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MACROECONOMICS

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Macroeconomics

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The book introduces readers to how the economic life of society as a whole is organized. A significant part of the material is devoted to such macroeconomic problems as the dynamics of national production, unemployment, inflation, and achieving general equilibrium. The economic role of the state, the action of fiscal, monetary, and other instruments of state regulation of the economy are considered. In terms of its structure and content, the book meets modern standards for studying the course "Macroeconomics" in the university education system.

For higher education students. It can be useful to all those who are interested in economic problems.

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CONTENT

«In ancient times, the richest countries were those whose nature was the richest; today the richest countries are those in which man is the most active»
(Henry Thomas Buckle)

«Whatever you learn, you learn for yourself»
(Petronius)

INTRODUCTION

Most of us live in apartment buildings. The apartment is our home, and we have a certain freedom in shaping its inner world - arranging family relationships, determining the functional purpose of the rooms, arranging furniture, maintaining a certain degree of cleanliness, etc. Thus, we feel autonomous and independent of the residents of other apartments. But how independent are we really, what is the degree of our autonomy? Do we have common problems, do we need some kind of general regulation or not? It seems to us that answering these questions is not too difficult. For example, the appearance of a crack on any wall of the house poses a danger to the residents of all apartments. And cleanliness, lighting of the yard and entrances, protection from unwanted visitors, heating of the battery in winter and the level of water pressure in the taps in summer, as well as much more - these are our "general", common or "large" (macro-) problems, which differ from intra-apartment, local (micro-) problems. And we resort to the creation of building committees, housing and communal services or other "coordination entities" for their coordinated solution.

The economy is an apartment building. Residents are households (families, individuals) and enterprises. They interact intensively here, they are very interconnected and interdependent, they have a whole range of important common problems.

What is the interdependence of economic entities, which common economic problems arise in them and why, what and how the state ("coordination entity") does to solve them - these and other problems are of interest to macroeconomics. This book is devoted to their consideration.

The problems of macroeconomics are not distant for each of us. Can we consider, for example, such problems as the price level in the economy, the formation of tax rates and the distribution of budget funds, the state of exchange rates, the size of interest rates on deposits and loans as "distant"? Of course, not - these are "close" issues, important issues for each of us and those enterprises, organizations, institutions in which we work or which we manage.

We tried to write this book in an accessible language that is easy to read. Our many years of experience working with students, schoolchildren, as well as adults speaks in favor of just such a style of writing educational literature. We do not promise an easy walk through the pages of this book: studying any course is always work, it is always effort. But we would like to use "simple" language to help the reader achieve greater productivity in the study of macroeconomics.

The first edition of the book in the English was published in the early 2010s[1]. Now there is a need to revise and update the textbook, taking into account new circumstances and the latest achievements of macroeconomic science. This book is based on a later Ukrainian-language edition[2].

We sincerely wish you economic success!

Our special gratitude to those who helped us in the preparation of this book.

[1] Macroeconomics / A.O. Zadoia, Y.E. Petrunia, S.V. Kuz'minov, O.M. Trushenko, O.A. Kosyakina. – Dnipropetrovs'k: Alfred Nobel University, Dnipropetrovs'k, 2011. 296 p

[2] Задоя А.О., Петруня Ю.Є. Макроекономіка: навчальний посібник. Дніпро: Університет імені Альфреда Нобеля, 2022. 256 с.

CHAPTER 1. NATIONAL ECONOMY AS A MACROECONOMIC SYSTEM

It is quite logical that the study of any subject, as a rule, begins with finding out what the object of study itself is. What are its boundaries, properties, features, main directions of evolution? By what signs can its structural elements, blocks be distinguished?

We will not break with tradition and follow the usual path: the first section of the book is devoted to the consideration of the above-mentioned issues, of course, in the context of macroeconomics. In it, we will present the object of study in general: we will find out what the macroeconomic system is, what its main features are, what role belongs to the state – the main actor at the macro level – in solving general problems.

1.1. NATIONAL ECONOMY: ESSENCE AND FEATURES

The essence of the national economy

When we study microeconomic processes, we learn about the reasons and conditions for the success of a particular product in the market, the mechanism for making a profit, the procedure for setting prices for individual goods, the motives for creating and eliminating jobs, as well as other important characteristics of the activities of enterprises and households. Macroeconomics has other areas of interest and problems. It deals with finding out the reasons for general economic growth or decline, trends in price changes in general, the general characteristics of the labor market, and other "general" issues. Therefore, we can say that ***macroeconomics is a field of economic***

science that specializes in studying phenomena and processes inherent in the economy as a whole.

