# Chapter 9

# Unemployment and Its Natural Rate

# Why Do We Care about Unemployment?

**Unemployment imposes *costs* on society:**

## Loss of income and output

- Unemployed workers lose income.
- Total output falls because fewer workers are productively employed.


## Personal and psychological costs

- Workers suffering long spells of unemployment lose their skills and self-esteem, and suffer from stress.

# The Problem of Unemployment

- The long-run problem
  - **Natural rate of unemployment** (Ch. 9)
  - NRU = U* = NAIRU = full employment
- The short-run problem
  - **Cyclical rate of unemployment**: the deviation of unemployment from its natural rate (Ch. 16)
  - Cyclical unemployment rate = U – U*

# Labour Force Survey

Statistics Canada measures unemployment by surveying households. Each adult surveyed (aged 15 and older) falls into one of three categories:

1) **Employed:** **a person who spent most of the previous week working at a paid job.**
2) **Unemployed:** **a person who does not have a job and is looking for a job.**
3) **Not in the labour force:** **a person who does not work and does not want to work, such as a full-time student, homemaker, or retiree.**

# Labour Market Statistics

**Labour force**: the total number of workers, including both the employed and the unemployed.

**Labour force = number of employed + number of unemployed**

**Unemployment rate**: the percentage of the labour force that is unemployed.

$$\text{Unemployment rate} = \frac{\text{number of unemployed}}{\text{labour force}} \times 100\%$$

**Labour force participation rate**: the percentage of the adult population that is in the labour force.

$$\text{Labour force participation rate} = \frac{\text{labour force}}{\text{adult population}} \times 100\%$$

# Example

| Adult Population by Group, 2009 | |
|---|---|
| # of employed | 16.85 million |
| # of unemployed | 1.52 million |
| not in labour force | 8.94 million |

Labour force =

Unemployment rate =

Adult population =

Labour force participation rate =

# Problems with the Unemployment Rate

1. **Discouraged workers: individuals who would like to work but have given up looking for a job.**

**Discouraged workers** are not counted as part of the labour force, so they will not show up in the unemployment statistics.

**Example:** The number of employed = 93, and the number of unemployed = 7.
Unemployment rate =
After a long time of unsuccessful job hunting, 2 of the 7 unemployed become discouraged and give up looking for jobs. Unemployment rate =

**The unemployment decreases even though the economy is NOT doing any better!**

# Problems with the Unemployment Rate

2. **Duration of unemployment: measures how long the unemployed are without work**

Example:

**Province A**
100 workers
5 workers are unemployed for a year
Unemployment rate = 5%

**Province B**
100 workers
5 workers are unemployed for a month
Unemployment rate = 5%

Two provinces have same unemployment rate, but the severity of unemployment is very different.

# Alternative Measures of Labour Underutilization

TABLE 9.2

**Alternative Measures of Labour Underutilization**

*This table shows various measures of joblessness for the Canadian economy. The data are averages for 2009. Figures may fail to sum exactly due to rounding.*

**Sources:** Statistics Canada, CANSIM II Tables 2820048 and 2820086, and authors' calculations.

| Measure and Description | Percentage of the Labour Force |
|---|---|
| Unemployed 1 to 4 weeks | 2.8% |
| Unemployed 5 to 13 weeks | 2.4 |
| Unemployed 14 to 25 weeks | 1.4 |
| Unemployed 26 to 52 weeks | 2.0 |
| Unemployed more than 52 weeks | 0.4 |
| **Official Unemployment Rate** | **8.3** |
| Discouraged searchers | 0.2 |
| Those awaiting recall | 0.5 |
| Involuntary part-time workers | 1.8 |
| Official rate + discouraged searchers + those awaiting recall + involuntary part-time workers | 10.8 |

# Natural Rate of Unemployment

**Natural rate of unemployment: the rate of unemployment to which the economy tends to return in the long run.**

**There are *always* some people who are unemployed even when the economy is doing well. The unemployment is never zero. Why?**

1) **Frictional unemployment:** unemployment that results because **it takes time for workers to search the jobs that best suit their tastes and skills.**

2) **Structural unemployment:** unemployment that results because there is a **surplus of labour in some labour markets. This happens when wages are too high (e.g. minimum wage).**

