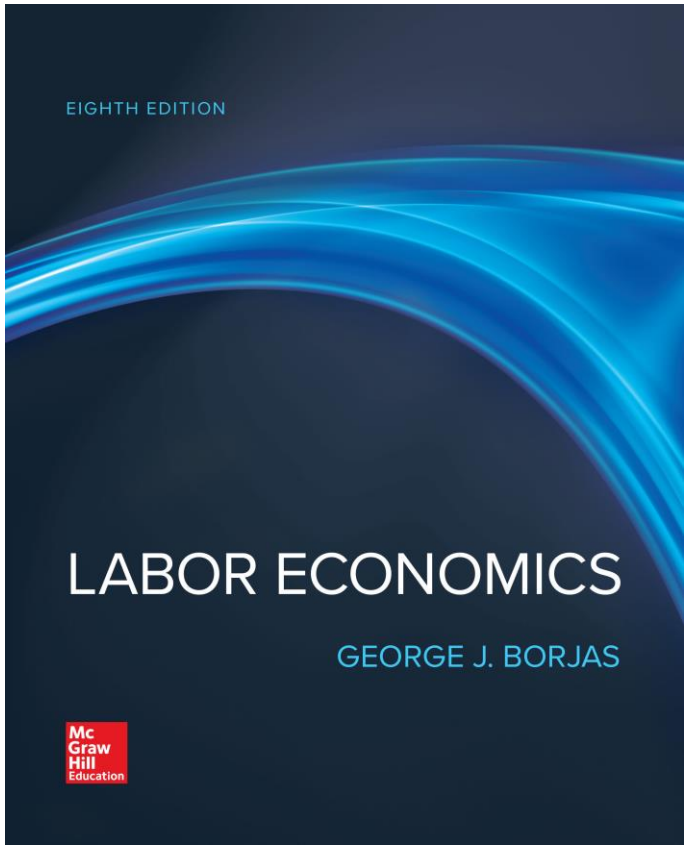
Chapter 12

Unemployment



"It's a recession when your neighbor loses his job; it's a depression when you lose your own."
-Harry S. Truman

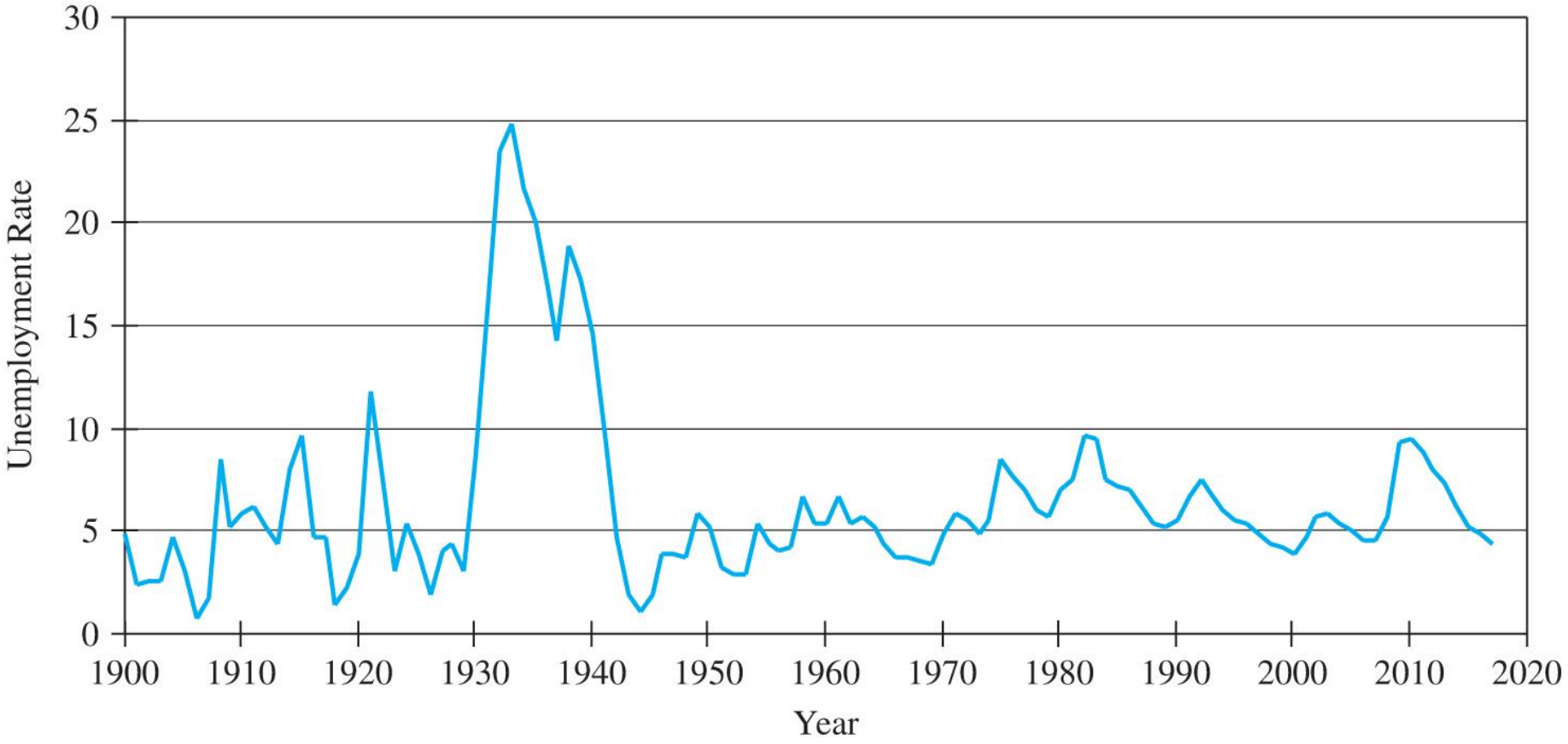
History of Unemployment in the United States

Although the unemployment rate in the United States drifted upward between 1960 and 1990, the economic expansion of the 1990s reduced the unemployment rate substantially.

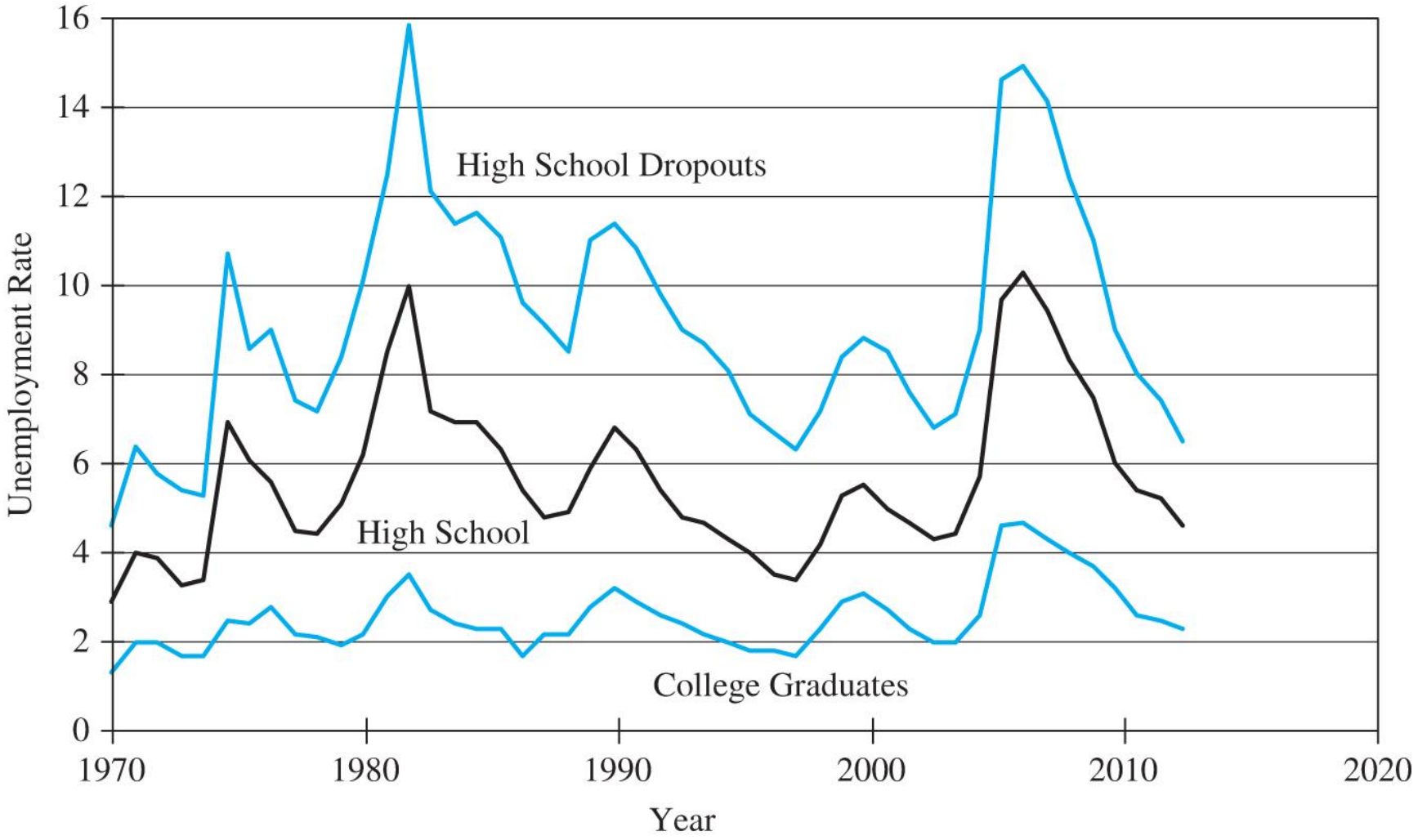
Unemployment peaked at 9.6 percent by 2010 following deterioration of economic conditions in 2008