But what should be understood by the economy as a whole? "Micro" is something local, "small", "macro" - "large", - but how exactly does this "large" look like? After all, how can we claim that, for example, Odesa or Dnipropetrovsk regions are small socio-economic entities, if in terms of population and territory they can be equated to individual European countries? On the other hand, should we consider such an influential interstate association as the European Union as the "economy as a whole"?

It seems reasonable to us to link the macroeconomic space (macroeconomic system) with the national economy - the economy of a country in its certain state. ***The national economy can be defined as a set of economic entities and the connections between them, characterized by economic integrity, commonality in certain time and space***.

As is known, each economic entity enters into economic relations with many of its own kind every day. The basis of these relations is the division of labor. Since the type of organization of production adequate to the modern level of development is the commodity type, the majority of economic relations in the national economy acquire a commodity character. Producing goods for others, each entity of the national economy turns out to be dependent on counterparties, who in turn depend on it. But under these conditions, the success of one may turn out to be the loss of another, the growth of profits for some may turn into losses for others, the increase in the share of one product in the market may be accompanied by a decrease for others. Therefore, the trends in the development of the national economy are formed as a result of the complex interaction of a set of interacting microeconomic processes.

Features of a national economy

Now we must reveal in detail the features of the national economy, explain in detail what is meant by "the economy of a country in its certain state". So, the features of the national economy should include:

1. ***The presence of close economic ties between the country's economic entities based on the division of labor***. In the above definition of the national economy, this feature is denoted by the word "integrity." The national economy is formed not simply by economic entities operating in a particular country; it is not a simple sum, but a certain unity.

The presence of economic ties is the transfer of economic impulses from one entity to another. For example, someone decided to improve the living conditions of his family and move to a new house of his own. To do this, he must purchase it. The purchase of a house by one entity will bring income to another. The seller of the house spends the proceeds on the purchase of some goods, which will bring income to their sellers, etc. Therefore, the initial purchase gives impetus, an impulse for a number of new transactions, thereby generating a certain economic wave of subsequent events.

Thus, the modern economy is a massive, intensive contacts and signals that arise between economic entities. This is how it differs, say, from the Middle Ages, when the country's economy consisted of separate estates, fiefdoms and other feudal economies, practically unrelated to each other, while the economic successes or problems of any of them did not cause any serious consequences for others. Today is a different economy: enterprises, households in the world are extremely strongly interconnected, interdependent agents.

The state of economic integrity arises in the process of forming national markets, which occurs with the transition to a commodity type of organization of the public economy. In modern conditions, the purity of the functioning of the country's economy as a "national economy" is

violated by a number of circumstances. In particular, the strengthening of foreign economic relations blurs the boundaries of, say, a typical economic space. Some economic entities are oriented not so much to the internal as to the external market, therefore, firstly, they feel the impulses of other economic systems, and, secondly, the power of internal economic waves weakens in relation to them. The strengthening of the role of foreign economic relations in the dynamics of internal processes of most countries leads to the delegation of a number of functions of macroeconomic regulation to international organizations, which also introduces specifics into the functioning of national economies. Thus, the development of foreign economic relations is a factor in a certain decrease in the degree of integrity of economic entities within the economy of our country and a request for the formation of some new change in the macroeconomic space.

2. ***A common economic environment in which economic entities operate***. It is created primarily by the presence of a single economic legislation and a common financial system.

A single economic legislation is the general "rules of the economic game". These "rules" form certain conditions and space for economic activity. Within this space, a kind of economic center operates - the state, which carries out both the formation of "rules" and control over their observance, and even a certain management of economic processes in this space. The power of the state is determined, in particular, by its financial capabilities, financial resources, and their reasonable use. The presence of a national tax and budgetary (financial) system is another kind of unifying contour, a factor of integrity.

Separately, it should be said about the financial system. The presence of a national currency is a factor that, of course, enhances the degree of unity, the degree of commonality. Drawing an analogy between the national economy and a living organism, money can be compared with the role that blood plays in the body. It is through money flows that impulses are mainly transmitted from one subject to another;

money, like blood, carries nutrients for the corresponding elements of the economic system. And the presence of a national currency is, of course, a unifying factor. At the same time, the world is developing, and we can observe the transition of countries to the use of a common currency (for example, the euro in the EU countries). This leads to a certain blurring of the framework of the typical economic space, but such a transition is not critical in terms of the loss of national economic sovereignty.