# Natural Rate of Unemployment and Cyclical Unemployment

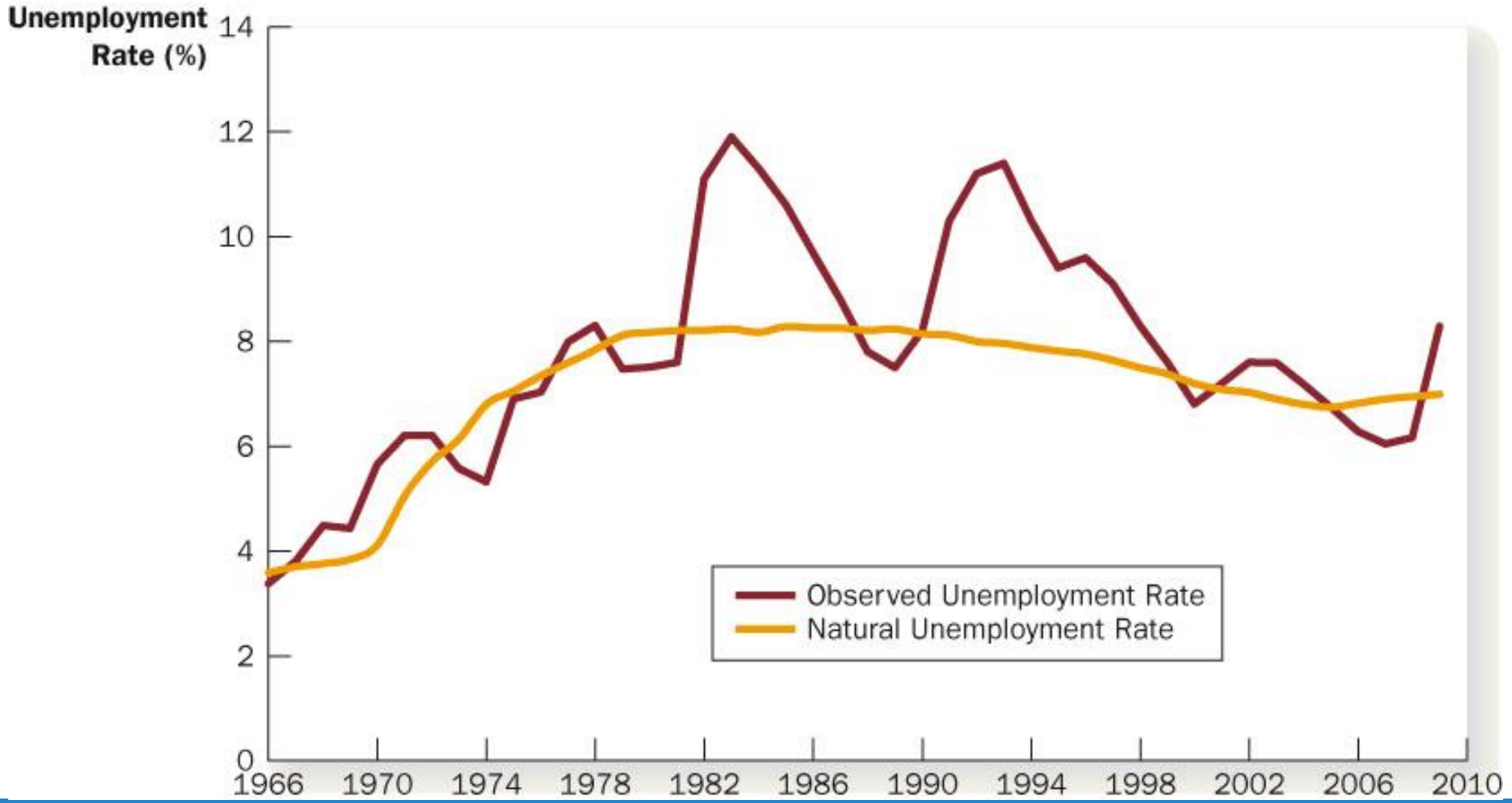
The natural rate of unemployment consists of frictional and structural unemployment and tends to be fairly steady over the long run.

When the economy is experiencing booms and recessions there is also *cyclical unemployment.*

Cyclical unemployment = **when unemployment has short run deviations from the natural rate**

Unemployment will be above the natural rate during recessions and below the natural rate during booms.

# Observed and Natural Unemployment Rates



# Exercise

In each of the following cases, what happens to the unemployment rate? Does the change in unemployment rate give an accurate impression of what's happening in the labour market?

1) Sue lost her job, and begins looking for a new one.

2) Jon, a steelworker who has been out of work since his mill closed last year, becomes discouraged and gives up looking for work.

3) Sam, the sole earner in his family, just lost his $80,000 job as a research scientist. Immediately, he takes a job at McDonald's until he can find another job in his field.

