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# Economics

for the IB Diploma

2<sup>nd</sup> Edition

 **Pearson**

**SEAN MALEY**  
**JASON WELKER**



# Economics

for the IB Diploma

2<sup>nd</sup> Edition

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A photograph of a male warehouse worker in profile, wearing a yellow hard hat and a high-visibility yellow vest over a dark blue long-sleeved shirt. He is reaching up to a high metal shelf to handle a large white box. The background shows a well-lit warehouse with numerous shelves stacked with cardboard boxes and other supplies.

## Macroeconomic objectives – low unemployment

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## Concepts

The level of employment is a critical indicator of an economy's overall health. Therefore, low unemployment is a primary macroeconomic objective of policy makers the world over. Employment is viewed as a measure of overall **economic well-being** because wages from work are most households' primary source of income, and national income is a measure of living standards.

**Changes** in unemployment can be rapid, and can cause major social disruption as a result. While some forms of unemployment may be accepted as normal, rising unemployment levels can threaten the **interdependence** of the economy's circular flow. As fewer people have jobs, spending on goods and services falls, thereby reducing revenues for firms. Such events inspire governments to stage forms of **intervention** to reduce the causes and effects of unemployment.

## 15.1 The meaning of unemployment

### Learning outcomes

- Explain what is meant by unemployment.
- Define the unemployment rate.
- Explain how the unemployment rate is calculated.
- Calculate the unemployment rate from a set of data.
- Explain the difficulties in measuring unemployment, including hidden unemployment and unemployment rate disparities by subgroups.

### What is the unemployment rate and how is it calculated?

From an economic perspective, to be unemployed means that you are actively seeking but unable to find work. A person who is not working is not necessarily unemployed. According to the United Nations International Labour Organization (ILO), to be considered unemployed in an economic sense a person must 'be out of work and willing to accept a suitable job or start an enterprise if the opportunity arises, and actively looking for ways to obtain a job or start an enterprise'.

Governments monitor the level of unemployment by calculating the unemployment rate, which is found by dividing the number of unemployed people by the labour force then multiplying by 100 to establish a percentage.

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

According to the World Bank, a country's labour force is the sum of employed and unemployed persons aged 15–64 (although the exact age range may vary from nation to nation). Persons who are neither employed nor seeking employment are not in the labour force; this includes retired persons, full-time students, those taking care of children or other family members, and others who are neither working nor seeking work.



Examples of people who are part of the labour force include the following.

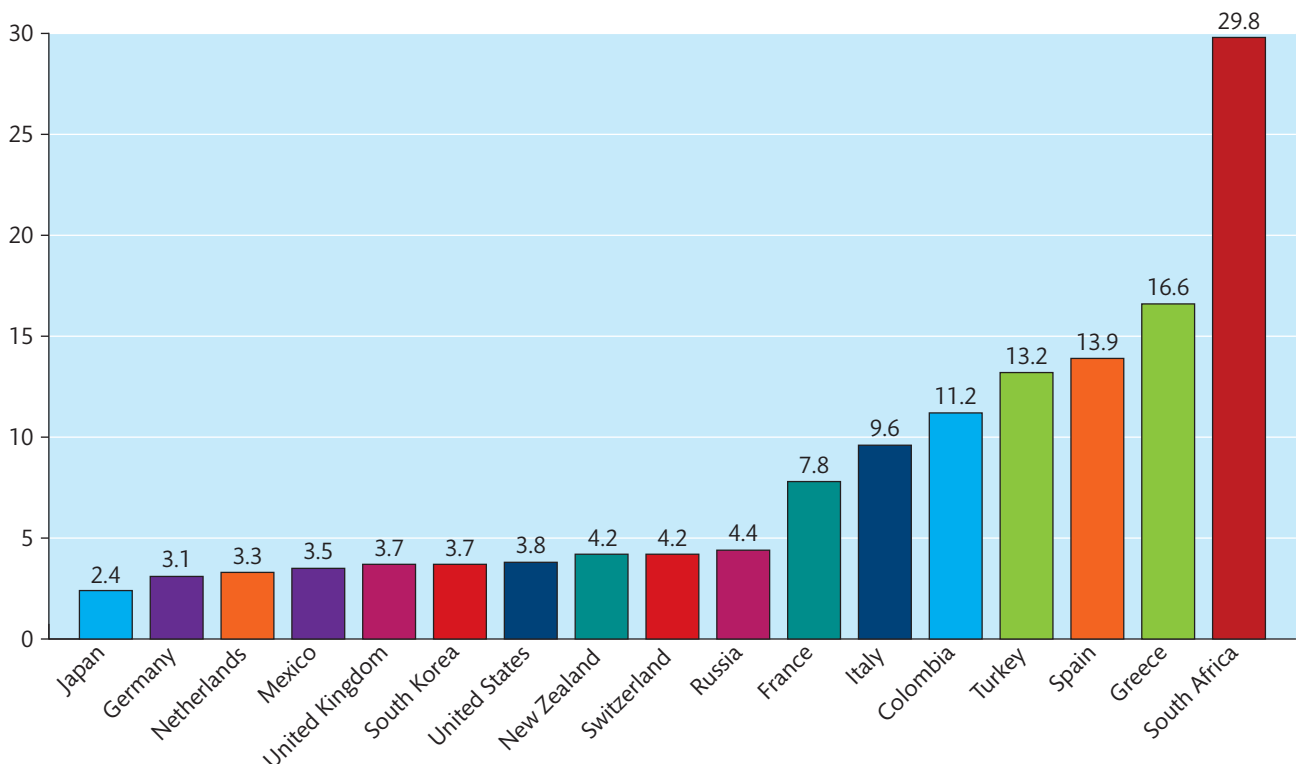
- A part-time retail sales clerk, who is also going to college, is part of the labour force because she is employed.
- A full-time nurse is part of the labour force because he is employed.
- A factory worker whose plant closed and who is applying for jobs at other firms is part of the labour force because she is unemployed.
- A recent college graduate interviewing at different companies for his first job is part of the labour force because he is unemployed.

Examples of people who are not part of the labour force include the following.

- A stay-at-home parent is not part of the labour force because he or she is not employed nor seeking employment.
- A college graduate who volunteers in a community centre is not part of the labour force because, although she is working, she is not formally employed nor is she seeking employment.
- A discouraged worker who has been looking for a job for 18 months but has given up the job search is not part of the labour force because he is no longer seeking employment.
- An engineer who goes back to school to earn a teaching degree is not part of the labour force because she is not currently seeking employment.

