



Course: Economics I (macroeconomics)

Study text

10th Chapter

Unemployment

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10 Unemployment

In this chapter we will deal with the most serious macroeconomic instability - unemployment. In times of economic recession it is more than an actual problem. The text will clarify the issue of measuring the rate of unemployment causes of unemployment and its forms (types), consequences (its impact on the economy) and the possibility of macroeconomic policy how to reduce the unemployment rate. Finally, we will discuss the relationship between inflation and unemployment rate using the short-run and long-run Phillips curve.

Unemployment is a phenomenon that brings negative, especially economic and social consequences, and it belongs among the most complex problems within macroeconomic policy.

Unemployment cannot be understood as a solely economic problem. It is necessary to take into account social and cultural aspects. The concept of unemployment does have distinct economic characteristics, but also its individual human dimension. It carries with serious psychological, health and social consequences.

10.1 Unemployment and its measurement

People are economically active at a certain age interval. If they are working or wishing to work and actively seeking work, they are concluded into labor force or the *economically active population*. Economically active population consists of employed workers and the unemployed people seeking a job and who are willing to take a job.

Those who are not able to work or do not want to work belong to a group of *economically inactive* (children, students, retired people, invalids, homemakers, people who have stopped looking for a job).

Economic status reflects the basic distribution of the population of the relevant age (e.g. from 15 years) according to the classification at the labor market. The population is divided on the economically active population, i.e. employed and unemployed, and the economically inactive population.

The workforce is one of the basic inputs and determinants of production possibilities. If the labour force is fully used, the economy operates at the level of potential output. If workforce is not fully used, the economy lies in an output gap and with greater rate of unemployment.

For the examination of the trend of unemployment, we use the formula for determining the unemployment rate (u):

$$u = \frac{U}{L} \cdot 100 (\%)$$

u = unemployment rate;

U = unemployed workers;

L = labor force.

The difference between the various published figures of unemployment rates lies in the numerator and the denominator of the methodology for determination of rates, but also in the accuracy and reliability of data sources and the comparability of data.

The rate of long-term unemployment is an indicator which expresses a share of the number of the unemployed, who are not employed for more than 1 year and more, of labor force.

The rate of economic activity (participation) is expressed as a percentage of the labour force in the total population. Its change signals a change at the labor market.

The duration of unemployment is the average length of the period during which a person is unemployed.

Frequency of unemployment is the number telling how many times a person was unemployed during a given period (e.g. 1 year) on average.

A number of specified terms are used to express unemployment.

In various countries it is a statistical survey in different ways – on the basis of a sample survey of a representative sample of households or on the basis of data on job vacancies.

10.2 Causes of unemployment and its types

Unemployment is a social phenomenon in its internal structure, dynamics, and very changing. Therefore, we cannot perceive it statically. We try to describe the phenomena and their context as relatively independent, in fact, in terms of their interaction.

Recall we distinguish **voluntary** and **involuntary unemployment**.

Voluntary unemployment refers to a condition where the number of unemployed is less than or equal to the number of current vacancies. People are not willing to take a job and prefer other activities at the expense of employment. Monetarists consider all unemployment as voluntary, because in their opinion only due to the fact that people are not willing go to work at a given wage.

Involuntary unemployment means that the number of vacancies is less than the number of job seekers. Unemployed people seek employment actively. As the author of the concept of involuntary unemployment Sir J. M. Keynes is considered.

The natural rate of unemployment is the unemployment rate when demand for labor equals the supply of labor. This is the level of unemployment in the economy located

at the level of potential output. It is often cited as the sum of frictional and structural unemployment, but it is not accurate, because it includes other persons.

Natural rate of unemployment is also characterized as such the unemployment rate, at which there is no acceleration or the deceleration (slowing) in inflation, and it is referred to the **NAIRU (Nonaccelerating Inflation Rate of Unemployment)**. It corresponds to the number of people who for various reasons do not accept the existing supply of jobs (medical disability of physical or psychological origin, socially maladjusted individuals, etc.). The amount for each economy is different. We can say that it is natural for the economy.

Full employment is such an unemployment rate that corresponds to the state of the economy operating at the level of potential output.