Recent unemployment rates in the U.S. have exceeded unemployment rates in Germany and France

Unemployment in the U.S. from 1900 to 2017



Unemployment Rates by Education Attainment, 1970-2017



Frictional Unemployment

Frictional unemployment arises when workers and firms need time to locate each other and to digest information about the potential job match.

Even a well-functioning competitive economy experiences frictional unemployment, because some workers will unavoidably be "between" jobs.

Structural Unemployment

Structural unemployment arises when there is an imbalance between the supply of workers and the demand for workers or when unemployment arises because of a mismatch between worker skills and the skills needed by firms.

Structural unemployment is the most concerning type of unemployment for an economy as the skills embedded in labor are no longer being put to productive use.

The Rate of Unemployment

The steady-state rate of unemployment depends on the transition probabilities among employment, unemployment, and the nonmarket sector.

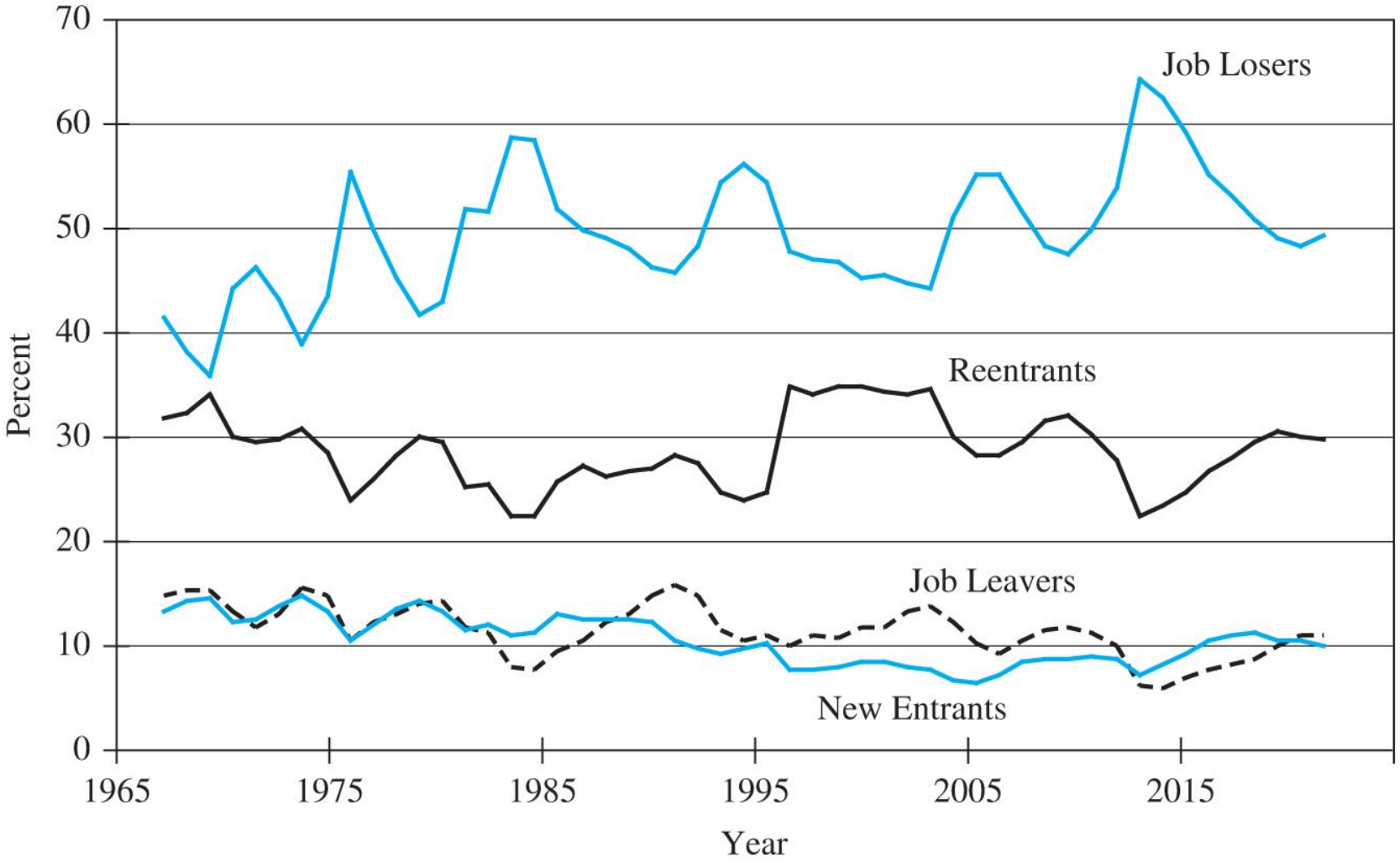
Let l = the fraction of employed workers who lose their jobs and become unemployed

Let h = the fraction of unemployed workers who find work and get hired

In the steady state lE = hU, and since the Labor Force is LF = E + U, then

The Unemployment Rate, UR = U/LF = l/(l + h)

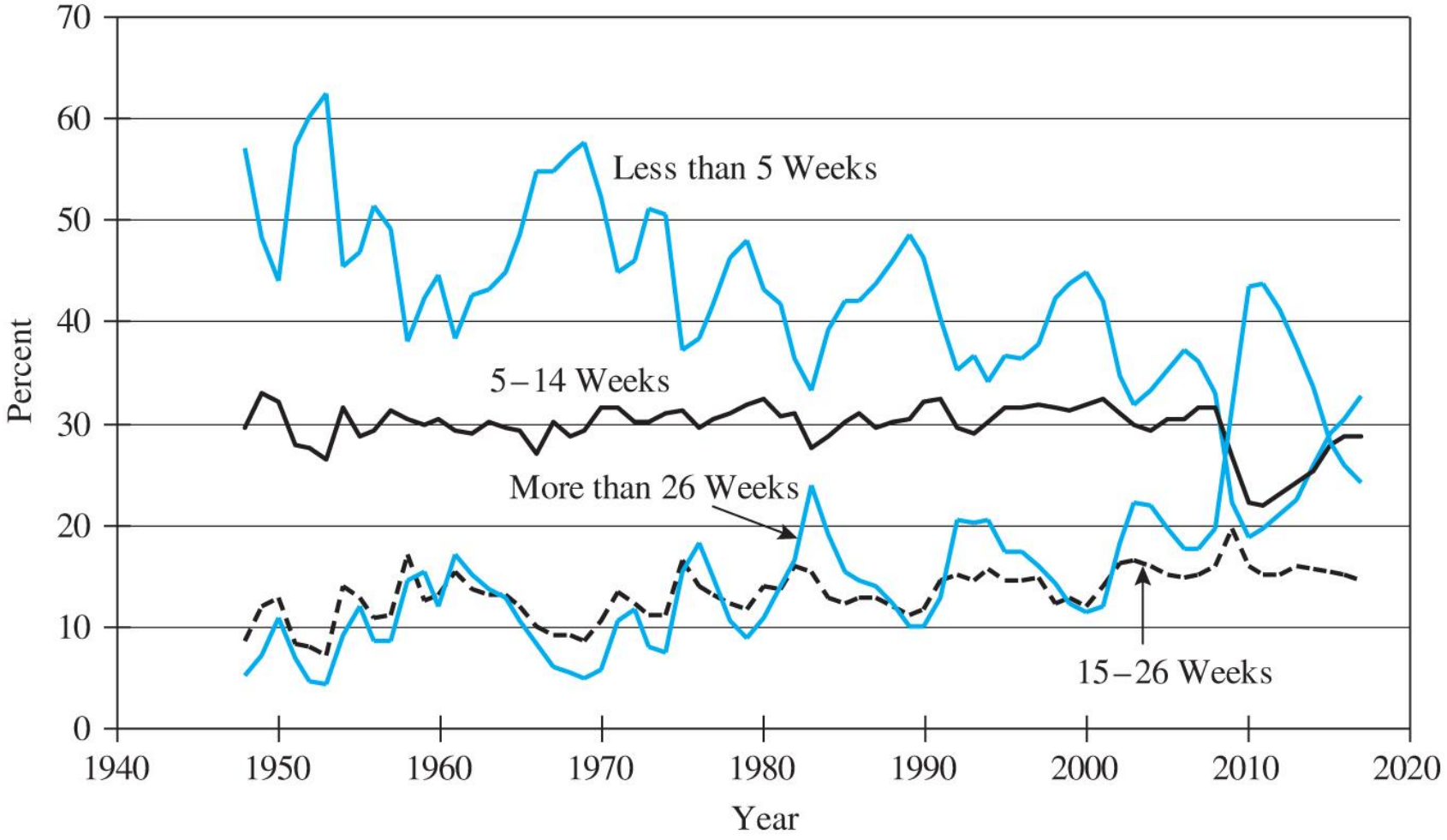
Unemployed Persons by Reason for Unemployment, 1967-2017