Figure 15.1 shows average unemployment rates over the years 2018–20 for 17 developed and developing countries. National governments employ their own means of collecting unemployment data, but the Organisation for Economic Co-operation and Development (OECD) uses the method devised by the ILO. Therefore, the data in

**Figure 15.1** Average unemployment rates for 17 selected developed and developing countries, 2018–20



**Research and inquiry**

For a larger set of data, search online for data from the World Bank and find the unemployment rates and compare them for the following groups.

- Home region: find the rates for your home country and two nearby countries.
- Low income: find the rates for three low income countries.
- High income: find the rates for three high income countries.

- 1 How wide is the variance between them?
- 2 What might account for those differences?

**Theory of knowledge**

It is often the case that two or more economists observing an identical set of macroeconomic data (such as the unemployment rate for a particular country), arrive at very different explanations of events. How can an ability to understand different perspectives account for this difference?

Figure 15.1 can be compared with confidence despite the fact that the figures reported by each individual nation may vary due to different methods of collection.

Unemployment rates vary across countries depending on the current macroeconomic conditions and institutional factors in each, such as the existence of social safety nets, the education levels of the workforce and the evolving structures of the economy, among others.

**Worked example**

In 2019, Brazil's labour force totalled approximately 106 million people. The number of people of working age, but who were unable to find work (the unemployed) in Brazil totalled 12,751,800.

What is Brazil's unemployment rate?

$$\begin{aligned}\text{Unemployment rate (UR)} &= \frac{\text{number of unemployed}}{\text{labour force}} \times 100 \\ &= \frac{12,751,800}{106,000,000} \times 100 \\ &= 12.03\%\end{aligned}$$

**What are the difficulties in measuring unemployment?****Methods of data collection**

The source and method of calculating the unemployment rate can vary significantly, affecting the degree of comparability between countries. One method is to report unemployment claims. Another is to rely on survey data of thousands of people. Counting unemployment benefit claims may undercount the actual rate of unemployment, especially during prolonged recessions, which may last longer than the period of time government provides benefits to unemployed workers. Survey methods are often considered more reliable but may also miss marginal populations (immigrants, undocumented workers) that are unlikely to be captured by household surveys.

**Disparities by group**

Subgroups within the broad population may have higher or lower unemployment rates than the overall national figure.

- **Regional disparities:** Larger countries tend to have greater variance than smaller ones. Turkey is among the countries with the largest variance, with a 20-point difference between regions with the lowest and highest rate.
- **Ethnic/racial disparities:** Unemployment rates are typically higher among ethnic minorities, especially those that have experienced formal and informal discrimination. Countries that identify indigenous populations typically also report higher unemployment rates among those populations.



- **Gender variance:** The ILO reports that globally approximately 75% of men participate in the labour force, compared to only 50% of women. Many women, therefore, may not have work but are not counted in the official unemployment figures (see below). Officially, the unemployment rate for women is 6.1% while for men it is only 5.1% (ILO). However, this varies tremendously by country. Algeria reports that unemployment for women is twice as high as for men, while Saudi Arabia reports four times the level of unemployment for women as for men.

## What is 'hidden unemployment?'

The true level of joblessness can be masked by the specific rules guiding the calculation of the unemployment rate: what is left uncounted is considered hidden unemployment.

### *Workers leave the labour force*

Any unemployed worker who leaves the labour force may still be without a job, but will not be counted as unemployed. At times, this leads to the unemployment rate significantly undercounting the actual number of jobless. People leave the labour force for many reasons, including:

- Forced retirement: Workers above the age of 50 may find it difficult to find employment and retire 'early'.
- Return to school: Some choose to go back to school for more training rather than compete in a bad labour market.
- Family childcare: In countries without subsidised childcare, workers may decide their low wages are not sufficient to cover child care costs and so decide to stay at home.

### *Discouraged workers*

Especially during recessions, when the number of cyclically unemployed people grows dramatically, workers may find it difficult to find new jobs. Whatever their motivations, when discouraged workers stop looking for a job, they leave the labour force, and are therefore no longer considered unemployed. These people, when added to the official figures, can raise the 'true' level of unemployment by several percentage points.

### *Part-time workers still technically employed*


A worker paid for 1 hour of work per week is still considered employed, even if that worker is seeking a full-time job. The official unemployment rate will not show the degree to which workers seeking full-time employment can only find part-time work.

### *The quality of employment is unknown*

Unemployment figures do not reflect the level of wages or the working conditions of a country's labour force. Poor countries with few social services may have low unemployment rates, yet their workers may experience a high level of poverty relative to workers in richer economies, simply because the alternative is absolute poverty, or the state of being unable to afford even the basic necessities of life.

**Video suggestions:**

You've read about it, now you can review what you've just learned by watching a few videos by the author!

 Simply click here in your eBook for videos on the limitations of the unemployment rate.

**Research and inquiry**

You can research the gender unemployment gap in your country by using the online tool provided by the ILO.

- 1 Is it higher or lower than the world's average gap?
- 2 If higher, what legal and cultural factors may have contributed to this result?
- 3 If lower, what legal and cultural factors may influence this result?

**Underemployment**

The unemployment rate does not reflect the degree to which qualifications match actual jobs. Highly skilled workers working low-skills jobs (engineers working as housekeepers) are examples of such *underemployment*. Countries with a poor match often have workers shifting to informal and temporary work to earn money.

**Exercise**

Calculate the missing values in this table of labour market data.

Country	Labour force (millions)	Number of unemployed (millions)	Unemployment rate (%)
Germany	43.5	1.3	
Tunisia		0.64	16
South Korea	28.3		4.1
Mexico	57.1	1.94	

**15.2 What are the causes of unemployment?****Learning outcomes**

- Explain, using a diagram, how the labour market sets the equilibrium wage and quantity of labour.
- Describe, using examples, the meaning of frictional, structural, seasonal and cyclical (demand-deficient) unemployment.
- Distinguish between the causes of frictional, structural, seasonal and cyclical (demand-deficient) unemployment.
- Explain, using a diagram, how a deflationary gap causes cyclical unemployment.
- Explain, using a diagram, that structural unemployment is caused by changes in the demand for particular labour skills or changes in the geographical location of industries.
- Explain, using a diagram, how labour market rigidities, such as a minimum wage, contribute to structural unemployment.
- Explain that the natural rate of unemployment (NRU) is composed of structural and frictional unemployment.
- Evaluate government policies to reduce the different types of unemployment.