# Theories for the Natural Rate of Unemployment

1) Job Search Theory
2) Minimum-Wage Laws
3) Unions and Collective Bargaining
4) Theory of Efficiency Wages

# Job Search Theory

**Job search: the process by which workers find appropriate jobs given their tastes and skills.**

**Why is some frictional unemployment is inevitable?**

Frictional unemployment often occurs because of a change in the demand for labour among different firms, sectors, and industries, which is known as **sectoral shifts**.

There are workers continually entering and exiting the labour force, so there is always some frictional unemployment.

# Public Policy and Job Search

Government programs can help to reduce the amount of frictional unemployment.

- Government-run employment agencies give out information on job vacancies to speed up the matching of workers with jobs
- Public training programs aim to equip workers with the skills needed in growing industries.

WorkBC
Employment Services Centre

# Employment Insurance (EI)

EI = **temporary financial assistance for individuals between jobs.**

Benefits of EI:

- EI reduces the hardship of unemployment.
- EI reduces uncertainty over incomes.
- EI gives the unemployed more time to search, resulting in better job matches and thus higher productivity.

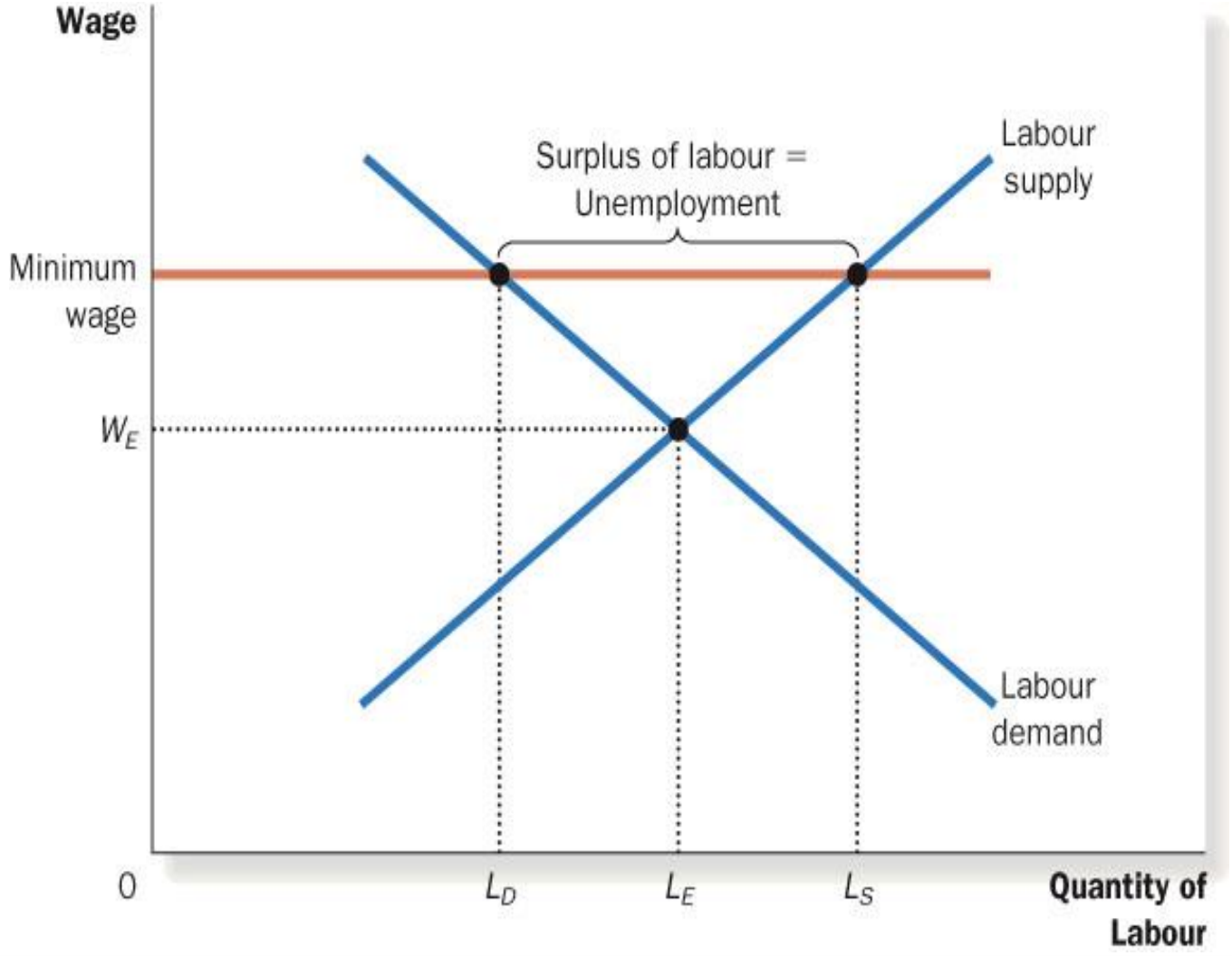
Costs of EI:

- EI increases the amount of unemployment that exists.


