

# **A2 – ECONOMICS (9708)**

## **MACRO**

### **CHAPTER 4**

### **Unemployment & Phillips Curve**

#### **Topics**

**Topic 1: Unemployment**

**Topic 2: Phillips Curve**

**TOPIC 1: UNEMPLOYMENT**

Lecture 1

**Definition | Unemployment:** This means that people who are willing and able to work can find employment. People who do not want to work or are unable to work are not part of this i.e. they are not part of the labor force (e.g. children, retired individuals, students enrolled in full time education, disabled etc.). Those are in work or are unemployed but actively seeking work, form the labor force.

$$\text{Rate of Unemployment} = \frac{\text{Number of unemployed}}{\text{Labor Force}} \times 100$$

Example: If 100m people are unemployed from a labor force of 1000m the unemployment rate would be 10%  $(100/1000) \times 100 = 10\%$

**Note:** Even at full employment it is not like that all the people are employed. There would be people who would be changing jobs or are unemployed for a short period of time (this is called friction unemployment).

**1. CAUSES/TYPES OF UNEMPLOYMENT**

There are several causes of unemployment:

1. Frictional unemployment *reduntant five gap he gets*
2. Seasonal unemployment
3. Youth unemployment
4. Structural unemployment
5. Voluntary unemployment
6. Classical unemployment / Real Wage unemployment
7. Cyclical

**1. Frictional unemployment**

**Definition:** This happens when individuals leave a job, are made redundant or fired. This unemployment occurs when people change jobs due to the time delay between leaving a job and finding a new job. It is a form of voluntary unemployment. It always exists in an economy but is not considered to be a problem. Example: Some people take an extended break between jobs. Others might wait before the new job starts.

**2. Seasonal unemployment**

**Definition:** This happens when the demand for a particular type of labor is seasonal. These industries can include tourism, fishing, fruit picking etc. Workers employed in these industries get unemployed in the offseason and are rehired when the season is in. There is little that can be done to reduce seasonal unemployment because it is usually linked to the climate. How harmful it is depending on how long does the off season last. If it is small, then it is less dangerous.

**3. Youth unemployment**

**Definition:** This occurs when young graduates find it difficult to get a job. This usually occurs because they lack experience and skills and the economy is in a recession.

#### 4. Structural unemployment

**Definition:** This happens when a particular industry in a country declines and the labor is unemployed because of that. Example: As the country develops the manufacturing sector declines and the service sector grows. There are **THREE** main types:

Type	Description
1. Sectoral Unemployment	This occurs when people are laid off because the industry they work in is in decline. This may be due to change in consumer tastes. Certain goods may go out of fashion. Or it may be due to competition from other countries. Example: Consumers might prefer other fuels over coal. This will lead to structural unemployment in coal mines. This would depend on the occupational mobility of the workers. If workers are occupationally mobile this problem can be reduced.
2. Technological Unemployment	This arises because new techniques of production often allow the same level of output to be produced with fewer workers. Example: Banks can replace workers with ATMs and online transactions.
3. Regional Unemployment	This type of structural unemployment occurs in particular areas of a country. As particular type of industries is concentrated in different parts of the country.

**Note:** The level of structural employment will depend on **THREE** factors.

1. The more concentrated the firms are higher would be the structural unemployment
2. The more rapid the technological change higher would be the structural unemployment
3. Lower the labor mobility the higher would be the structural unemployment.

#### 5. Voluntary unemployment

**Definition:** This means the people are reluctant to accept jobs which are low-paid or have low job satisfaction. Voluntary stands for that they could have the job if they are prepared to accept the worse conditions but they have voluntarily kept themselves unemployed and waiting for the that they require which pays them according to their standards both in terms of financial and non-financial benefits.

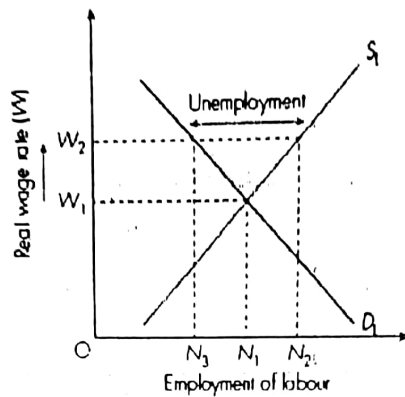
#### 6. Classical unemployment / Real Wage unemployment

**Definition:** This exists when the real wage rate is above that needed to clear the labor market even when the economy is booming. These wages might be driven up above the market clearing level due to **TWO** main reasons:

1. **Trade Unions:** These unions use their monopoly power to drive wages above the market clearing level. As they serve the interests of their members, pushing up their wages, negotiating for better working conditions etc.