**What is the labour market?**

A labour market is where households and firms meet to buy and sell labour. In the real world, labour markets are not tangible places, rather they exist for different industries where there are employers looking to hire workers and households looking for jobs.



An example of a labour market is that for international school teachers: around the world there are thousands of international schools that employ tens of thousands of teachers across all subject areas.

In the market for any particular type of labour, it is households that provide workers to an industry and firms that demand workers. In Chapter 7 we studied product markets, in which households are the demanders and firms are the supplier. In labour markets, which are an example of a factor market, the roles are reversed. The supply curve therefore reflects the willingness of households to provide workers to a particular market at a range of wage rates (the price of labour) and the demand curve represents the willingness of firms to hire workers at a range of wages.

Consider our example, one with which you might relate, of the market for international school teachers. In the international teacher marketplace the buyers, representing the demand for labour, are international schools and the sellers, representing the supply of labour, are households whose family members are willing and able to teach in international schools. Much like in a product market, there is a 'price' for labour, which is called the *wage rate*, and there is a quantity of labour, which can be interpreted as the number of workers currently employed or the total number of hours worked, depending on how you look at it.

The equilibrium wage rate and quantity of labour employed in any particular market is determined by the demand for and supply of labour at any given time. In Figure 15.2 the demand for labour (DL) represents how many teachers all the international schools are willing and able to employ at a range of wage rates. At higher wage rates, the number of teachers demanded is lower, as schools will choose to have larger class sizes or offer more online classes due to the high cost of employing teachers. However, at lower wage rates the number of teachers demanded is much greater, and schools will have much smaller class sizes and opt for more face-to-face classes due to the comparatively low cost of employing teachers. In other words, there is an inverse relationship between the wage rate and the quantity of labour demanded.

Labour supply (SL), representing all households who might be willing to enter the international teaching field, is up-sloping, reflecting the direct relationship between the wage rate and the quantity of labour supplied. At higher wages more people are willing to become international teachers, due to the comparatively high income relative to

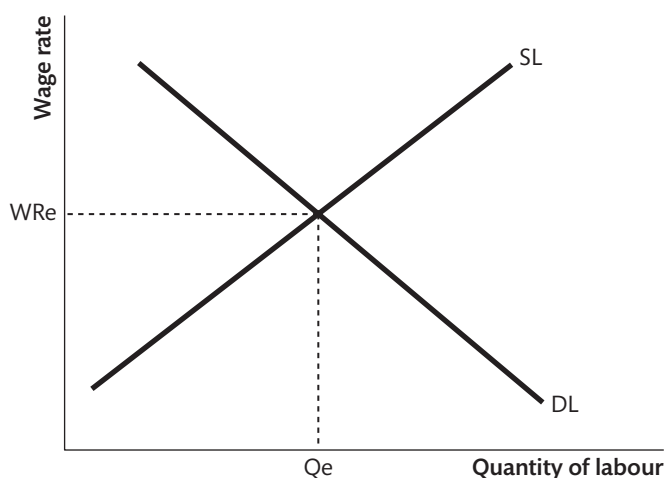


Figure 15.2 Market for international school teachers

other professional fields. At lower wage rates, fewer people are willing to teach in international schools, since other careers will appear more attractive due to the low wage offered to teachers.

As in all markets, the equilibrium level of employment ( $Q_e$ ) and wage rate ( $W_{Re}$ ) are where the demand and supply meet. Later in this chapter we will learn that unemployment arises due to a disequilibrium in the labour market, or when the wage rate does not adjust efficiently to the level of demand for and supply of a particular type of labour, resulting in structural unemployment. But first we will look at a type of unemployment that can occur in a nation as a whole, not just in a particular labour market. For this we use the AD/AS diagram, and then we will use the labour market diagram to demonstrate changes in a particular labour market.

## What happens when demand for all types of labour decreases?

### Cyclical (demand-deficient) unemployment

Without question, the type of unemployment that poses the greatest problems and, therefore, the one which policymakers attempt to avoid at all costs is cyclical unemployment. Cyclical unemployment affects all types of labour, not just workers in a particular labour market. Workers whose skills are in demand given the structure of the nation's economy but who lose their jobs because of a fall in total demand for the nation's goods and services are **cyclically unemployed**.

Cyclical unemployment arises due to fluctuations in the nation's business cycle. It is also referred to as demand-deficient unemployment (simply meaning workers lose their jobs because of weak demand). Cyclical unemployment occurs when a contraction in private or public spending (consumption, investment, government spending or net exports) reduces aggregate demand and leads to a fall in national output. Reduced output requires fewer workers, and so firms lay off workers.

The most dramatic example of cyclical unemployment in the modern era is almost certainly the increase in joblessness that resulted from the decline in economic activity accompanying the spread of the novel coronavirus, SARS-CoV-2, and the resulting Covid-19 pandemic of 2020. Most of the decade preceding the onset of the global pandemic had been characterised by growing economic output and record low unemployment rates the world over; but within the span of a couple of months, across countries both rich and poor, the unemployment situation rapidly deteriorated as economies were shut down and consumers forced to stay at home.

In the two months between February 2020 and April 2020, unemployment in the United States went from a near historic low of 3.5% to the highest level the country had seen since unemployment statistics began being measured in the 1950s, at 14.7% (Figure 15.3). Nearly 20 million Americans lost their jobs in the first two months of the Covid-19 pandemic: the result not of any shift in the structure of the American economy nor by the decision of millions of people to quit their jobs in search of another job, rather because of a massive fall in the total demand for goods and services brought on by the mandatory stay-at-home orders imposed on the citizens of all 50 states.