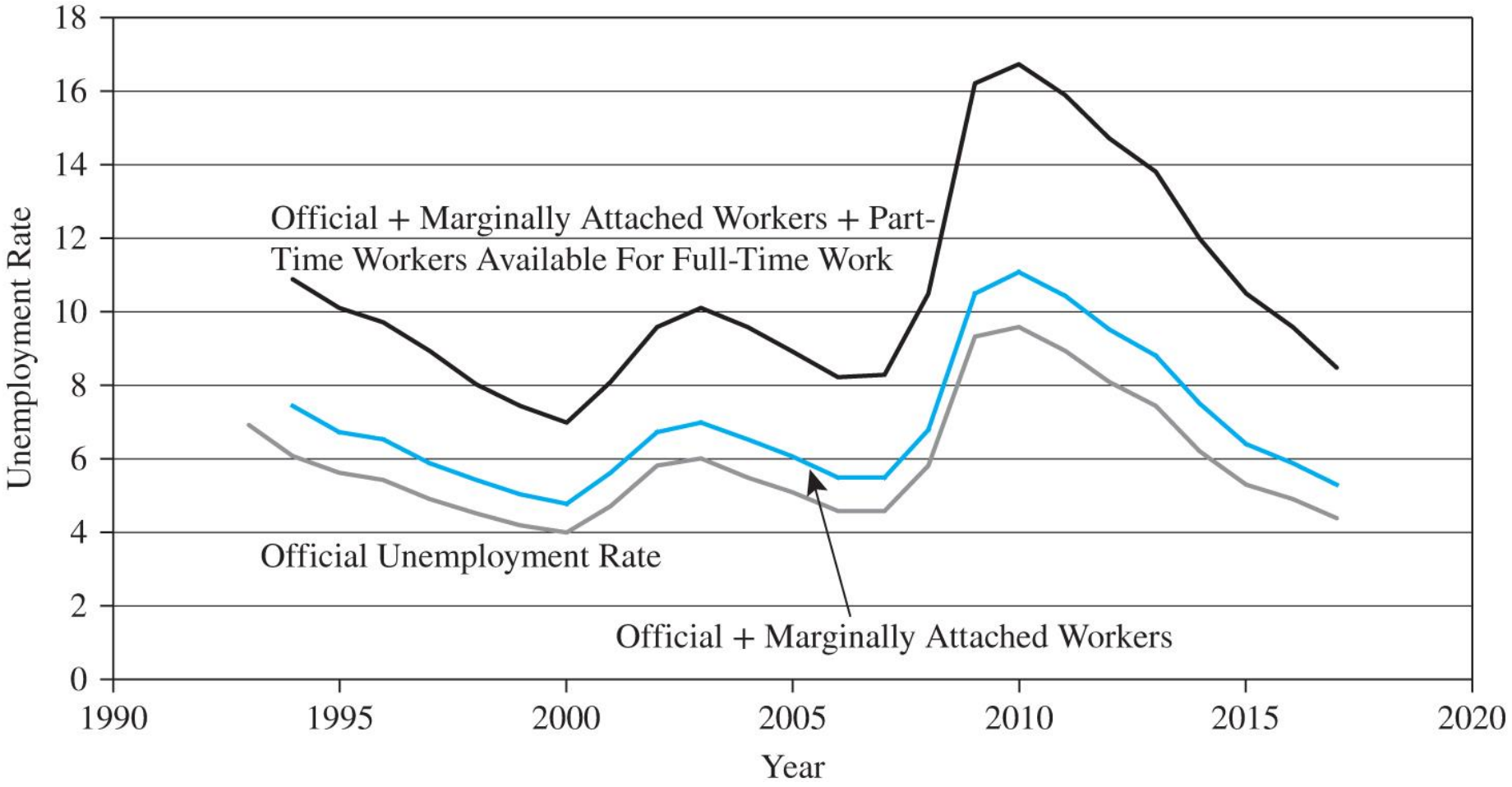
Unemployment Duration

Although most spells of unemployment do not last very long, most weeks of unemployment can be attributed to workers who are in very long spells.

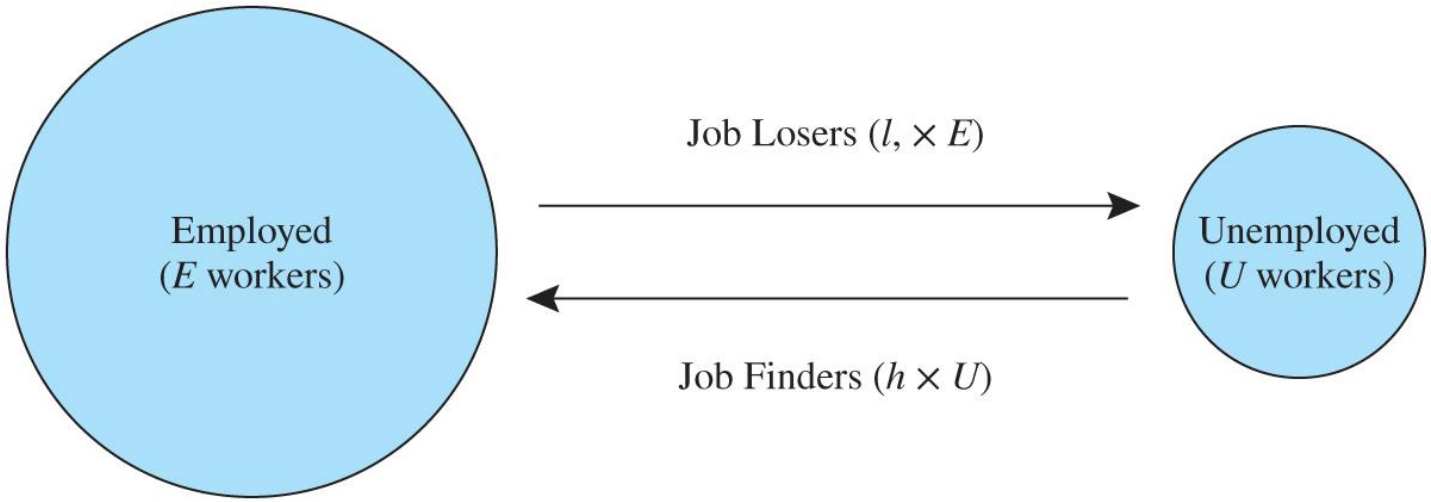
Unemployed Persons by Duration of Unemployment, 1948-2017