Here are the following **types of unemployment**:

- **Frictional unemployment.** It arises from the fact that the scale of employment is in continuous motion. People voluntarily transferred from one job to another, looking for a more convenient alternative to applying their knowledge, skills and experience. The rate of unemployment in the European economies is estimated at 1-2 %. Its bearers are usually employees with higher educational attainment or operating on the evolving market segments (information technology, computer technology, assembly, etc. profession.). The main problem for the functioning of frictional unemployment is the possibility of labor mobility in the context of housing and transportation worker. In terms of the flow of time is usually short-lived. This unemployment is a component of the natural rate of unemployment.
- **Structural unemployment.** It is caused by the mismatch between the qualification requirements for different types of work on the part of firms in a given locality, on the one hand and the existing workforce skills on the other side. Very often it occurs due to technical and technological progress and rapid development of a production system than in education system. It affects different professions, sectors or regions. This type of unemployment is also conditioned by the changing structure of demand for certain products or services, which is not a long-term interest, but which in the previous period were significantly contingent on the labor market. An example here might be mining coal and other raw materials, heavy industry and others. On the production structure are often bound by educational institutions and institutions training people for future jobs that can flexibly respond to changes in demand. Changing qualification (retraining) workforce is longer period of time. Restructuring is one of the most difficult but also the most expensive tasks for economic policy. Structural unemployment is involuntary unemployment and is usually long-term. Structural unemployment is a component of the natural rate of unemployment.

- ***Cyclical unemployment.*** It is associated with cyclical fluctuations in the economy - the existence of the output gap, the actual performance of the economy is below potential output. Unlike structural unemployment it affects all sectors, regions and professions without major differences. Size of cyclical unemployment depends on how flexible the labor market is and how it reacts to negative or positive changes. It is an involuntary unemployment. Size of cyclical unemployment in the literature usually expresses by Okun's law (see theory of economic cycles). This unemployment is not a component of the natural rate of unemployment.
- ***Seasonal unemployment.*** It is associated with alternating labor demand depended on the season or weather conditions. Typical examples are work in agriculture, construction, road construction and rail communications etc. Employees in these occupations have their hands full during season. Except this time they either remain in the register of unemployed registered at labor offices or remain different ways to paid leave (in case of key professions). It is a type of involuntary unemployment and we consider it as a component of frictional unemployment, therefore it is a part of the natural rate of unemployment.

We can also mention the *administrative unemployment*. For example, there is a relationship between the state-mandated minimum wage and unemployment. Too high a minimum wage leads to reduce the number of employees, logically there are higher mandatory contributions to health and social security and generally high labor costs.

The concept of *pathological unemployment* has its roots in existing pathological phenomena within society (crime, drugs, prostitution, human trafficking). Its bearers are mostly people or social group, but also the entire ethnic group living on the edge of society.

In terms of timing unemployment can be divided into:

- a) short term - usually with a length up to 3 months;*
- b) medium term - with a duration of 12 months and*
- c) long term - with a duration exceeding 12 months.*

Particularly long-term unemployment creates considerable problems (see the following text).

10.3 Consequences of unemployment

Unemployment is generally understood as a consequence of incorrectly (unevenly) functioning market system. Macroeconomic policy aims to eliminate such a market behavior.

Unemployment affects not only economic, but also political and social stability of the country. Long run unemployment entails physical, medical, psychological and social problems and hardship. These impacts are differentiated, particularly in relation to the earlier position of the unemployed at the labor market, length of procedure and work on its position in a previous job. In principle the impact of unemployment is divided into economic, social and political.

Economic consequences of unemployment

Unemployment leads to loss of goods and services that could be made by unemployed labor force. People would be part of the active labor force and involved in the production of goods and services. Their exclusion from the labor process means loss of volume of production in the economy, and this part of the product remains non-produced.

Unemployment causes also costs, which consist of expenditures from the state budget to aid payments and social benefits to persons who are unemployed. We include spending on retraining, skills or maintain its expansion and acquisition of additional skills necessary for the labor market. Unemployment is to become a very costly affair.

Social and psychological consequences of unemployment

The negative aspect of unemployment represents its social consequences, both in terms of societal and individual. These impacts are reflected in the combined form and provide other social issues that impact on the economy. The social impact of unemployment includes:

- *psychological stress caused by job loss of income, of changes experienced by life roles and positions.* It may happen that an individual who was in the period of employment considered a source of stability of the financial situation of the family, this role falls. The loss of such a position of authority often leads to the breakdown of family ties and other individual problems, which are mostly psychological in nature, such as: stress, loss of self-esteem, health problems, increase aggression, unwillingness to communicate, alcoholism,
- *violation of ethical values* associated with the formation of undesirable phenomena such as crime, prostitution, drug addiction,
- *possible escalation of disputes between severity groups in society* (including racially motivated behavior).

The political consequences of unemployment

These impacts are associated with the aforementioned impacts of the rising unemployment rate, when the government seeks to address potential adverse situations, such as the growing tensions and conflicts between different groups in

society, a growing number of people who are at subsistence level; possibly with the growing dissatisfaction towards the character of fiscal (and social) policies may have problems the government itself.