A public health crisis aside, cyclical unemployment is normally the result of more regular fluctuations in an economy's business cycle. For example, the last global

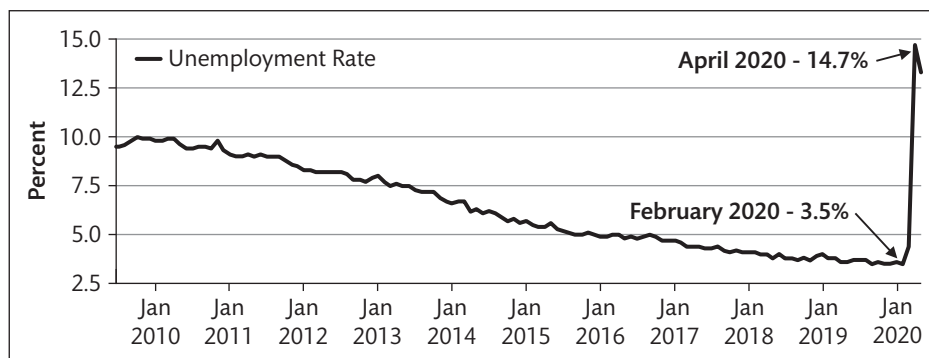


Figure 15.3 US unemployment rate, 2010–20

recession of 2008–9 saw unemployment rise around the world as household wealth declined amid a collapse in housing prices, triggering a decrease in aggregate consumption across Europe and the United States. Between 2009 and 2013 the Greek economy saw unemployment climb from 8% to 27%, largely as a result of a debt crisis that required the Greek government to massively reduce its public sector spending. In other cases, cyclical unemployment can result from declines in private sector investment or in response to falling exports.

In other words, cyclical unemployment arises whenever workers lose their jobs not because of a lack of skills, a change in the composition of the economy's output or any other structural shifts in the economy, rather because of a decline in either household consumption (as was the case in 2009 and 2020), government spending (Greece between 2009 and 2013), private sector investment, net exports or any combination of these.

Cyclical unemployment arises because of the short-run 'stickiness' of wages illustrated by the upward sloping short-run aggregate supply curve. When aggregate demand falls, firms are forced to reduce the level of employment rather than simply reducing wages to offset the decline in revenues resulting from falling sales. Recall that wage 'stickiness' simply refers to the fact that wages are not perfectly responsive to changes in demand for labour due to things like labour contracts, minimum wage laws, the ability for workers to collect unemployment benefits from the government and the influence of labour unions in wage negotiations. The result of wage rigidity is that even as demand for labour falls during a recession, firms are unable to slash wages and must lay workers off instead. The result is cyclical unemployment.

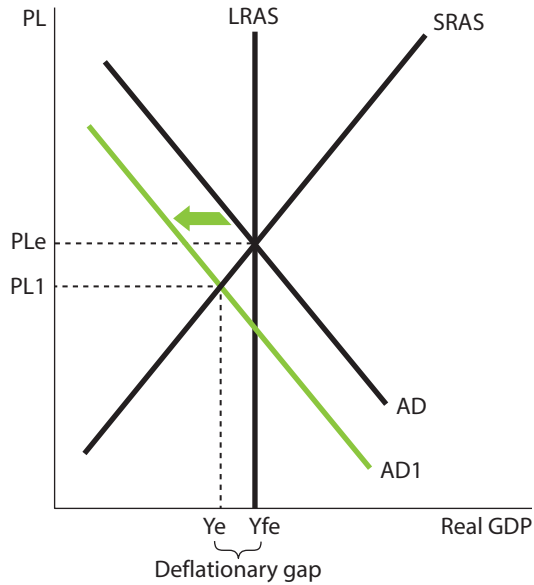
Cyclical unemployment is shown in an aggregate demand (AD)/aggregate supply (AS) model as the gap between equilibrium national output and full employment national output when a deflationary gap exists following a decrease in AD.

In Figure 15.4 aggregate demand has fallen from AD to AD1 due to a contraction in either consumption, investment, government expenditures or net exports. Falling demand leads to a decrease in the price level from PLe to PL1 and a decrease in equilibrium output from Yfe (full employment national income) to Ye (equilibrium national income, which in this case is below full employment).

The notion that wages tend to hold steady during a recession originated with the Keynesian explanation of the Great Depression of the 1930s, and has several rationales.

- 1 Firms choose to fire some workers and retain the rest at full wages to avoid the morale reducing effect of lower wages.

**Figure 15.4** Keynesian model: a deflationary gap causes cyclical unemployment

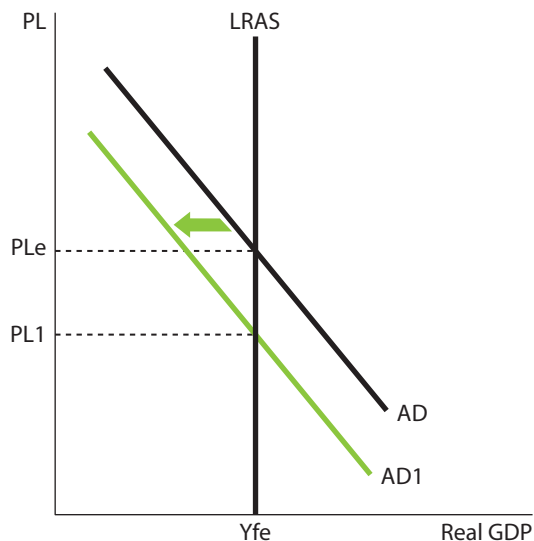


- 2 Unemployment benefits may reduce the need for workers to automatically take any lower-paying job after being laid off.
- 3 Unions can negotiate wages that are higher than average, and may also lock firms into those wages for several years at a time, regardless of a sudden recession.

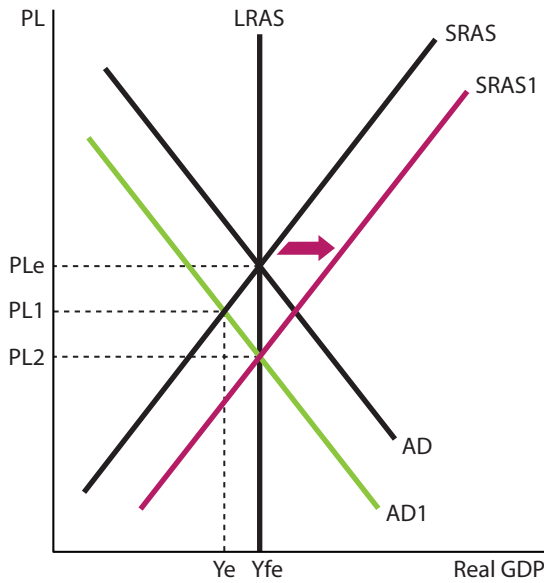
Because of this wage stickiness, the equilibrium wage holds for some time, creating a surplus of workers in the economy, otherwise known as cyclical unemployment.