Trends in Alternative Measures of the Unemployment Rate, 1994-2013

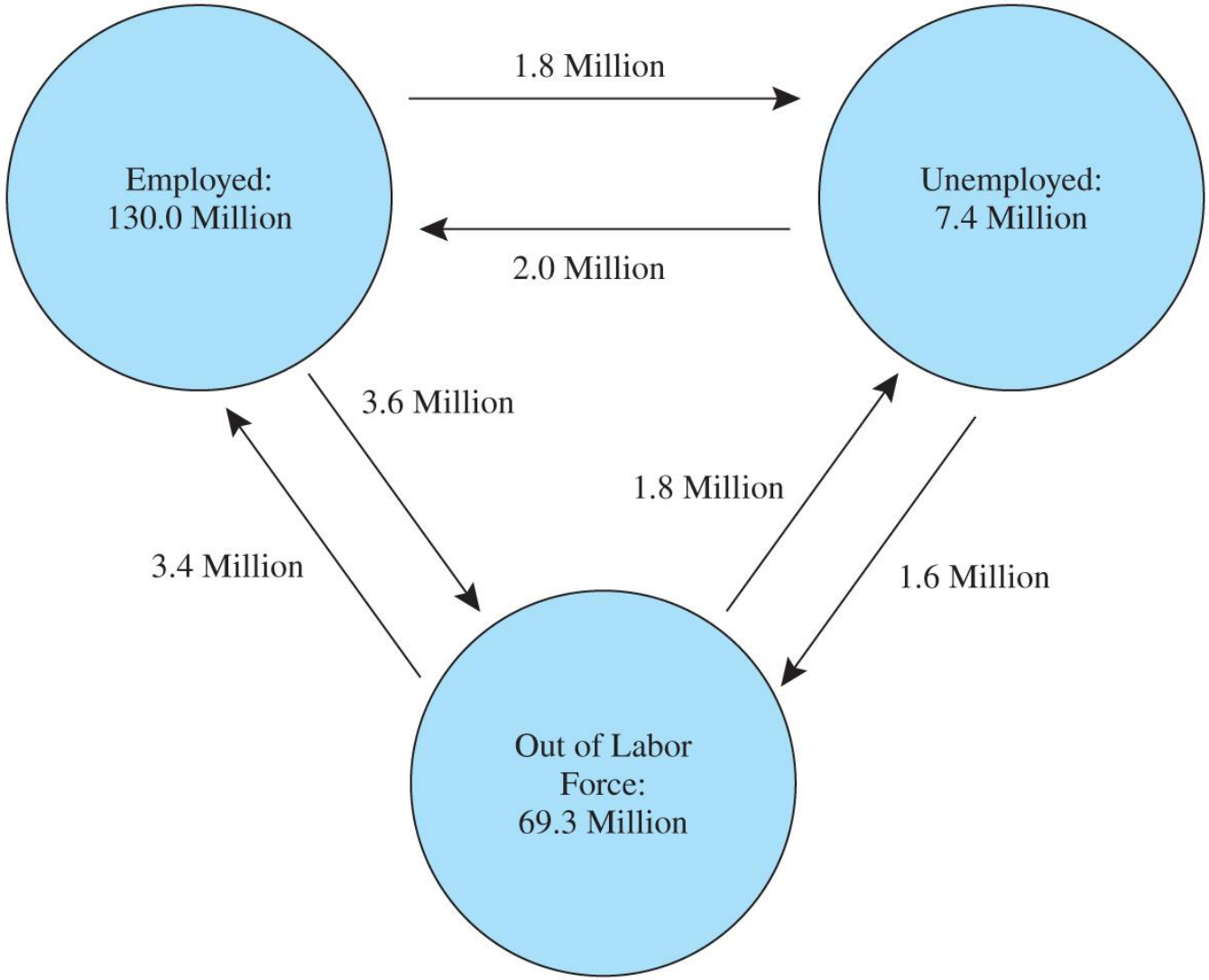


Flows Between Employment and Unemployment



Suppose a person is either working or unemployed. At any point in time, some workers lose their jobs and unemployed workers find jobs. If the probability of losing a job equals ℓ, there are $\ell \times E$ job losers. If the probability of finding a job equals h, there are $h \times U$ job finders.

Dynamic Flows in the U.S. Labor Market



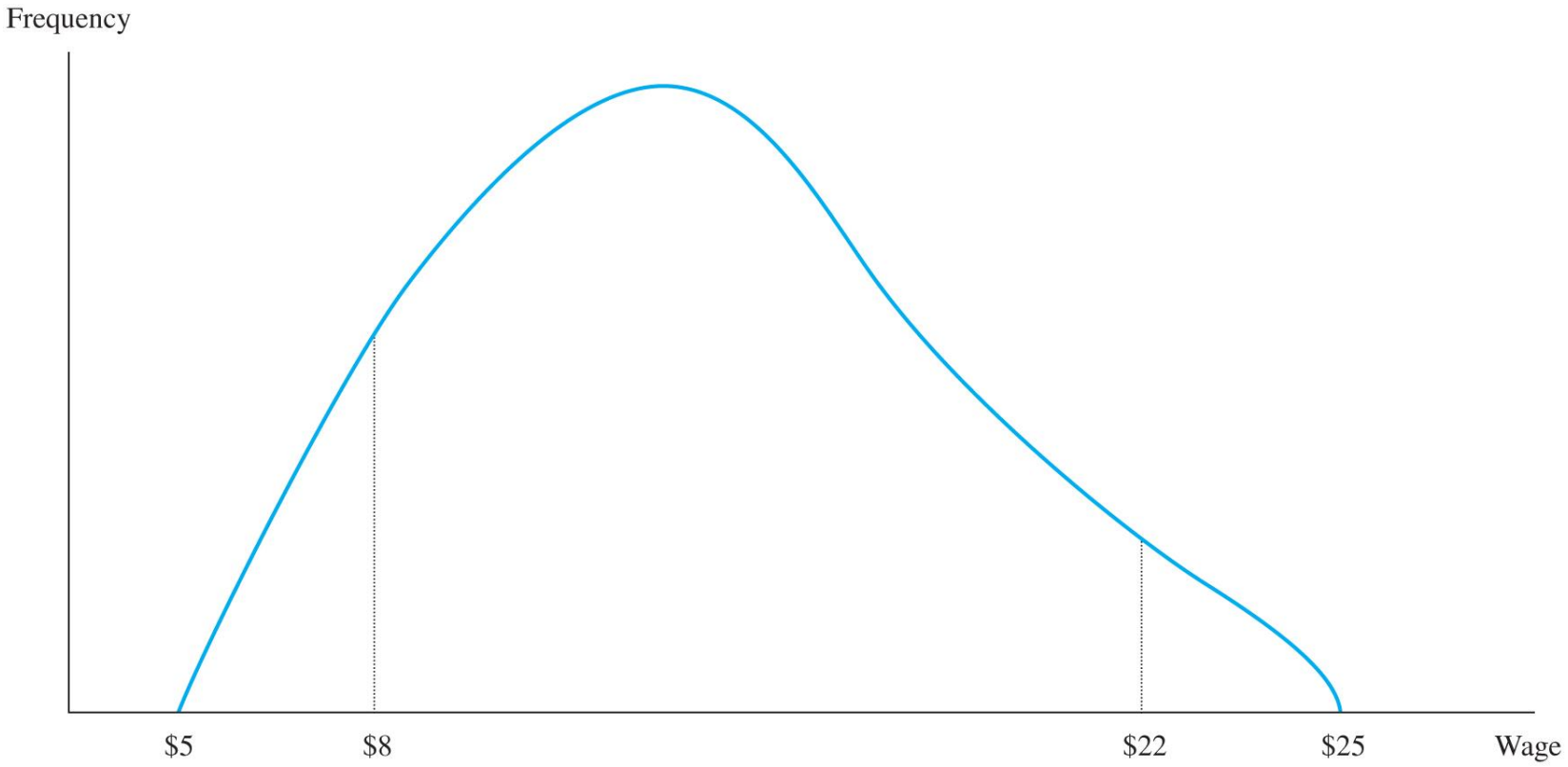
Job Search

The asking wage makes the worker indifferent between continuing his search activities and accepting the job offer at hand.

An increase in the benefits from search raises the asking wage and lengthens the duration of the unemployment spell.

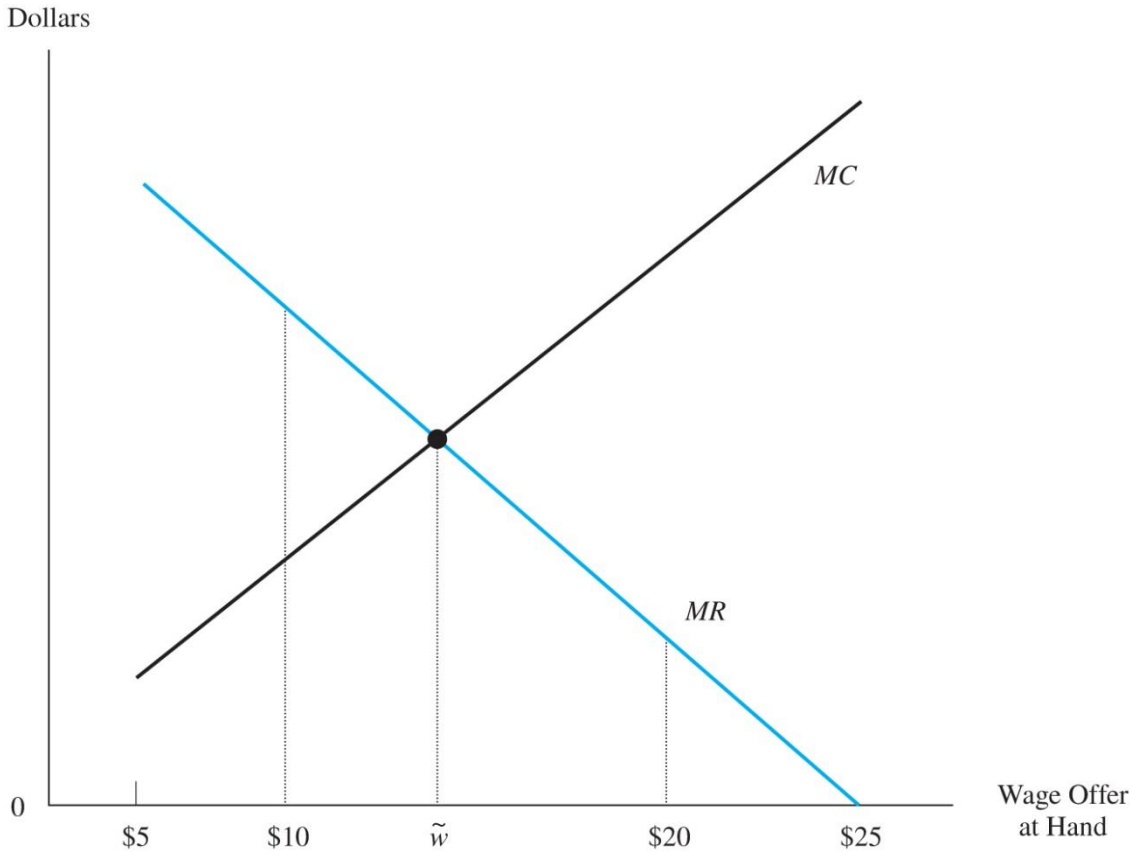
An increase in search costs reduces the asking wage and shortens the duration of the unemployment spell.