2. **Government:** This happens when the government intervenes in the labor market and sets a minimum wage above the market wage.

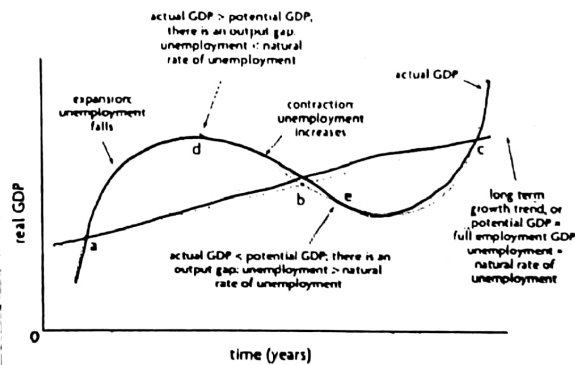
This causes the demand for labor to fall because it is expensive to deploy labor, where the supply for labor increases due to high wages. This creates a surplus in the market, which leads to unemployment. This can be explained with the diagram below:



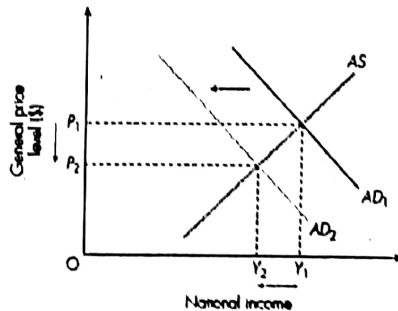
As we see from the above diagram when the minimum wage is set at  $W_2$ , the demand for labor is  $N_3$  and the supply for labor is  $N_2$ , which creates unemployment between  $N_3$  and  $N_2$ .

### 7. Cyclical / Demand Deficient Unemployment

**Definition:** This is linked to the economic cycle. When an economy moves from a boom into a downturn business activity slows down and people are laid off. This will continue, and worsen if the economy goes into a recession or depression. People lose their jobs because demand for goods and services starts to fall. Firms often react to falling demand by laying off staff.



Cyclical unemployment may be even more serious than structural unemployment as potentially, it can affect more workers and it is spread through the country. It arises from a lack of aggregate demand. The figure below shows the economy operating below full employment ( $Y_1$ ). In such a situation the government will try to increase government spending or decrease taxes (Expansionary fiscal policy) to increase AD.



## 2. MEASURING UNEMPLOYMENT

There are TWO main methods to measure unemployment:

1. Claimant Count
2. Labor Force Survey

### 1. Claimant Count

**Definition:** This is where the government measures the number of people in receipt of unemployment-related benefits. It has the advantage that it is relatively cheap and quick to calculate as it is based on information which the government collects as it pays out benefits. However, the figure obtained may not be entirely accurate because it may include some people who are not really unemployed and may omit people who are genuinely unemployed. Some of those receiving unemployment benefits may not be actively seeking work and some may be working and claiming benefits illegally. On the other hand, there might be people who do not appear in the official figures example: Elderly, people who work below the minimum wage, people on government training schemes, married women looking to return to work and those who choose not to claim the benefits. As this measure is based on those receiving the benefits, it changes every time there is a change in the criteria for qualifying for benefit.

### 2. Labor Force Survey

**Definition:** This involves a labor force survey using the International Labor Organization (ILO). This includes all unemployed people of working age who in a specified period are without work but who are available for work in the next two weeks and who are seeking paid employment. This measure picks up some of the groups not included in the first measure. It also has the advantage that as it is based on internally agreed concepts and definitions it makes international comparisons easier. However the data are more expensive and time-consuming to collect than the unemployment benefit measure. Also as the data are based on a sample survey that are subject to sampling error and to multitude of practical problems of data collection.