If wages were perfectly flexible, the economy would be able to maintain output at the full employment level even as aggregate demand decreased. Recall that the monetarist/new classical view of aggregate supply assumes that wages are perfectly flexible and thus the economy is always at its full employment level of output. Figure 15.5 shows that in a world of perfectly flexible wages and prices, a fall in aggregate demand would result in no change in output and employment, but a much larger decrease in

**Figure 15.5** Neo-classical model: flexible wages and prices allow the economy to remain at full employment when AD falls







**Figure 15.6** Cyclical unemployment is eliminated in the long run when wages fall and the economy self-corrects

the aggregate price level, as workers’ nominal wages are slashed in response to weak demand, while employment and output remain at the full employment level.

However, in the real world wages are sticky in the short run, therefore a disequilibrium results in the nation’s economy when aggregate demand decreases: as demand for output and workers decrease, wages remain stubbornly high, therefore firms must lay workers off to reduce their costs in the short run. In the long run, cyclical unemployment may be reduced as wages adjust to the decreased demand across the economy.

Only over time, whatever period it takes for wages to fall, will cyclical unemployment begin to decrease and the economy settle at a new, lower wage rate, while employment recovers. Recall from Chapter 14 that in the long run an economy self-adjusts following a negative demand shock; high cyclical unemployment puts downward pressure on wages, and as wages fall the quantity of labour demanded increases, causing employment and output to slowly increase back towards the full employment level.

Figure 15.6 shows the self-adjustment that takes place to reduce cyclical unemployment in the long run following a demand-deficient recession. In later chapters, we will explore government interventions that could help either avoid cyclical unemployment altogether or help reduce it without having to wait for wages to decrease in the long run, an outcome based more in classical/monetarist economic theories than in observations of real world economic outcomes.

## What happens when demand for a particular type of labour decreases?

### Structural unemployment

We have just learned about the most harmful type of unemployment: that which results from a demand-deficient recession. Workers can also find themselves unemployed for reasons other than a decrease in aggregate demand. When a worker loses her job due to the changing composition of the nation’s economy, the individual becomes structurally unemployed. Structural unemployment is a form of involuntary unemployment among workers whose skills are no longer in demand. Automation

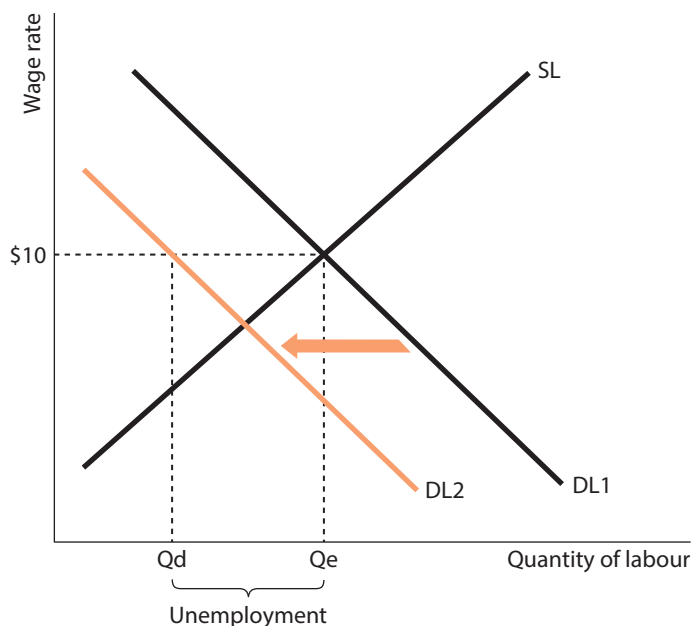
may replace workers with technology. Firms may move operations 'off-shore', outsourcing production to lower-cost countries. Shifts in technology may make some jobs, and the skills for producing them, irrelevant.

Structural unemployment arises when demand for a *certain type* of labour decreases, as opposed to demand for *all labour* decreasing (as in the case of cyclical unemployment). As with cyclical unemployment, however, the stickiness of wages is at the core a cause of structural unemployment, as we will see below.

An example of structural employment occurs when a developing country moves from an agricultural base to a manufacturing base. New farming techniques are less labour intensive and more capital intensive. Farmers whose skills were passed down through generations find themselves unemployed as their old techniques for tilling the land are replaced by new technology. Likewise, as a more developed nation transitions from a manufacturing base to a larger service sector, factory workers' skills may no longer be in demand, while the demand for highly educated and highly skilled 'knowledge workers' increases.

In both of these examples, the nation as a whole is getting richer as productivity grows and the country shifts from the primary to the secondary and tertiary sectors. However, structurally unemployed workers typically face a longer path back to gainful employment, and government intervention sometimes is desirable.

Structural unemployment is shown using a labour market diagram, as in Figure 15.7. Initially, textile production in South Korea pays US\$10 per hour and  $Q_e$  is the equilibrium quantity of labour. The demand for textile workers in Korea decreases from  $DL_1$  to  $DL_2$ ; this is caused by structural factors such as the relocation of textile factories to lower-cost production in China or Morocco or the increased use of automation in textile manufacturing. The decreased demand for labour puts downward pressure on wages, but due to institutional factors outlined earlier in this chapter the wage rate remains stuck at US\$10, resulting in a disequilibrium in the labour market as the number of workers demanded falls to  $Q_d$  while the number of workers wishing to work remains at  $Q_e$ .