The Wage Offer Distribution



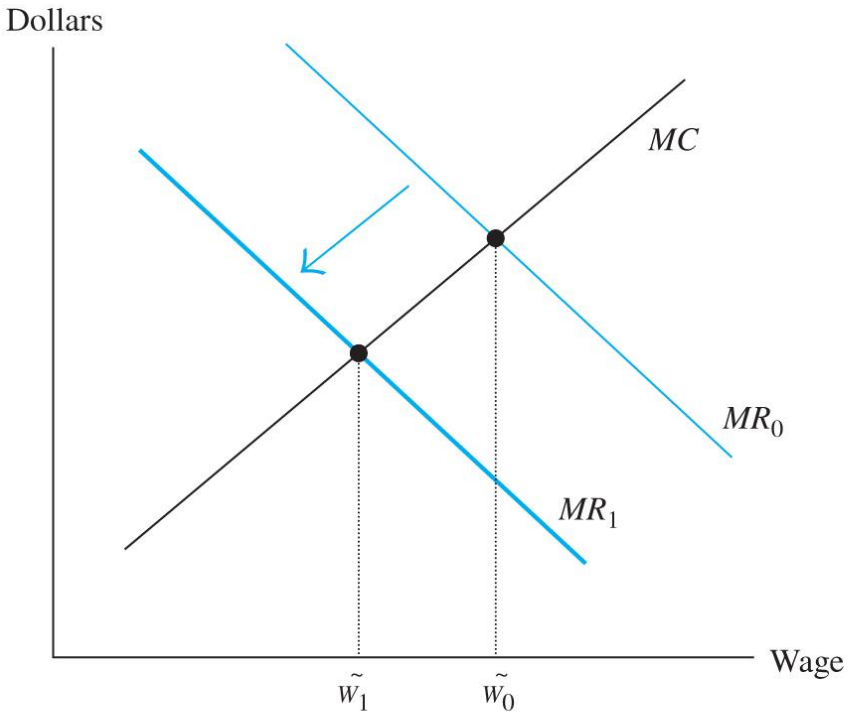
The wage offer distribution gives the frequency distribution of potential job offers. A given worker can get a job paying anywhere from $5 to $25 per hour.

Determination of the Asking Wage

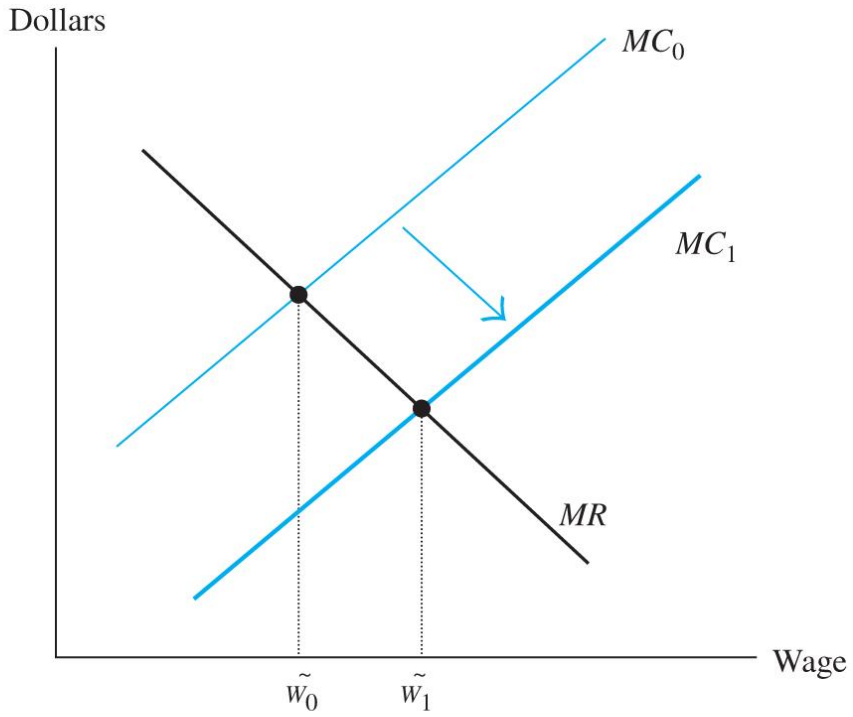


The marginal revenue curve gives the gain from an additional search. It is downward sloping because the better the offer at hand, the less there is to gain from an additional search. The marginal cost curve gives the cost of an additional search. It is upward sloping because the better the job offer at hand, the greater the opportunity cost of an additional search. The asking wage equates the marginal revenue and the marginal cost of search.