# Minimum Wage and Its Effects

When a minimum-wage law forces the wage to remain above the equilibrium wage in the labour market, the quantity of labour supplied is greater than the quantity of labour demanded.

**The resulting surplus of labour represents unemployment.**



# Unions and Collective Bargaining

**Union**: **a worker association that bargains with employers over wages and working conditions.**

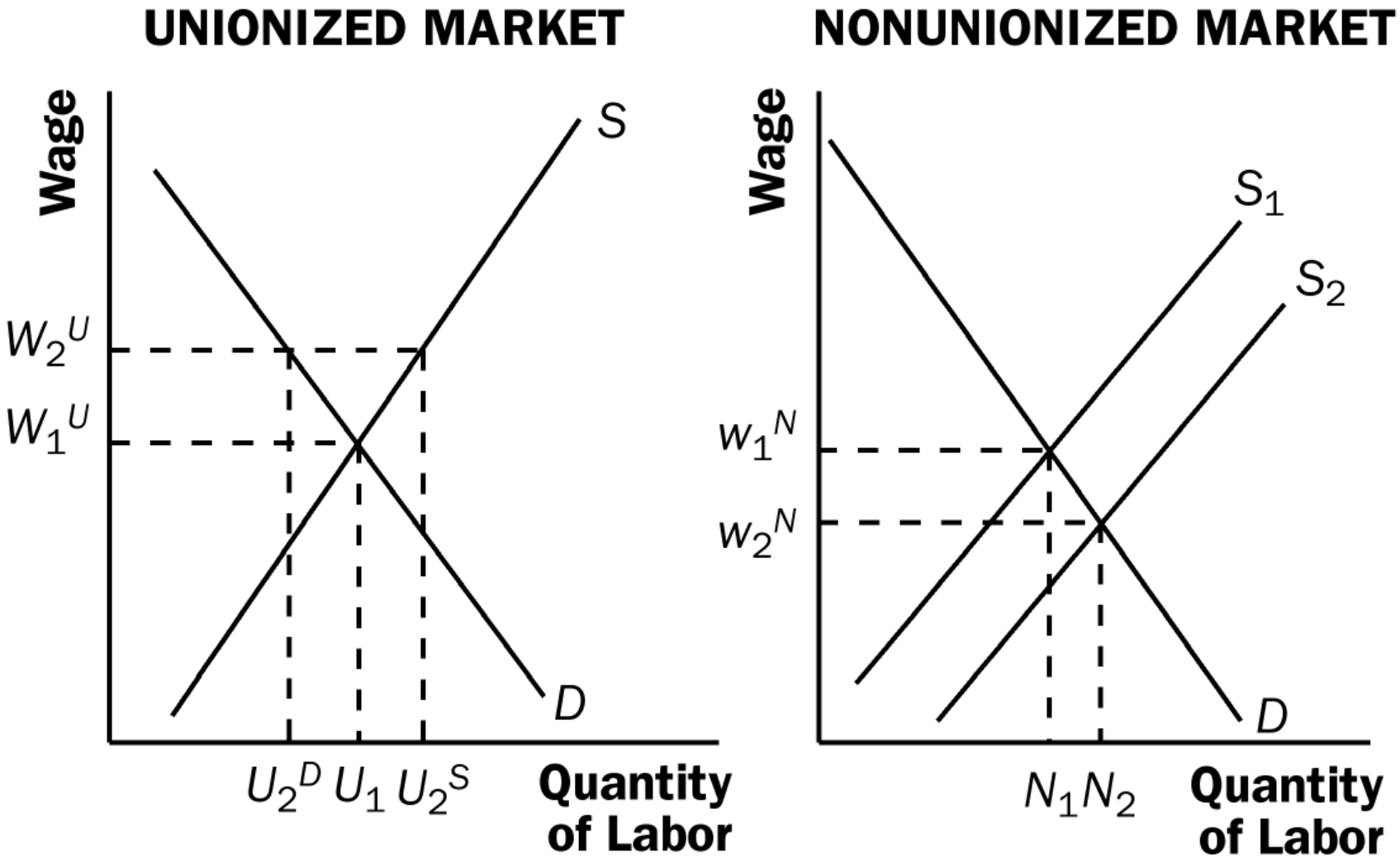
**Collective bargaining**: **the process by which unions and firms agree on the terms of employment**

Union workers typically earn 10 to 20 percent more than similar workers who do not belong to unions.