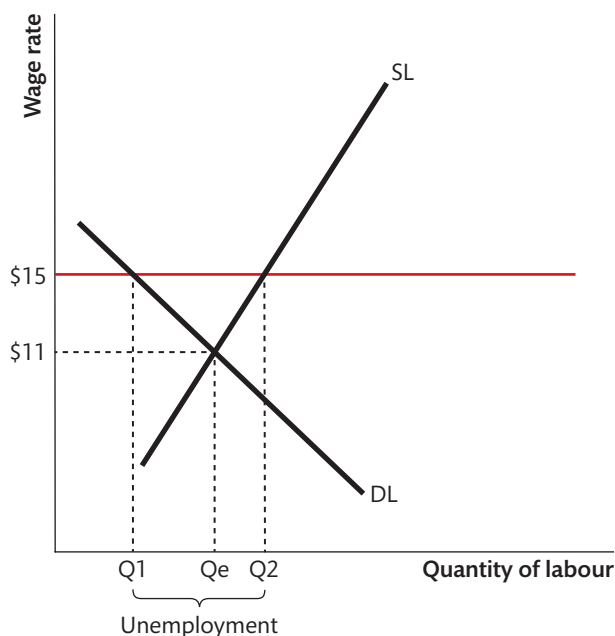
**Figure 15.7** Market for textile workers: structural unemployment arises when demand for labour falls

Because textile wages in South Korea cannot fall to the level required to 'clear the market' (that is, firms decide it is once again worth hiring back unemployed workers, who are now more competitive compared to overseas workers or compared to technology), textile jobs will leave the country and relocate to lower-wage economies. Previously employed textile workers in South Korea have become structurally unemployed. If they wish to work again they must either accept a wage rate competitive with what workers in China or Morocco earn or learn skills that will allow them to gain employment in an industry in which labour is still in demand at the wage rates expected of workers in South Korea.

Structural unemployment can be resolved by the free market when one of two things happen: either the equilibrium wage rate in the affected industry must fall to a level that 'clears the market', or the supply of labour in the industry must decrease until the quantity of labour supplied once again equals the quantity demanded at a wage rate that workers are willing to accept. For supply to decrease, structurally unemployed workers in the affected industry must leave that industry and either exit the labour force or seek employment in another sector.

The emergence of structural unemployment in an economy may at first seem incredibly undesirable, as those who have been 'made redundant' are the unfortunate victims of economic change. However, structural unemployment is considered a 'natural' form of joblessness as it is expected that as a nation grows, its production will become more capital intensive and it will incorporate into the global economy, causing both a change in the makeup of its output and the types of skills demanded of its workers. Generally, however, the existence of structural unemployment accompanies economic growth and an increasingly diverse and globalised national economy, thus it is both natural and desired.

Economists view unemployment derived from an effective minimum wage as part of structural unemployment as well. Recall from Chapter 9 that putting a price floor on labour can cause unemployment. Figure 15.8 shows a labour market diagram in the



**Figure 15.8** Market for retail employees with a minimum wage

market for retail shop workers who before government intervention were earning an equilibrium wage rate of US\$11 per hour. The government has established a minimum wage at US\$15.

The imposition of \$15 minimum wage has caused a movement up and to the left along the demand for labour curve from  $Q_e$  to  $Q_1$ , as the quantity demanded for retail workers has fallen. At the same time, more workers are drawn into the labour market by the higher wage, shown by a movement upward along the supply of labour curve, from  $Q_e$  to  $Q_2$ . With retail businesses demanding fewer workers while more people desire to work in retail, there emerges a disequilibrium in the labour market, resulting in unemployment of  $Q_2 - Q_1$ .

Unlike with cyclical unemployment and most kinds of structural unemployment, a minimum wage causes unemployment to increase not because of a fall in demand for labour, but because of a government intervention that is intended to help workers. While some workers are indeed made better off (those who are still employed at  $Q_1$  in the market above), some are inevitably harmed (those who are left without a job at the higher wage).

Strategies for reducing structural unemployment include increased worker training and improved education and protectionism.

- Governments could offer assistance to workers relocating from job-poor areas to ones that are job-rich.
- Protectionist policies, such as tariffs and subsidies, can be used as a short-term method of slowing the trend away from some industries. However, this is more likely to prolong the decline of the industries, and works against the concept of economic efficiency outlined by comparative advantage theory. Tariff revenues could be spent on transitioning to more promising forms of production and employment.
- To reduce structural unemployment over the long term, a nation must invest heavily in public education and training for adult workers in the skills that will be needed for the future economy, as well as developing systems of matching education to the skills currently in demand by industries.

### What are frictional and seasonal unemployment?

Workers who are in between jobs or just entering the labour force for the first time are referred to as frictionally unemployed. A person may be relocating to a new area and seeking a new job. Someone may be leaving a job in an attempt to find a better one. Students finishing university and graduate school with fresh training may spend time looking for a job. One example is a worker who quits his job in retail with the training and expectation of taking up a job as a nurse. During the period of time between the old job and the new job, which he is fairly certain he will be able to acquire rather quickly, he is frictionally unemployed.

Frictional unemployment is generally short term (three months or less) and is often voluntary, meaning the unemployed person has chosen to seek employment in a different location or industry. The key characteristic of the frictionally unemployed is that they possess skills that are demanded by the nation's employers, thus their



prospects for employment are generally positive. Another characteristic of frictional unemployment is that it tends to decrease during recessions, when workers are fearful of losing their current jobs, and tends to rise during economic expansions when job prospects are better.

Workers who do seasonal labour (for example, golf course employees, migrant farmers, ski-lift operators or summer-camp instructors) may be unemployed between seasons. Seasonal unemployment is also considered a type of voluntary unemployment as many such workers choose their jobs for the freedom and other benefits such employment offers.

Government policies that affect incentives among the labour force may increase or decrease the level of frictional and seasonal unemployment. The longer unemployment benefits can be collected, the less the incentive to rush the job search process and take the first decent job offered. Additionally, if information about employment opportunities around the country is readily available and systems exist to quickly match frictionally unemployed workers with employers through job centres or online employment services, then the duration of frictional unemployment and its prevalence in the economy may be reduced.