3. ***The presence of a common economic center that influences the activities of economic entities***. This center, as noted, is the state. Its activity is a condition for achieving the necessary level of coordination of the economy. The degree of state intervention in economic life may vary. But achieving integrity in the sense of "national economy" implies that this center takes on at least the functions of regulatory regulation of the behavior of economic entities, conducting financial policy, and providing social support to certain categories of the population.

4. ***The presence of a common economic protection system***. There are economic limits in the form of export and import duties, quotas, etc. If such limits are absent, then such a macroeconomic problem as achieving a balance between aggregate demand and aggregate supply becomes difficult within the framework of national economic regulation.

In general, it is necessary to pay attention to the fact that the economies of countries are not static systems. They change – in different periods of time with varying degrees of intensity – under the influence of many factors, including non-economic ones, for example, political, demographic, social, historical. In addition, macroeconomic policy must take into account both global trends in economic development and internal national characteristics of a particular country. Therefore, the process of macro-level study of the economy of a particular country should include: 1) knowledge of general patterns and principles of functioning of national economies; 2) identification of

modifying (nationally specific) macro-level factors and knowledge of the mechanism of their action; 3) identification of the specifics of the manifestation of general patterns taking into account the national-historical characteristics of this country.

1.2. STRUCTURE OF THE NATIONAL ECONOMY. MAIN MACROECONOMIC PROBLEMS

Subjects and sectors of the national economy

Since the national economy is a system of relations, it can be considered from the perspective of ***subjects, objects, content and nature of the relations*** that are formed.

If for microeconomic subjects, resource limitation is usually relative and is overcome by paying larger amounts for attracting additional resources, then at the macroeconomic level, society quite often faces ***absolute resource limitation***: the area of agricultural land cannot be larger than the area that is suitable for these purposes; labor resources are limited by the population, etc. In many ways, an attempt to overcome this absolute resource limitation stimulates international economic relations, which leads to the internationalization of economic activity.

The objects of macroeconomic relations differ from the objects of the microlevel. For example, many states have declared the airspace over the territory of the country the property of the people. And this makes sense. After all, one of the most important macroeconomic problems is environmental protection from pollution, the formation of an ecological safety system. If microanalysis is focused on finding out how and under what conditions employment arises at the "employee-employer" level, then macroeconomics focuses its attention on the factors of employment of the population in general, on demographic

processes in the country, since they have a very significant impact on aggregate demand and aggregate supply.

The subjects of relations in the national economy are ***the state, enterprises and households***. Both vertical and horizontal relations are formed between them. Each economic entity, being to one degree or another isolated, has a certain economic interest. Its activities are subordinated to the implementation of this interest. Of course, these interests are different, sometimes opposite, contradictory. Contradictions of interests exist in both horizontal and vertical relations.

The differences and contradictions between interests can reach such an acuteness that the activities of some subjects in the realization of their interests will harm other subjects. Therefore, the main task of the economic center of the national economy is to provide an economic environment that allows resolving contradictions. This is possible either by subordinating interests, when "senior" and "junior" interests are distinguished, their subordination, or by combining, when all interests are considered equal and an economic mechanism is created that allows making the realization of the interests of some a condition for the realization of the interests of others. The modern market system is built on this principle.

The specifics of life, interests and the role in macroeconomic processes of the subjects highlighted above allow us to consider the sectors of the national economy as special parts that differ in business relations, forms of communication and other aspects.

In Ukraine, as in any modern economic system, we can distinguish between the private and public sectors. ***The private sector*** consists of: a) households; b) private enterprises. The composition of **the public sector** is formed by: a) structures that produce goods and provide services (state and municipal enterprises, organizations, institutions); b) regulatory structures (government, central bank, local authorities).

The ratio of the above sectors may vary. If a certain sector clearly dominates the country's economy, it can be conditionally called ***mono-sectoral***. However, the current stage of human development is characterized by the absence of a critical mass in any sector. The economy is an interweaving of the private and public sectors. If at the end of the 19th and beginning of the 20th centuries the private sector dominated almost exclusively, now the share of the public sector reaches, as a rule, from 30 to 60% of the production of the national product. Traditionally, the public sector prevails in the field of national defense, healthcare, education, energy, science, etc.