The size of the impact of unemployment and their destructive power is multiplied by time after which a person is unemployed. The unemployment is longer, the consequences are serious. We consider the most serious long-term unemployment (unemployment longer than one year).

If you want to make a brief characteristic of people who are usually most affected by *long-term unemployment*, then we can talk about people:

- *with lower education;*
- *worsen health;*
- *affected by discriminatory behavior on the part of employers, institutions and companies;*
- *with older age (usually 50 years);*
- *long-term unemployed;*
- *with less flexibility and high passivity in seeking solutions;*
- *living mainly in rural areas;*
- *reluctant to embark on a lower pay existing jobs;*
- *who lost their work habits, contact with normal social life and used generous system of social benefits.*

There is a concept based on the finding that high long-term unemployment rate may increase natural rate of unemployment. In economic theory, this phenomenon is known as ***hysteresis at the labor market***. Hysteresis means that generally a variable is dependent on past development of something. When people are in a period of recession for some time unemployed, they will lose skills and then will look for a job with difficulty. Some of them will stop looking for a job or will seek illegally income. Based on the concept of hysteresis natural rate of unemployment tends to increase.

10.4 Possibilities of the state regarding the reduction in the unemployment rate

Unemployment is significant problem for the state budget, because it is very expensive. The state pays funds from the state budget to persons that are currently producing nothing.

The active employment policy is a set of measures designed to ensure the maximum possible level of employment.

Active employment policy is realized through several tools, among which we can mention:

- *retraining;*
- *investment incentives;*
- *community service;*
- *socially useful jobs;*
- *bridging allowance;*
- *employee commuting;*
- *contribution towards recruitment;*
- *contribution in the transition to a new business program.*

Passive employment policy usually takes the form of aid disbursement and unemployment assistance. The contributions unemployed in different economies varies, usually granted for 1-2 years, can be achieved in the range of 30-80% of the average of the previous income.

A policy aimed at reducing the cyclical component of unemployment is known as **Keynesian counter-cyclical policy**. This policy is particularly topical when the output gap is quite pronounced and lasts for a longer period. Keynesian counter-cyclical policy focuses demand, elect expansionary fiscal, monetary, or monetary policy, leading to an increase in aggregate demand, output and employment subsequently.

The economy operating at the level of potential output is characterized by **the natural rate of unemployment**. If the objective of national macroeconomic policy is to reduce the natural rate of unemployment, it means that it efforts to reduce frictional and structural unemployment.

Possible tools are the following:

- *retraining programs;*
- *improving information on job vacancies;*
- *transport allowances for work;*
- *reduction of social benefits, which reduce the incentive to work;*
- *weakening the influence of trade unions;*
- *reducing the minimum wage, which otherwise prevents the hiring of low-skilled workers.*

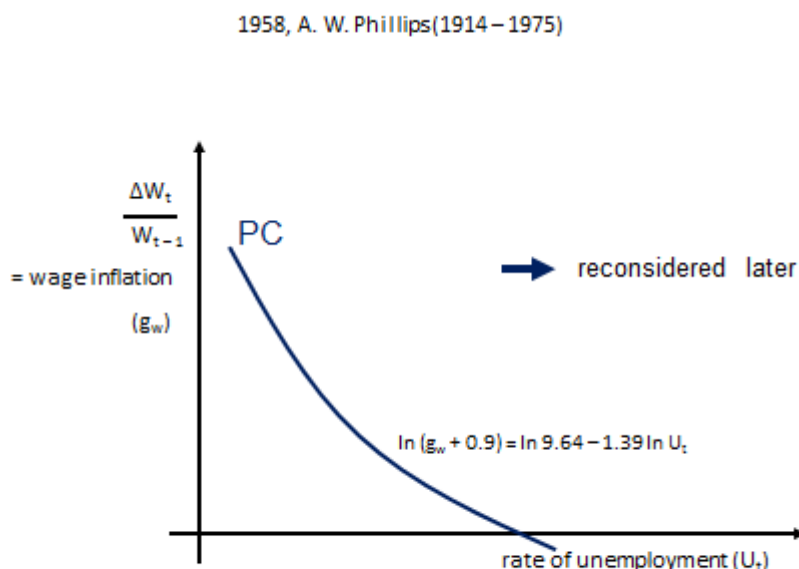
The decrease in the natural rate of unemployment may also occur as a result of reducing the cyclical component of unemployment.