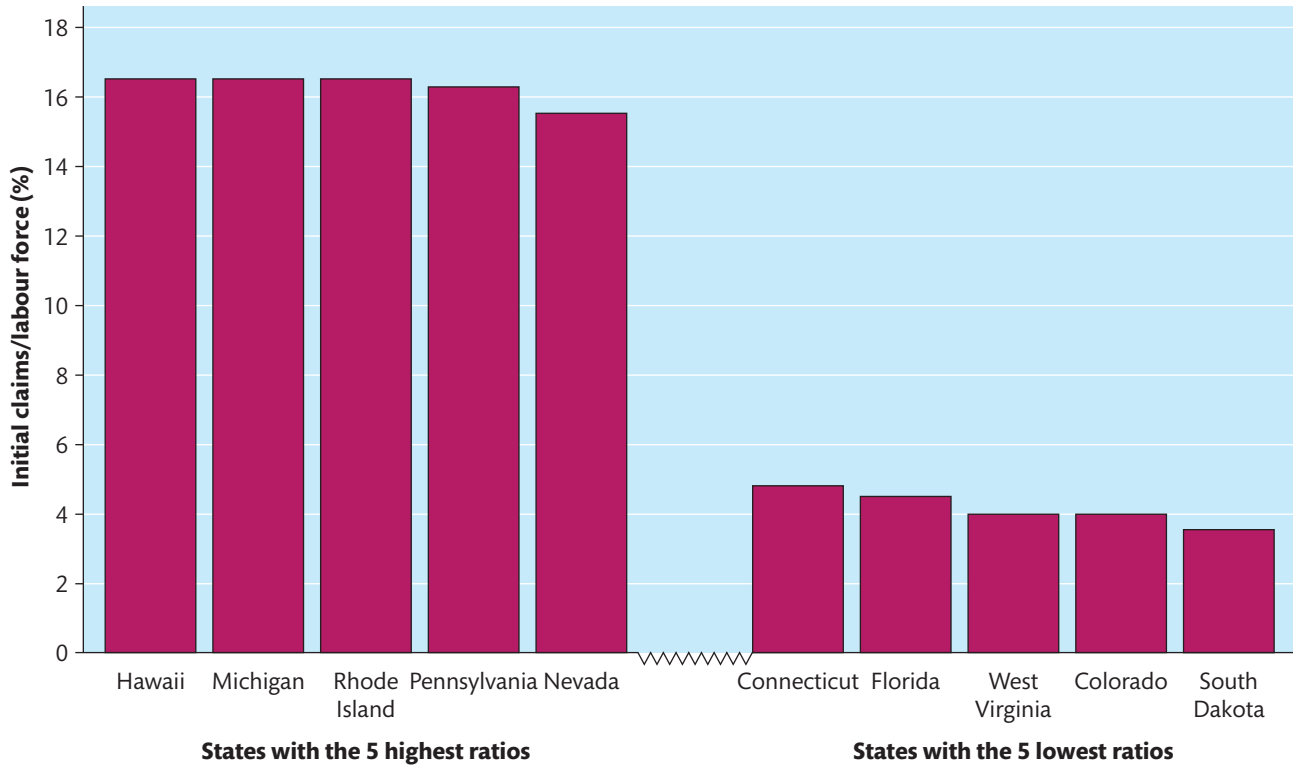
### Case study – Cyclical, structural or frictional unemployment: you decide!

When the novel coronavirus struck in the winter and spring of 2020, the effects on unemployment around the world were immediate and severe as economies saw jobless rates double or even triple in the span of a few weeks. But even within countries themselves there were extreme variations in the virus's impact on employment between regions, provinces or states.

Figure 15.9 shows the unemployment rates in ten US states in early April, 2020, just one month after the US president declared the Covid-19 pandemic a 'national emergency'.

Considering what you have learned about unemployment in this chapter, answer the following questions:

- 1 What is likely to account for the large variation in unemployment between the states with the highest rates and the states with the lowest rates in the early months of the Covid-19 pandemic?
- 2 Why might a state like Hawaii, where tourism makes up 21% of the economy, have experienced the greatest unemployment effects of the coronavirus?
- 3 Is the high unemployment resulting from the Covid-19 pandemic structural, frictional, seasonal or cyclical? Explain your answer.
- 4 This data is from just one month into the coronavirus outbreak in the United States. What do you think most likely happened to the unemployment rates in the states hardest hit at this stage versus those least affected in the months that followed?



**Figure 15.9** Unemployment rates in ten US states, 9 April 2020

## What is the natural rate of unemployment?

An economy producing at full employment still experiences frictional, seasonal and structural unemployment. These combined are known as the natural rate of unemployment (NRU). This can be a confusing concept because the term 'full employment' makes it sound as if everyone has a job. Nonetheless, economists believe that a dynamic economy requires people to change jobs for structural or frictional reasons, and that some level of unemployment is natural, even desirable.

$$\text{structural unemployment} + \text{frictional unemployment} = \text{natural rate of unemployment (NRU)}$$

The NRU varies widely from country to country. Its variance depends on several factors, including factors that influence the levels of both structural and frictional unemployment:

- low information about job vacancies and available talent
- labour immobility, the instance of qualified workers unable to relocate to available positions
- mismatch of workers' training/education and skills needed by employers
- hysteresis, or the fact that unemployed workers become less employable the longer they are out of work
- labour laws that protect jobs that are no longer needed
- the level of unemployment benefits provided.

As countries try to manage their overall economies, the NRU is used as an important guideline for the calibration of fiscal and monetary policy. *Ceteris paribus*, if a country's

unemployment rate exceeds the NRU, some cyclical unemployment is occurring and will require an expansionary response. Conversely, when unemployment drops below the NRU, the labour market may be considered 'tight'. In this case, the heated job market may indicate rising wages and future inflation. Policymakers may then choose contractionary policies to 'cool off' the potential inflation.

## 15.3 The costs of unemployment?

### Learning outcomes

- Discuss possible personal and social consequences of unemployment, including increased crime rates, increased stress levels, increased indebtedness, homelessness and family breakdown.
- Discuss possible economic consequences of unemployment, including a loss of GDP, loss of tax revenue, increased cost of unemployment benefits, loss of income for individuals and greater disparities in the distribution of income.

### What are the personal costs of unemployment?

Unemployment can be a personally traumatic experience. More broadly, the social and economic consequences of unemployment can be severe and long-lasting as well, which explains why maintaining a low level of unemployment is an important macroeconomic objective.

#### Decreased household income and purchasing power

An obvious consequence of the unemployment of one or more members of a household is a decline in a household's income and consequently its standard of living. The decline in personal income could result in foreclosure or repossession of a mortgaged or rented home, or worse, an inability to feed the household.

#### Increased levels of psychological and physical illness

A significant personal consequence of unemployment is the psychological and even physical toll it imposes on the unemployed. Some studies have shown that higher unemployment rates are correlated with higher rates of depression, cardiovascular disease, suicides and psychiatric hospital admittances.

### What are the social consequences of unemployment?

#### Increased poverty

Regions or cities in which unemployment occurs may become depressed and therefore less attractive to new investment by businesses. The low income levels of the largely unemployed population can therefore deter businesses from starting or expanding businesses, further contributing to the unemployment and poverty problem in that area.