## 3. FULL-EMPLOYMENT AND NATURAL RATE OF UNEMPLOYMENT

### 1. Full Employment

**Definition:** It is achieved usually when the unemployment falls below 4% although this varies a lot between economies. In other words, where there is no involuntary unemployment in the economy. Hence it is not where the unemployment rate is 0% because in practice frictional and structural unemployment are difficult to avoid.

### 2. Natural Rate of Unemployment (NAIRU)

**Definition:** This is also known as the non-accelerating inflation rate of unemployment (NAIRU). It is a monetarist concept. It is the level of unemployment which exists when Aggregate demand for labor equal the Aggregate supply of labor at the current wage rate and so there is no upward pressure on the wage rate and the price level. The inflation rate is constant where the actual inflation rate equals the expected one. There is no cyclical unemployment at NAIRU and it cannot be reduced even when economic growth occurs. Therefore if the economy is above the NAIRU it can use expansionary policies to reduce unemployment because cyclical unemployment exists. If it tries to do it when the economy is at NAIRU it will only cause inflation and no change in the unemployment because at NAIRU does not have cyclical unemployment. The way to reduce NAIRU is to fix other types of unemployment like retrain workers, match them with better employers, encourage people to join the labor force.

$$\text{NAIRU} = \frac{\text{No. of people Naturally Employed (Voluntary)}}{\text{Labor Force}} \times 100$$

Monetarists argue that the natural rate of unemployment cannot be reduced however in the long-run by expansionary monetary or fiscal policy it can change over time. These factors which do determine the natural rate of unemployment are supply-side factors. Over time the natural rate of unemployment may fall as a result of the following factors:

1. Increased labor mobility
2. Improvement in education
3. Reduction in trade union power and practices
4. Reduction in state unemployed benefits
5. Cut in income tax

MCQs

#### 4. LEVEL OF UNEMPLOYMENT VS. RATE OF UNEMPLOYMENT

Level of Unemployment	Rate of Unemployment
<p><i>MCQS</i></p> <p><i>You can ever make decision about the amount of looking at the rate</i></p> <p>Definition: This means the <u>total number of people</u> who are willing and able to work but have no jobs</p>	<p>Definition: It is the <u>percentage of unemployed</u> workers to the labor force.</p> $\text{Rate of Unemployment} = \frac{\text{Number of unemployed}}{\text{Labor Force}} \times 100$
<p>Note: This means that a country with a low rate of unemployment might still have more number of workers unemployed. As the level is the actual number where as the rate depends on the size of the labor force.</p>	

#### 5. COSTS OF UNEMPLOYMENT / EFFECTS OF UNEMPLOYMENT

There are several economic and social costs of unemployment:

##### 1. Costs to individuals

Their incomes fall because state benefits are generally lower than wages. In extreme cases unemployed people lose their homes because they can pay mortgage payments. This leads to a lower standard of living for the individuals and can lead to an increase in wealth gap in the economy.

##### 2. Costs to the Business

(1) When firms lay off workers they have to give redundancy payments which reduces the firm's profits. Furthermore, the remaining workers are demotivated as they know that they might be the next to go.

(2) Secondly for firms laying off workers results in operating at a lower capacity. There will be unused machinery, tools, equipment which might result in high fixed costs of machinery. This might even result in machinery becoming obsolete over time which will add to further cost of replacement in the future.

(3) This also leads to a fall in demand for goods since the purchasing power is low. Sales are likely to fall for most businesses when unemployment starts to rise in the economy. This is because people have less to spend. However, firms producing non-essential items (Elastic items) would be hit harder.

*once the individual both have the money, they won't be able to spend on goods n services which will reduce a company's profits*

##### 3. Cost to the Economy

(1) People who are not working may no contribution to the economy. This is a waste of resources and results in lower levels of national income. If there is full employment in an economy, output will be higher and income per head will be higher. This is lead a reduction on GDP in the economy

(2) Tax revenue will also fall because most taxes are linked to income and spending. This means government has less to spend may have to cut public sector services. The government will also be under pressure because it will have to pay out more in benefits to those who lose their jobs. Although taxes may not go up immediately they have to go up eventually this will lead to an increased burden on those people who are earning. In the long-run government might be forced to increases borrowing added to interest payments burden on the economy.