In general, modern economies are characterized by:

- a variety of forms of management without the overwhelming dominance of any of them;
- competition between different forms of management as equivalent in socio-economic terms structures;
- the expansion of one or another form of management (state or private) is determined, first of all, by the criteria of economic efficiency of their functioning and social necessity.

Why is the presence, combination of these sectors adequate to the current stage of economic development? First of all, because the objective prerequisites for the functioning of the entrepreneurial sector are preserved: the social division of labor, the separation of producers, the action of individual motivational factors, a three-link system of machines, the use of which is effective in medium and small enterprises, etc. At the same time, there are necessary prerequisites for the existence of the public sector of the economy: the inability of market mechanisms to ensure crisis-free development; a high level of interdependence of economic entities creates areas whose regulation is necessary at thlevel of the economy as a whole; changes in the place and role of man in the economy require, for its normal functioning, solving the problems of labor force reproduction on the scale of the entire national economy, and others.

National economy - mixed economic system

Any economic system must have certain coordination mechanisms. The interaction of economic entities requires ordering, regulation in order to increase the efficiency of economic activity of society. Without achieving a high level of coordination between millions of participants in economic life, it is impossible to achieve an acceptable level of satisfaction of needs for economic benefits. The alternative to coordination is chaos, which never gives positive results. And we, unfortunately, had the opportunity to see this truth in the early 90s, when, under the slogan of reforming the economy of our country, the coordination mechanism of centralized planning was eliminated, and nothing new was created instead.

The mixed economy model is dominant in the world**. *A mixed economy is an economic system in which the role of regulators is performed by the market and management, without the decisive predominance of one of them*** (Fig. 1.1).

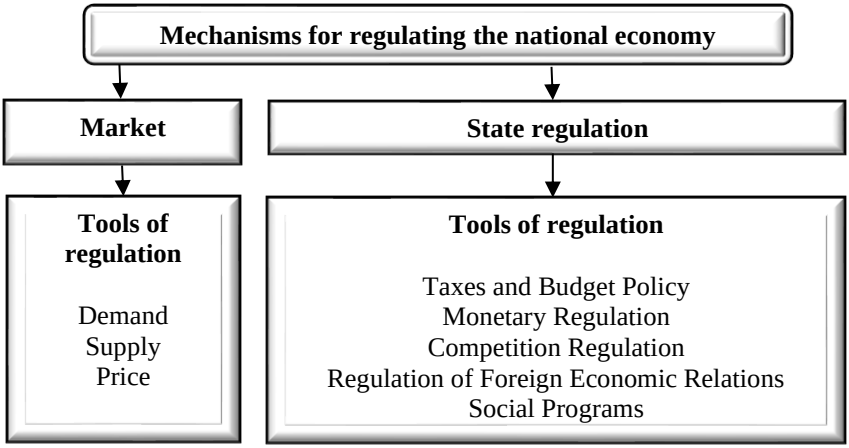

Fig. 1.1. **Coordination mechanisms of the national economy**

The market is a self-regulating economic relationship. This is the interaction of natural forces, the basis of which is demand, supply, and price. The functioning of the market, its performance of a coordinating role, is considered mainly in the foundations of economic theory, social and microeconomic analysis. At the same time, it is an obvious fact that modern economic life of society cannot do without state intervention. Within the framework of macroeconomic analysis, we are interested in the necessity, approaches and tools used in state regulation of the economy and some other aspects of the state's economic activity.

Thus, a mixed economy system is formed – market and state regulation are "mixed", the actions of representatives of two sectors of the economy (private and state) are intertwined. This model is dominant in the world, its formation and development are characteristic of the economy of Ukraine in the period of the end of the last century – the beginning of the current one.

Main macroeconomic problems

Ideally, the national economy is a system that ensures the full use of resources and sustainable development. Since the modern national economy has a market nature, the problem of proportionality, equilibrium is expressed through the correspondence of demand and supply. The main types of equilibrium, the violation of which gives rise to most macroeconomic problems, include:

1. ***The balance of aggregate demand and aggregate supply.*** Periodic violations of this equilibrium lead to the cyclical development of the national economy – the alternation of boom and bust. That is, the indicators of economic growth rates can be both with a "plus" sign and with a "minus" sign. Obviously, the lack of economic growth negatively affects the level of satisfaction of society's needs.