Discount Rates, Unemployment Insurance, and the Asking Wage



(*a*) Increase in Discount Rates



(*b*) Increase in Unemployment Benefits

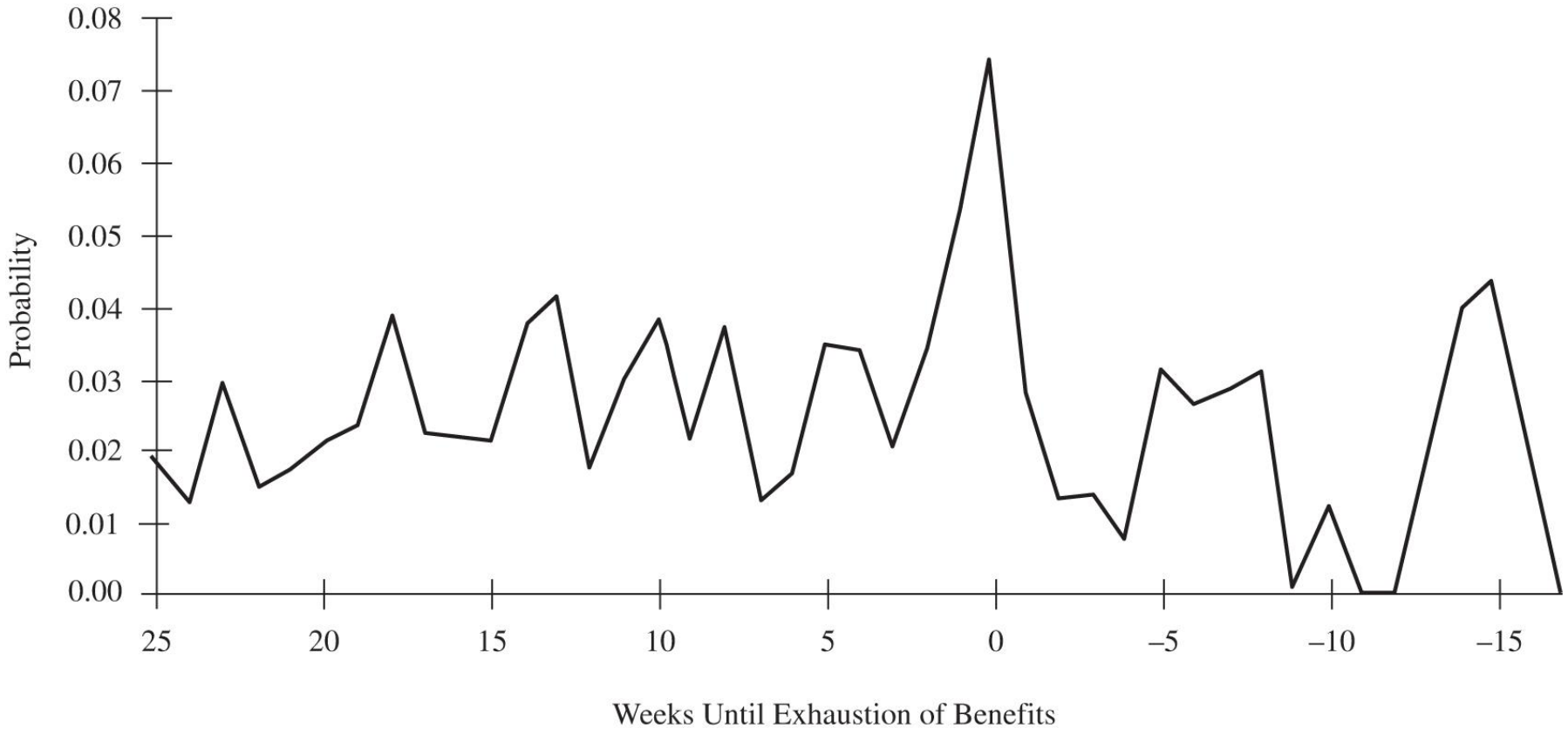
Unemployment Compensation

Unemployment benefits are typically paid up to 26 weeks of unemployment, but this length is frequently extended by Congress during recessions.

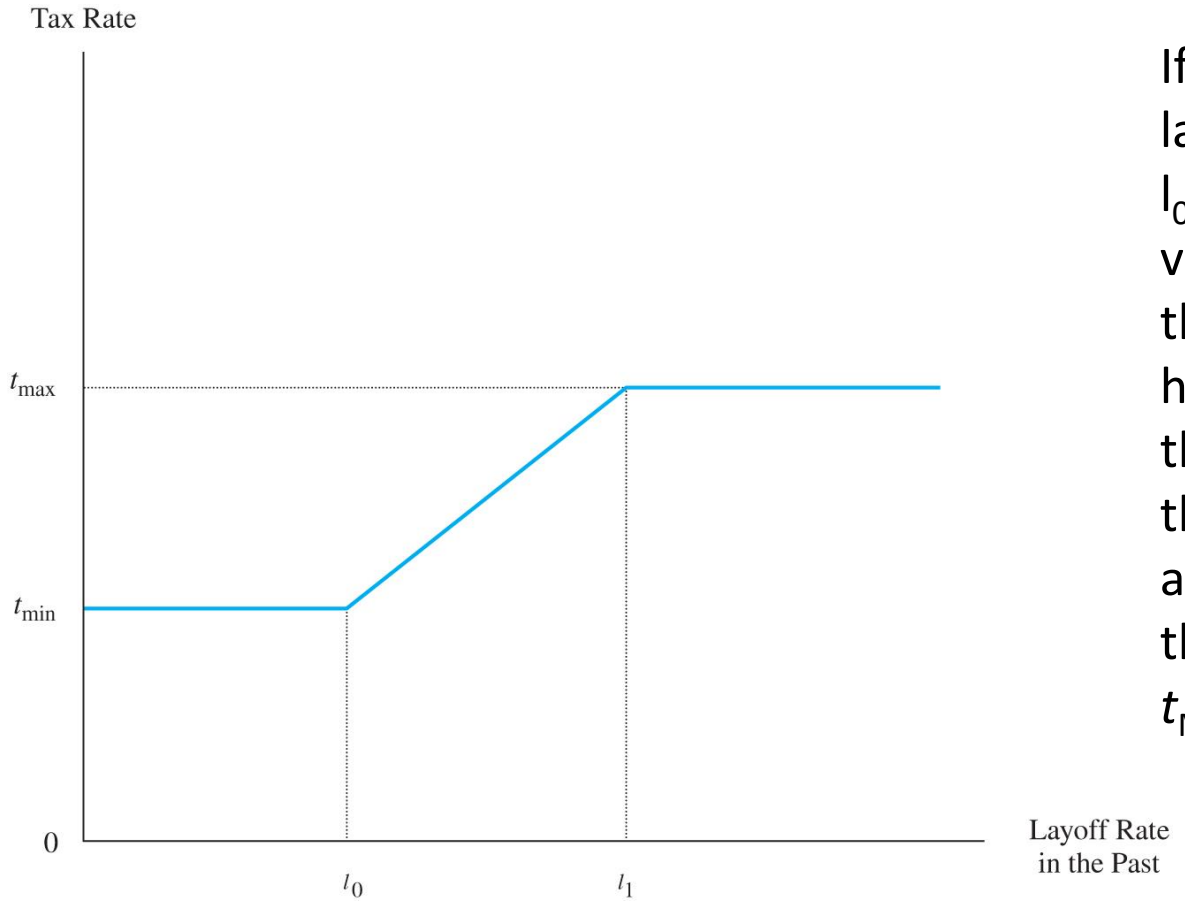
The level of unemployment benefits depends on previous earnings. The **replacement ratio** averages about 60 percent for low-wage workers and about 25 percent for high-wage workers.

Unemployment insurance lengthens the duration of unemployment spells and increases the probability that workers are laid off temporarily.

The Probability of Finding a New Job and UI Benefits



Funding the UI System: Imperfect Experience Rating



If the firm has very few layoffs (below threshold l_0), the firm is assessed a very low tax rate to fund the UI system. If the firm has had many layoffs in the past (above some threshold l_1), the firm is assessed a tax rate, but this tax rate is capped at t_{MAX}.

The Intertemporal Substitution Hypothesis

The intertemporal substitution hypothesis argues that the huge shifts in labor supply observed over the business cycle may be the result of workers reallocating their time so as to purchase leisure when it is cheap (that is, during recessions).

The Sectoral Shifts Hypothesis

The sectoral shifts hypothesis argues that structural unemployment arises because the skills of workers cannot be easily transferred across sectors.

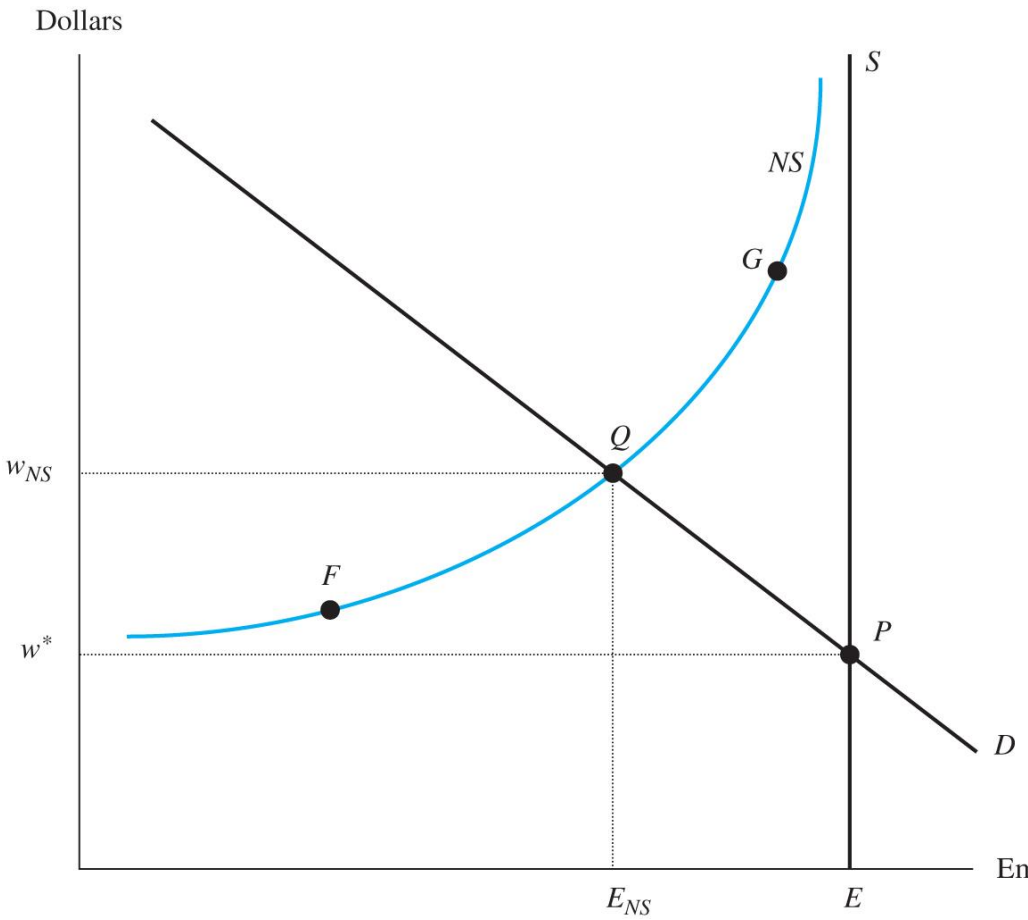
The skills of workers laid off from declining industries have to be retooled before they can find jobs in growing industries.