**Two effects:**

1) Unions raise wages above the equilibrium wage → **unemployment**
2) The supply of workers in non-union firms will increase, **pushing wages at those firms down.**

# Effects of Union on Two Labour Markets



# Are Unions Good or Bad?

**Critics:**

Unions are cartels. They raise wages above the equilibrium, which causes unemployment. Some workers benefit at the expense of other workers who cannot get a job.

**Advocates:**

Unions counter the market power of large firms, and make firms more responsive to workers' concerns.


# Theory of Efficiency Wages

**Efficiency wage: an above-equilibrium wage paid by firms in order to increase worker productivity.**

**Example**: Henry Ford and $5-a-day wage (about twice the average rate at the time)

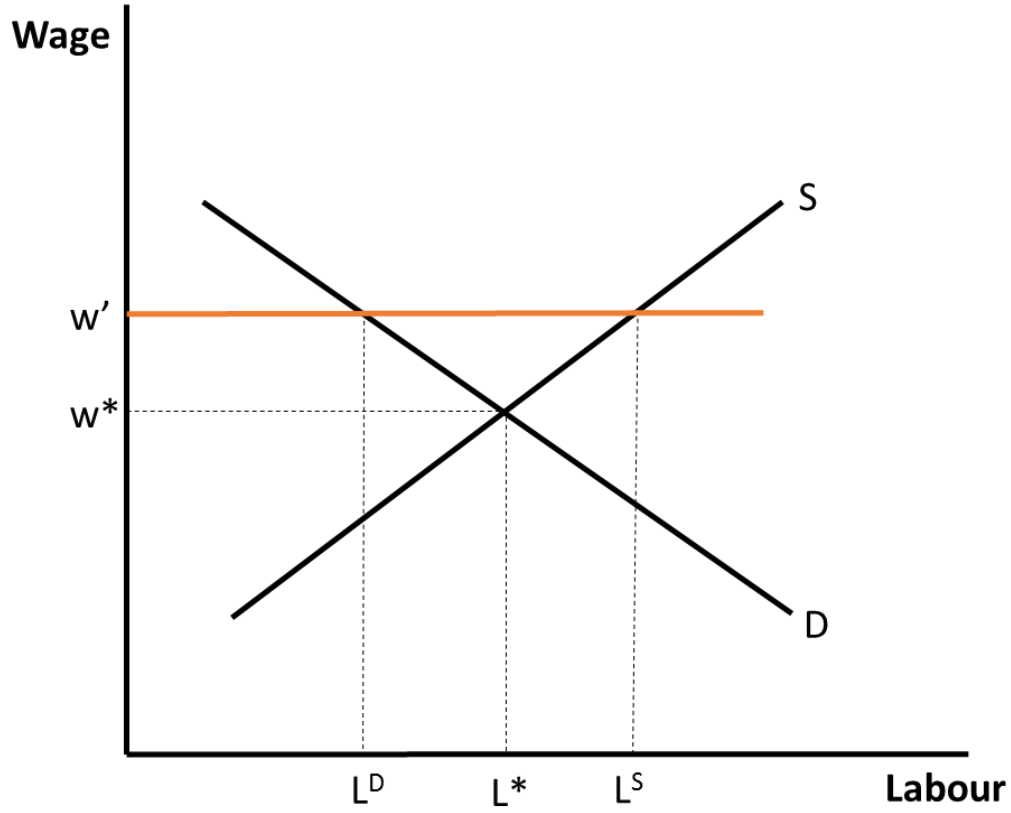
Workers are very motivated to keep their job, so they work harder.

Efficiency wages raise the wage above the market equilibrium wage, resulting in unemployment.

# Why do Firms 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 and **more productive.**
2) **Worker turnover**: Recruiting and training new workers is costly. Paying high wages **gives workers more incentive to stay and reduces turnover.**
3) **Worker effort**: higher wages result in **more effort, reduce shirking.**
4) **Worker quality**: Offering higher wages attracts **better job applicants.**

# Efficiency Wages




Efficiency wages have the same effect on the labour market as minimum-wage, unions and collective bargaining.

For all three theories, the wage in the market is higher than the equilibrium wage. As a result, unemployment increases.

However the reasons of the above equilibrium wage are different.

# Exercise

How would the following affect frictional or structural unemployment?

1) The government eliminates the minimum wage.
2) The government increases employment insurance (EI) benefits.
3) A new law bans labour unions.
4) More workers post their resumes at Job.com, and more employers use Job.com to find suitable workers to hire.
5) Sectoral shifts become more frequent.