributes of the job in addition to the wage: hours of work, overtime, vacations, sick leave, health benefits, promotion schedules, job security, and so on. By representing workers' views on these issues, unions help firms provide the right mix of job attributes. Even if unions have the adverse effect of pushing wages above the equilibrium level and causing unemployment, they have the benefit of helping firms keep a happy and productive workforce.

In the end, there is no consensus among economists about whether unions are good or bad for the economy. Like

15-5c Worker Quality

A third type of efficiency-wage theory emphasizes the link between wages and worker quality. All firms want workers who are talented, and they strive to pick the best applicants to fill job openings. But because firms cannot perfectly gauge the quality of applicants, hiring has a degree of randomness to it. When a firm pays high wages, it attracts a better pool of workers to apply for its jobs and thereby increases the quality of its workforce. If the firm responded to a surplus of labor by reducing the wage, the most competent applicants—who are more likely to have better alternative opportunities than less competent applicants—may choose not to apply. If this influence of the wage on worker quality is strong enough, it may be profitable for the firm to pay a wage above the level that balances supply and demand.