Efficiency Wages and Unemployment

Efficiency wages arise when it is difficult to monitor worker output.

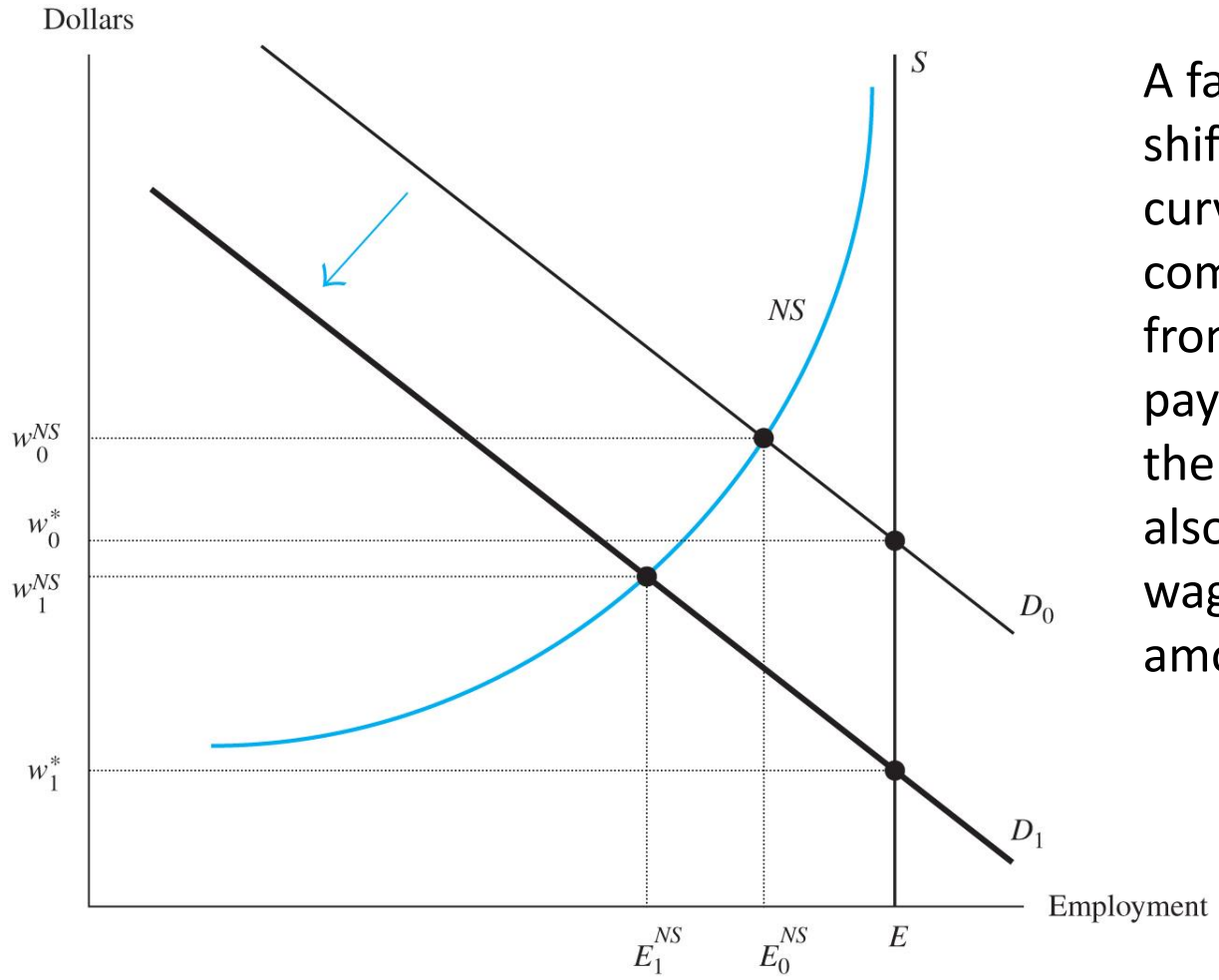
The above-market efficiency wage generates involuntary unemployment.

The Determination of the Efficiency Wage



If shirking is not a problem, the market clears at wage w^* (where supply *S* equals demand *D*). If monitoring is expensive, the threat of unemployment can keep workers in line. If unemployment is high (point *F*), firms can attract workers who will not shirk at a very low wage. If unemployment is low (point *G*), firms must pay a very high wage to ensure that workers do not shirk. The efficiency wage w_{NS} is given by the intersection of the no-shirking supply curve (*NS*) and the demand curve.

The Impact of an Economic Contraction on the Efficiency Wage



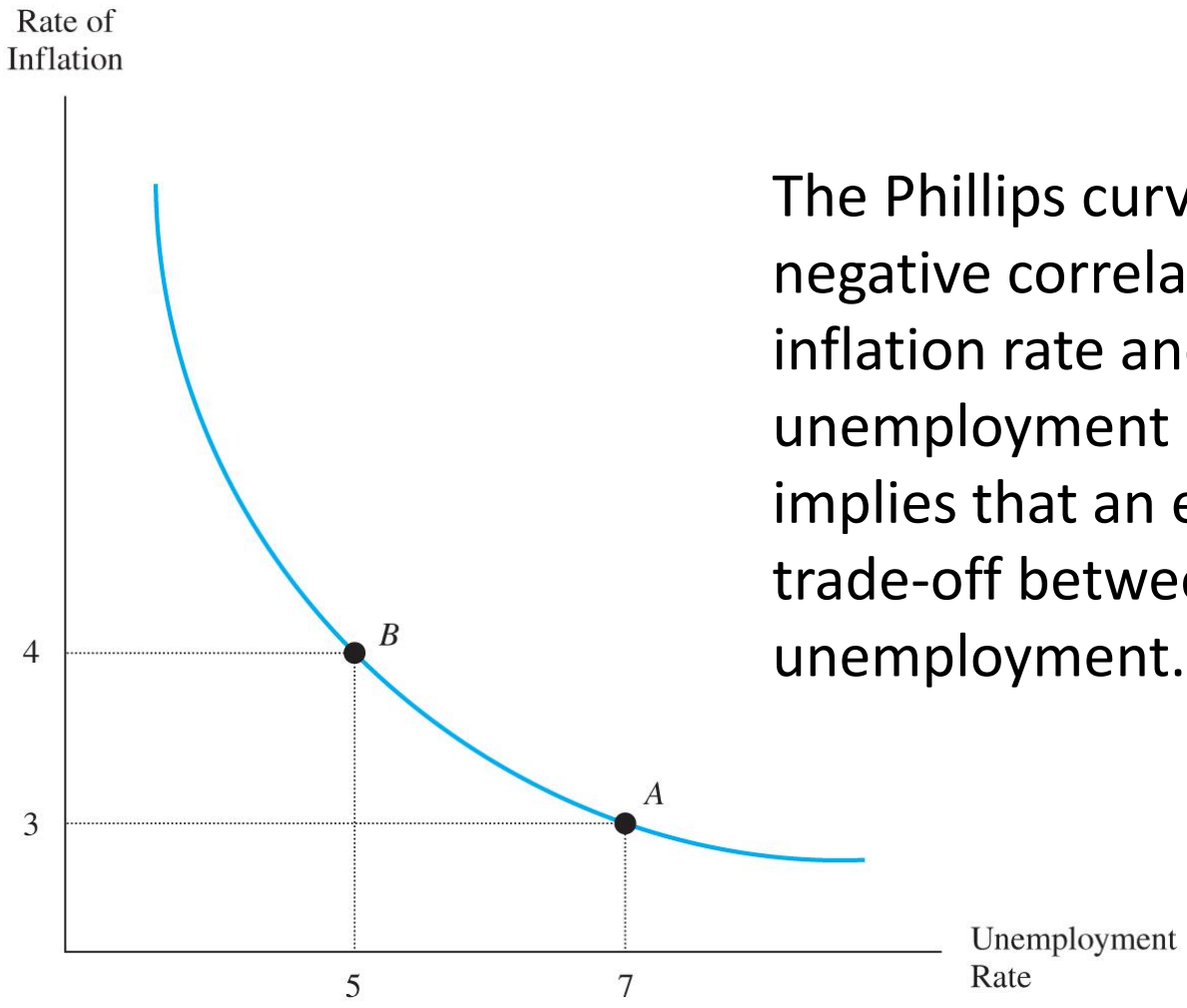
A fall in output demand shifts the labor demand curve from D_0 to D_1. The competitive wage falls from w^*_0 to w*. If firms pay an efficiency wage, the contraction in demand also reduces the efficiency wage but by a smaller amount.