#### Transformation of traditional societies

Unemployment in particular regions or sectors of the economy can lead to social upheaval. Where farming and hunting offer economic self-sufficiency on a familial or small village level, the social web flows from these relationships. Economic development, especially the move from labour-intensive home production to

### Theory of knowledge


Using the concepts of 'natural rate' of unemployment and 'full employment', how might the language we use to describe economic circumstances affect our perception of individuals in society who are affected by those circumstances?

### Further thoughts


While structural and frictional unemployment are considered 'natural' forms of unemployment that exist in an economy that is producing at its 'full employment' level, the reality for those experiencing unemployment in a healthy economy may be no less unpleasant than that experienced by someone who has lost their job due to a recession. However, when economists consider some types of unemployment 'natural', it risks diminishing the hardships of those experiencing unemployment.

- 1 How could economists employ language to assign terms that better reflect the experiences of unemployed workers, many of whom are struggling to support their families while they search for work?
- 2 How do different languages translate the concept of unemployment? Does it have different connotations in those languages than it does in English?

**Video suggestions:** You've read about it, now you can review what you've just learned by watching a few videos by the author!

 Simply click here in your eBook for videos on 'Types of Unemployment, the Business Cycle, and the Natural Rate of Unemployment (NRU)'.

**Video suggestions:** You've read about it, now you can review what you've just learned by watching a few videos by the author!

 Simply click here in your eBook for videos on 'Factors that can cause the Natural Rate of Unemployment to change'.

### Research and Inquiry

- 1 Conduct a search to determine the NRU for your country. This is sometimes referred to as the long-term unemployment rate.
- 2 Next seek out the NRU for two other countries. What, based on what you know of each country, might account for the differences?
- 3 Investigate the NRU over several decades (try 1990, 2000, and 2010) for one of the countries you selected. Has it changed much? Can you make a guess as to why this may have happened?

capital-intensive organised production, can separate a labourer's work from these relationships, and sever them from their traditional social web. China's shift, over the last 40 years, to massive industrialisation, is an example of this on a grand scale.

## What are the economic consequences of unemployment?

### Downward pressure on wages for the employed

High unemployment means the supply of available labour has increased in the nation. Since wages are determined by supply and demand, an increase in the labour supply can lower the equilibrium wage rate for those who still have jobs, forcing them to accept pay cuts and reducing the real incomes of all workers.

### Lower level of aggregate demand

Closely related to wage losses is the level of consumption. A major component of aggregate demand, consumption is primarily determined by disposable incomes. Unemployment lowers households' disposable income and consumption, reducing the level of demand and output in the nation as a whole. This leads to more unemployment and can pull an economy into a recession.

### Under-utilisation of the nation's resources

Unemployment means a nation is not fully utilising its productive resources, therefore a nation with high unemployment is producing within its PPC at a level below that which is most beneficial to an economy trying to improve the economic well-being of its people.

### Brain-drain

Skilled workers may choose to leave a country with high unemployment if job opportunities are more abundant elsewhere. This further leads to a fall in the production possibilities of the nation with high unemployment.

### A turn towards protectionism and isolationist policies

Rising unemployment is often blamed by politicians and policymakers on competition from cheap foreign producers. This can lead to the rise of protective tariffs and quotas or increased government spending on subsidies for domestic producers. Such policies lead to a misallocation of society's scarce resources and in the long run will make the nation less competitive in global markets.

### Increased budget deficits

Unemployed workers do not pay income taxes, but instead receive monthly payments from the government to assist them until they find work. High unemployment reduces the total tax revenues received by a government while simultaneously increasing public expenditures on financial support for the unemployed, pushing national budgets towards deficit. It therefore necessitates either a decrease in government spending on public goods, such as infrastructure, education, defence and healthcare or an increase in government borrowing to finance its budget deficit. As you will see in Chapter 22 large government budget deficits bring their own set of problems to a nation's economy.

The individual, social and economic consequences of unemployment are not limited to those outlined above, but it should be clear that the costs of unemployment are wide-ranging, thus making low unemployment a worthy and important goal for macroeconomic policymakers.



## Practice examination questions

### Paper 1 questions

- 1a. Distinguish, using examples, between the causes of structural, seasonal and demand deficient unemployment. (10 marks)
- 2a. Explain the difficulties in measuring unemployment. (10 marks)
- 3a. Explain, using a diagram, how labour market rigidities such as the minimum wage contribute to structural unemployment. (10 marks)

### Paper 2 questions

#### Germany Unemployment Rises, Budget Deficit Set to Increase July 2020

Germany's unemployment rate rose in June from 6.2%, up from 6.1% in May, and a percentage point higher than in March, when it scored 5.1%. Jobless claims are more than 600,000 higher than the same time last year.

Germany's labour force is currently 43.5 million people. This number may drop if the crisis continues and workers drop out of the labour force as discouraged workers. By 2021, some economists project 3 million people will be unemployed.

Unemployment has risen more slowly and less severely in Germany due to "short-work" programs that subsidize wages to firms up to 60% of previous levels, encouraging firms to retain employees through the crisis. Also known as "furloughs", these programs pay firms to pay workers, even if there is little work or demand for the firm's output.

One result of the extra spending on firms and workers is that Germany also announced recently that it expects to borrow a record 218 billion Euro in 2020, the country's largest deficit spending ever. Its debt to GDP ratio will rise from below 60% to above 75% for the current year.

- a.
  - i. Define *unemployment*. (2 marks)
  - ii. Define *budget deficit*. (2 marks)
- b.
  - i. Assuming the labour force is stable, calculate the expected unemployment rate for Germany in the next year. (2 marks)
  - ii. Using the formula for calculating the unemployment rate, explain the effect of an increase in the number of discouraged workers. (3 marks)
- c. Explain, using a diagram, that demand deficient unemployment is caused by a fall in aggregate demand. (4 marks)
- d. Explain, using a diagram, how Germany's wage subsidy program acts as an automatic stabiliser for aggregate demand. (4 marks)
- e. Explain two reasons unemployment is difficult to measure accurately. (4 marks)
- f. Using examples, explain two types of unemployment. (4 marks)
- g. Using information from the text and your own knowledge of economics, discuss the economic, social and personal consequences of unemployment. (15 marks)

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