Achieving economic growth will mean an increase in the flow of goods and services from enterprises to households and a simultaneous

increase in income, other things being equal, received by enterprises. One of the key tasks of macroeconomics is to understand the mechanism of the economic cycle, its causes, and to most fully reveal the factors that determine economic growth.

2. ***The balance of demand and supply of money***. It is known that a violation of this balance causes inflation or deflation. Macroeconomics should explain what are the causes of inflation (with respect to certain conditions) and how to ensure the stability of the monetary unit, what are the features of the impact of inflationary processes on the overall economic dynamics.

3. ***The balance in the labor market***. One of the problems that most countries are painfully experiencing is unemployment. Macroeconomics studies the reasons that cause the excess of labor supply over demand for it, as well as the forms and economic consequences of forced unemployment.

4. ***The balance of state income and expenditure***. Since the state appears as an influential economic entity, the main macroeconomic problems include the issues of formation and use of the state budget. Macroeconomics also deals with the analysis of the possible consequences of making certain decisions by the state regarding the regulation of the national economy.

So, the main roles in the economy belong to the producer and consumer of products. The market is a mechanism by which they regulate their relations. At the same time, a "third party" intervenes in their cooperation – the state, which influences the economy on behalf of society, acts as a decisive force in finding ways to solve the problems listed above.

Brief conclusions

1. Macroeconomics is a field of economic science that specializes in the study of phenomena and processes inherent in the economy as a whole.

2. The macroeconomic system is considered as a national economy, which can be defined as a set of economic entities and relations between them, characterized by economic integrity, commonality in certain time and space.

3. The main features of the national economy are: a) the presence of close economic relations between the country's economic entities based on the division of labor; b) the general economic environment in which economic entities operate; c) the presence of a common economic center that influences the activities of economic entities; d) a common system of economic protection.

4. In the modern economic system, the private and public sectors can be distinguished. The private sector is represented by households and enterprises, the public sector is represented by structures that produce goods and provide services (state and municipal enterprises, organizations, institutions), as well as regulatory structures (government, central bank, local authorities).

5. The national economy should strive for dynamic equilibrium. The main types of equilibrium, the maintenance of which is one of the most important problems of macroeconomic policy, are: a) equilibrium of aggregate demand and aggregate supply; b) equilibrium of demand and supply of money; c) equilibrium over the labor market; d) equilibrium of income and expenditure of the state.

6. The modern economy is a mixed economy, in which the regulation of economic processes is carried out by both the market and the state without the decisive predominance of one of them

Basic terms and concepts

- *Macroeconomics*
- *National economy*
- *Characteristics of a national economy*
- *Private sector*

• *Public sector*
• *Mixed economy*
• *Macroeconomic equilibria*

Questions for reflection and discussion

1. Can the economy of a country include two or more national economies? Conversely, can the union of several countries to a greater extent correspond to the characteristics of the national economy than each country participating in the union separately?

2. Why is it important to find out the degree of correspondence of the economy of a country to the characteristics of the national economy before using the patterns revealed in the study of macroeconomics to analyze the situation in it? What consequences can ignoring this requirement lead to?

3. What are the differences between the problem of resource scarcity at the micro and macro levels? Are resources really absolutely limited at the macro level? What adjustments does the development of the modern world economy make to this statement?

CHAPTER 2. STATE AS A SUBJECT OF MACROECONOMIC REGULATION

Thus, in macroeconomic analysis, the state is perceived as a key subject of the system.

This section analyzes the reasons that determine the need for state intervention in the economy, the main economic functions of the modern state, methods and instruments of state regulation, as well as such an important issue as the reflection of social benefits in the economic policy of the state.

2.1. STATE IN THE STRUCTURE OF ECONOMIC RELATIONS

The need for state regulation of the economy

The need for state intervention in the economic life of society is caused primarily by:

1. ***The need to support the conditions for self-regulation of the economy, the effective functioning of the market***. The state protects the market from its "enemies", the most dangerous of which is monopolism, the desire of economic entities to limit or even eliminate competition. When competition weakens, the efficiency of entrepreneurial activity usually decreases. By protecting competition, the state protects efficiency.