The circumstances preventing the appointment of equilibrium at the labor market, such as the influence of trade unions and the determination of minimum wages lead to inflexibility (rigidity) at aggregate labor market. Inflexible labor markets in continental Western Europe are marked by the word “Eurosclerosis”.

10.5 The relationship between unemployment and inflation

In 1958, economist A. W. Phillips formulated the conclusion that there is an inverse correlation between the unemployment rate and the growth rate of nominal wage rates. The relationship, which he described in his paper and mathematically well defined, is today called the *original Phillips curve* and is shown in Fig. 10.1.

Fig. 10.1 Original Phillips curve



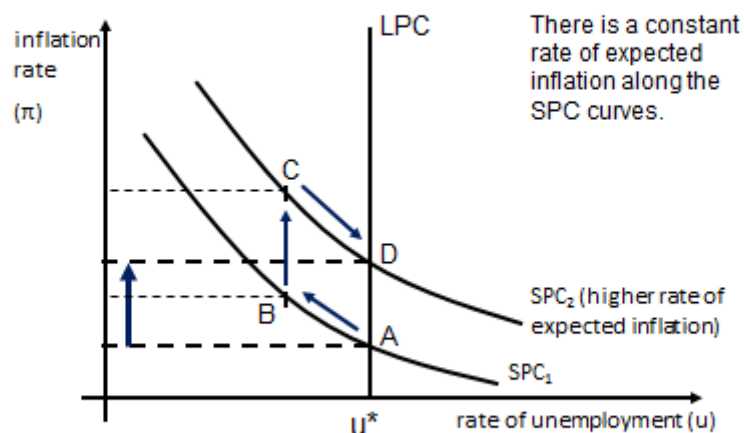
The x-axis represents the unemployment rate and the y-axis represents growth rate of nominal wages (wage inflation). Original Phillips curve (PC) has a negative slope, shape of hyperbola and intersects the x-axis. It is clear, the lower the unemployment rate, the higher growth rate of wages. At a certain unemployment rate (equal to the natural rate of unemployment) the wage inflation is zero. A. W. Phillips formulated the conclusion that there is substitution between unemployment and the rate of wage inflation, while he had in mind that this substitution is valid for both, short and long run.

The original Phillips curve was modified later by P. A. Samuelson and R. M. Solow. We talk about modified Phillips Curve. The x-axis represents the unemployment rate

and y-axis represents inflation rate (growth rate of the price level). Modified Phillips curve is also known as the inflationary version of the Phillips curve. It captures the inverse relationship between the rate of growth of the price level (inflation) and the unemployment rate. This meant that if the aim of macroeconomic policy was to reduce the high unemployment rate, so only at the cost of high inflation. There was a choice between two evils: inflation and unemployment.

Substitution relationship between the growth rate of wages and the unemployment rate was considered regularly until the end of the 60s of the 20th century - the advent of conservative economic policy guidelines. In the 70s of the 20th century, the evolution of inflation and unemployment in developed market economies affirmed the inflationary implications of the Phillips curve (the high inflation rate and unemployment rate). *M. Friedman* and *E. Phelps* concluded that the trade-off between inflation and unemployment rates is valid only in the short term and in the long term this inverse relationship does not exist. Along the short-term Phillips curve, there is constant expected inflation and long-term Phillips curve is vertical line.

Fig. 10.2 Short-term and long-term Phillips curve - a modern interpretation



There is constant rate of expected inflation along the short run Phillips curve SPC₁ in Fig. 10.2. Short run Phillips curve SPC₁ has a lower rate of expected inflation in comparison with SPC₂. Long run Phillips curve LPC determines the natural rate of unemployment (u^*). Assume point A at u^* ($Y=Y^*$) and the objective of macroeconomic policy is to reduce the unemployment rate to a lower level u_1 . An increase in aggregate demand (e.g. monetary expansion) will reduce the unemployment rate and also increase the rate of inflation. This policy represents a shift from point A to point B along the curve SPC₁. According to M. Friedman this shift

means money illusion of workers (workers believe the increase in real wages and work more), but once workers recognize the increase in the average price level and adjust their expectations to the new, higher price level, there will be a shift from the point B to the point C on the curve SPC_2 with higher expected inflation. Workers will demand higher nominal wages in order to maintain their real wages, so the output will decrease and the unemployment rate will return to natural rate of unemployment (u^*), but at a higher rate of inflation. Thus we ended up at point D. In the long run, there is no substitution between inflation and unemployment rate. Long run Phillips curve LPC determines the natural rate of unemployment (u^*) and connects the points where the actual and expected inflation rates are equal.

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