The Phillips Curve

A downward-sloping Phillips curve can only exist in the short run.

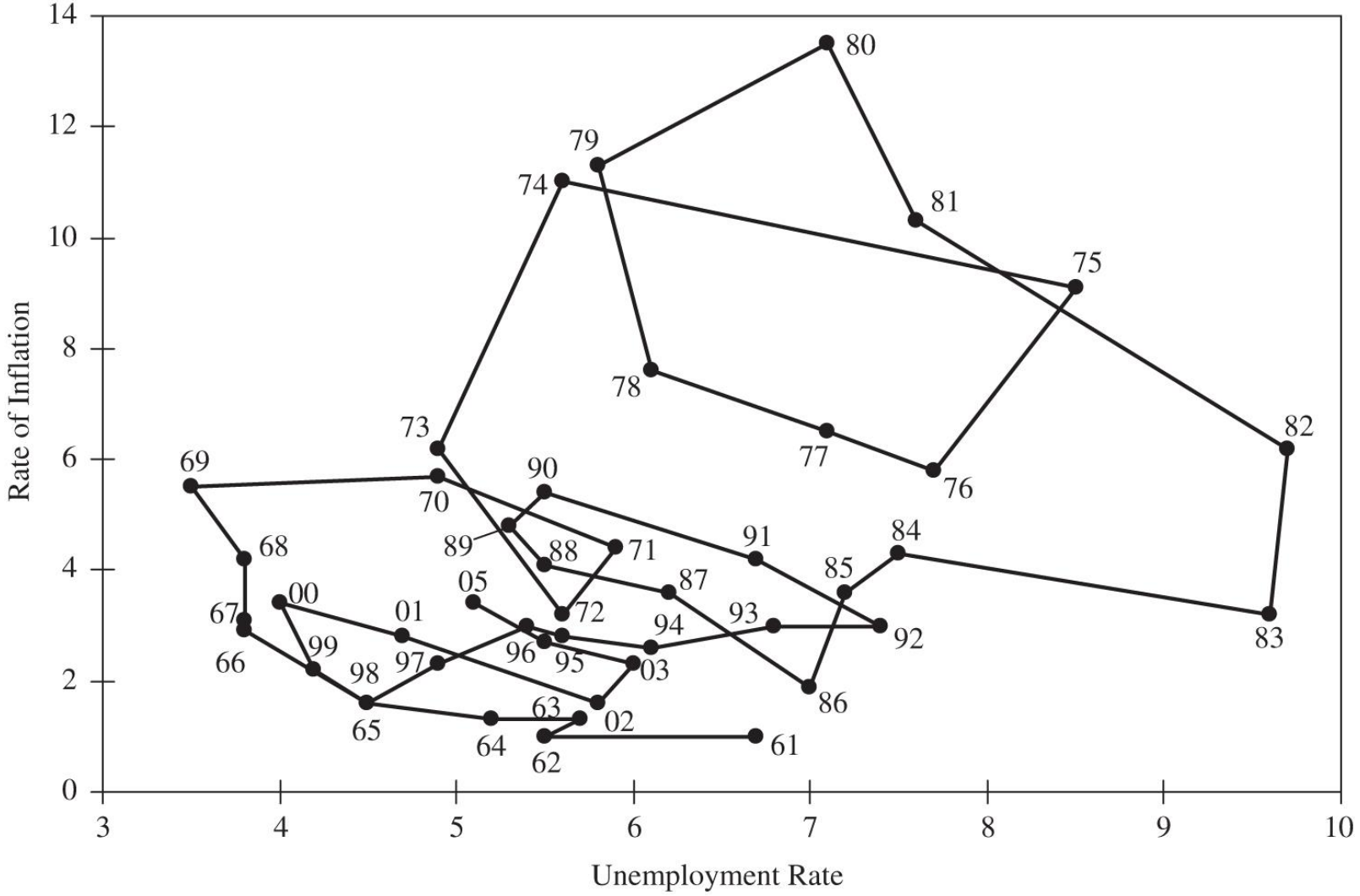
In the long run, there is no trade-off between inflation and unemployment.

The Phillips Curve

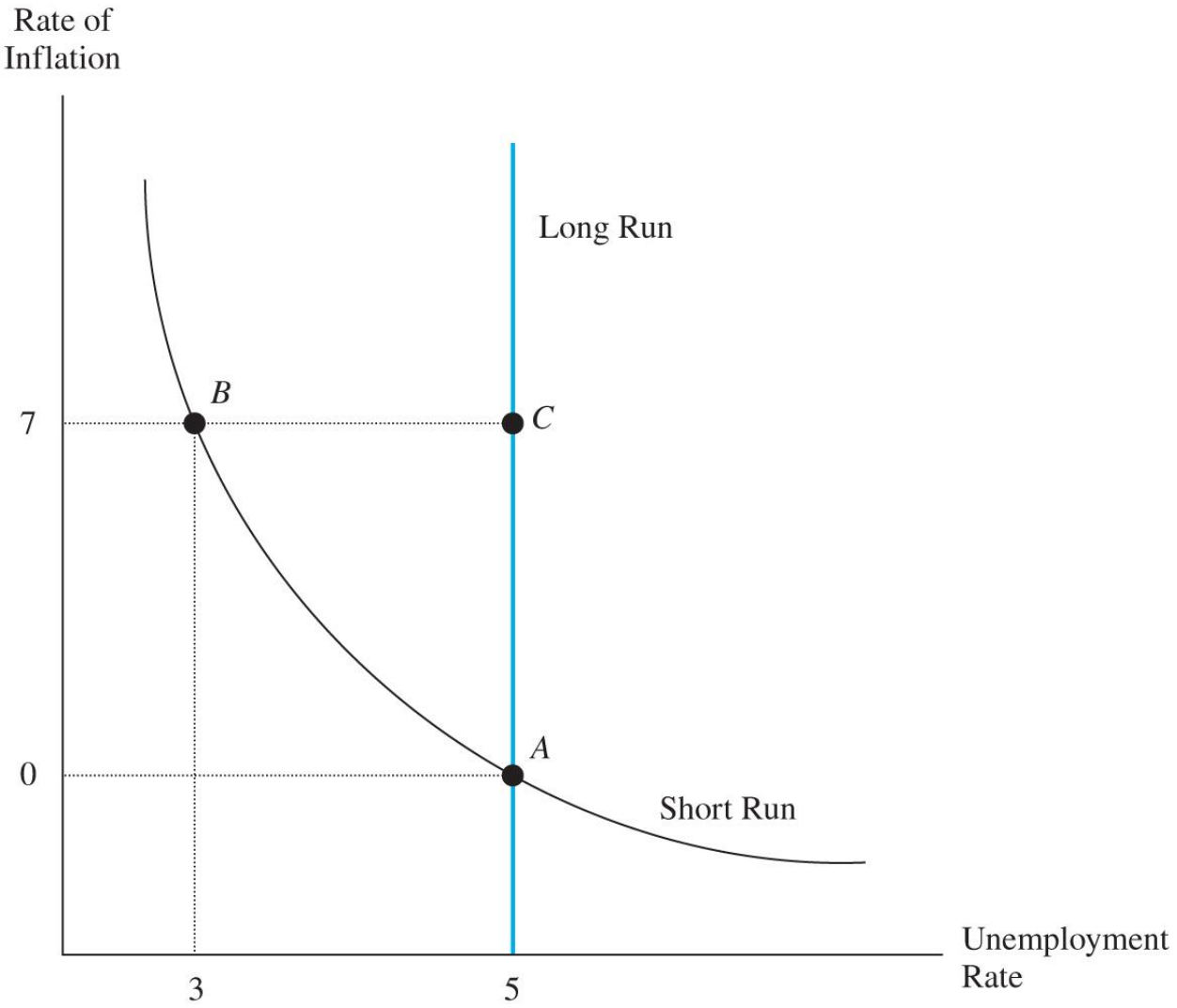


The Phillips curve describes the negative correlation between the inflation rate and the unemployment rate. The curve implies that an economy faces a trade-off between inflation and unemployment.

Inflation and Unemployment in the United States, 1961-2005



The Short-Run and Long-Run Phillips Curves



The Short-Run and Long-Run Phillips Curves

The economy is initially at point *A* (on the previous graph); there is no inflation and a 5 percent unemployment rate.

If monetary policy increases the inflation rate to 7 percent, job searchers will suddenly find many jobs that meet their reservation wage and the unemployment rate falls in the short run, moving the economy to point *B*.

The Short-Run and Long-Run Phillips Curves

Over time, workers realize that the inflation rate is higher and will adjust their reservation wage upward, returning the economy to point *C.*

In the long run, the unemployment rate is still 5 percent, but there is now a higher rate of inflation. In the long run, therefore, there is no trade-off between inflation and unemployment.