*MCQS*

#### 4. Cost to local communities

In times of unemployment some areas struggle to survive. Small business start to shut down creating more unemployment. Households do not have enough money to maintain their houses and gardens and the residential environment starts to have lower standard of living which can even result in increases crime rate added to additional cost to the government of maintaining it.

#### 6. POLICIES TO REDUCE UNEMPLOYMENT

2 policy for each

Policy	Description
1. Frictional unemployment	(i) Increase Job information by advertising of vacancies in national media e.g. newspapers and develop job centers where people can get registered and be notified about vacancies as soon as they arise. (ii) Increase the mobility of labor. Geographical mobility can be increase by making cheap housing facilities as it would make relocation cheaper. Furthermore, occupational mobility can be established by retraining and reeducating workers and by organizing better training centers.
2. Seasonal unemployment	Training facilities so that workers have several skills and they can produce different products for different seasons. Example:
3. Youth unemployment	This can be removed by arranging better facilities and job placement centers for students. Furthermore, better internship programs should be organized at school and university level to build experience which will lead to an easy transition into the corporate sector.
4. Structural unemployment	This government can subsidize the declining industry which would allow the firms to keep the employees even in times of high costs. Furthermore, the regional unemployment can be avoided by making infrastructure in the remote areas. Another technique is to implement a retaining scheme.
5. Voluntary unemployment	This can be removed by reducing the state benefits. This would result in people working even at lower wages since they would still be higher than the state benefits.
6. Classical unemployment / Real Wage unemployment	(i) By discouraging trade unions (ii) Abolishing minimum wage legislation (iii) By keeping a wide difference between unemployment benefits and prevailing wage rate.
7. Cyclical	(i) Expansionary Fiscal (ii) Expansionary Monetary (iii) Supply Side Policies

Lecture 1

## TOPIC 2: PHILLIPS CURVE

Lecture 2

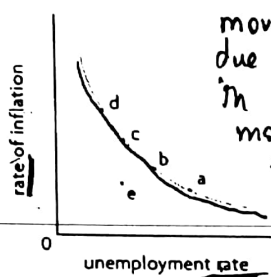
**Definition | Phillips Curve:** The Phillips Curve shows the relationship between inflation and unemployment. There are TWO types of Phillips Curve:

1. Short-Run Phillips Curve
2. Long-Run Phillips Curve

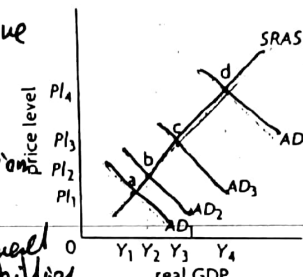
### 1. SHORT-RUN PHILLIPS CURVE

This curve shows the tradeoff between inflation and unemployment i.e. if unemployment fell inflation would rise and vice versa.

(a) The shape of the Phillips curve



(b) The reasoning behind the Phillips curve in terms of the AD-AS model



*movement along the curve due to change in AD. If AD moves right then contraction is left, you move rightward towards Phillips on curve and vice versa.*

Assume a fixed, upward-sloping SRAS curve, and imagine a succession of aggregate demand increases. This was with the narrative the in order to reduce unemployment the government had to spend money to boost AD. This would result in prices to go up. Workers would become more confident and since the economy is doing well and because employers can't find workers so wages would be pushed up resulting in cost-push inflation. This model suggest that the government simply has to pick which point on the Phillips curve it wanted the economy to be at and then introduce the appropriate economic policies.

The above mention thinking remained till the 1960s. However Events of the 1970s and 1980s upset this line of thinking, and the stable relationship between inflation and unemployment that was suggested by the Phillips curve appeared to break down. Whereas it had been supposed that aggregate supply could remain stable over long periods of time, a number of aggregate supply shocks led to a period of stagflation, a term coined at the time to refer to the new phenomenon of stagnation (or recession) with unemployment and inflation simultaneously. The most important of the supply shocks involved the oil price increases brought on by the actions of OPEC (Organization of the Petroleum Exporting Countries), which restricted the global supply of oil). Another supply shock involved food price increases resulting from worldwide crop failures (restricting the global supply of food).

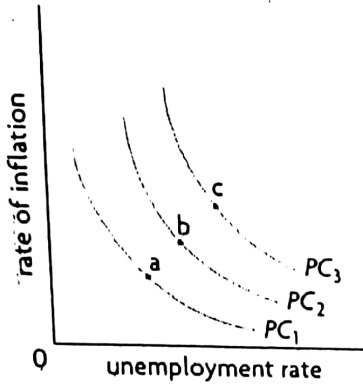
### Shifts in the Short-Run Phillips Curve

There are TWO main reasons for the Shift in the Phillips Curve

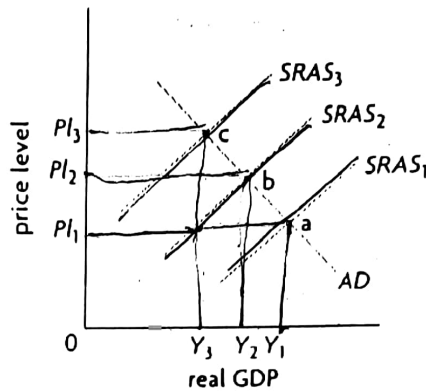
REASON 1: Change in Aggregate Supply	
<ol style="list-style-type: none"> <li>1. Cost of Production ↑</li> <li>2. Cost of Taxes ↑</li> <li>3. Cost of Fuel ↑</li> <li>4. Subsidies ↓</li> <li>5. Natural Disaster ↑</li> <li>6. Cost of Labor ↑</li> </ol>	<p>Note: Anything the reduces the AS will shift the curve outward.</p>
REASON 2: Change in Involuntary Unemployment (NRU)	
<ol style="list-style-type: none"> <li>1. Frictional unemployment</li> <li>2. Seasonal unemployment</li> <li>3. Youth unemployment</li> <li>4. Structural unemployment</li> <li>5. Voluntary unemployment</li> <li>6. Classical unemployment / Real Wage unemployment</li> </ol>	<p>Note: Anything the increases the NRU will shift the curve outward.</p> <p>Note: Except for Cyclical all factors will shift the curve <u>outwards</u> <i>towards the right</i></p>



(a) The shifting Phillips curve



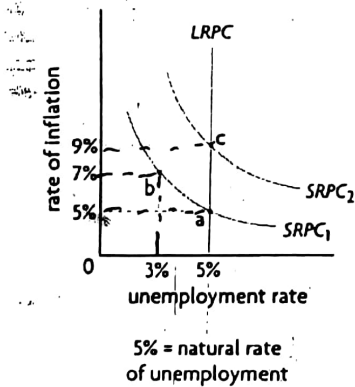
(b) The reasoning behind SRAS shifts in terms of the AD-AS model



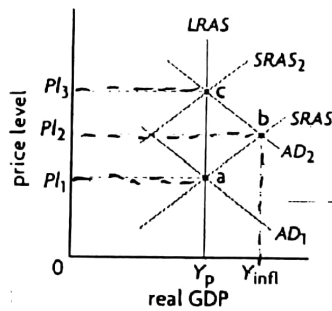
2. LONG-RUN PHILLIPS CURVE

**Definition:** The long-run Phillips curve is vertical at the natural rate of unemployment, indicating that <sup>(2)</sup> unemployment is independent of the rate of inflation, and that policy-makers do not have a choice between the two competing alternatives. In the long run, the only impact of an increase in aggregate demand is to increase the rate of <sup>(3)</sup> inflation, while the level of real output and unemployment remain unchanged at the natural rate of unemployment. The long-run Phillips curve is vertical at the level of 'full employment', or where unemployment equals the natural rate of employment.

(a) The shape of the LRPC and SRPC



(b) The reasoning behind the two curves in terms of the AD-AS model



Note

— The short-run Phillips curve is a tool preferred by Keynesian economists, who see in this the possibility of using policies that focus on influencing aggregate demand to make choices about the rate of inflation and the rate of unemployment (and therefore the level of real GDP).

*MCQs*

— The long-run Phillips curve is an analytical tool preferred by (monetarist/new classical economists) who are highly skeptical about the effectiveness of demand-side policies, and who use it to show that expansionary demand-side policies are more likely to result in inflation than to influence unemployment and real GDP. These economists prefer policies that focus on influencing aggregate supply.

Lecture 2