2. ***The disadvantages of self-regulation and the need to overcome them.*** First, the production of not all goods and services is profitable for the business sector (the reasons for which we will analyze below), therefore the state organizes the provision of educational services,

carries out the construction of roads and bridges, the creation and launch of space satellites, municipal services for buildings, sanitary control, street lighting, creates and maintains organizations designed to ensure the safety of citizens of the country, etc. Secondly, market self-regulation does not ensure a sufficiently full use of the resources available in society. First of all, this problem concerns labor resources. The state cannot ensure full employment, but it can and should influence the situation on the labor market in terms of its stabilization, support the unemployed. Thirdly, market relations on their own do not ensure effective interaction of the economy and the environment.

3. ***The need for a certain redistribution of income, increasing accessibility to certain goods and services***. The income redistribution mechanism provides for payments from the state budget and extra-budgetary funds of pensions, scholarships, and various benefits. As for creating more favorable conditions for the population to receive certain goods and services, examples include education, medical services, the work of libraries, museums, etc. By financing, in particular, educational programs, the state creates the prerequisites for the broad masses of the population to master general and special education, which increases the potential of society. The budget system for financing the creation of the above-mentioned goods and services has an economic and social justification, which, however, does not exclude the parallel use of a direct, or market, mechanism for their payment, which is observed in Ukraine and many other countries of the world.

Economic cycles with state participation

The economy is, first of all, the interaction of enterprises and households. This is the movement of goods (services), money. At the same time, the state also participates in the circulations – commodity and money (Fig. 2.1). Therefore, let's consider how enterprises and households interact with the state.

Households – the state. Part of the resources that households supply to the markets is purchased by the state. For example, the state buys the services of teachers, military personnel, doctors, managers, miners, drivers, etc. All of them get jobs in state structures. These structures create goods and services that households buy or receive. The first circle is thus closed. Let's analyze the second circle: the state collects taxes from households, then part of these funds is used to pay for the purchase of resources, which is one of the sources of household income. Households can also receive funds from the state under social security programs (for example, pensions), as well as services (for example, education) that are not directly paid for.

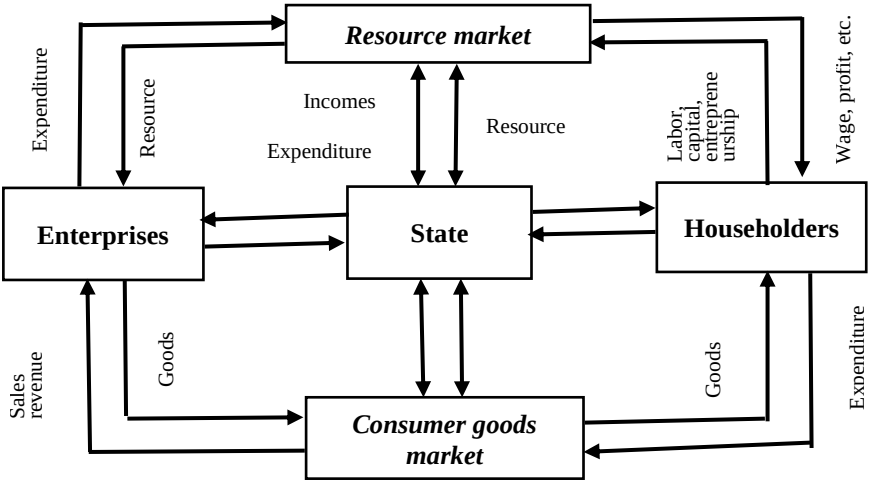

Fig. 2.1. **Commodity and monetary circulation in the national economy with the participation of the state**

Enterprises – the state. The state can act as a buyer of goods and services created by enterprises. For example, the government of Ukraine annually purchases grain for state funds from agricultural

producers. The state also purchases everything necessary to maintain the army, police, schools, hospitals, etc. On the other hand, the state and local authorities provide enterprises with a number of goods and services: allocate land plots, provide water, many services, for example, legal protection, etc. To purchase the necessary goods and services, as well as to organize the production of some of them, the state needs funds, which it receives using the tax system.

2.2. ECONOMIC FUNCTIONS OF THE STATE

Using its position in the circulation system, the state can significantly influence the economic life of society. What are the main functions or main directions of the state's influence on the economy in modern conditions?

«Game rules»

The formation of the legal basis of economic activity can be considered as one of the key functions of the state. With the help of laws and other regulatory acts, the state establishes "how it is possible and how it is not possible" for business entities to behave. The state determines and protects property rights, the status of enterprises, the rights of producers and consumers, the conditions and forms of intermediary activities, the rules for the sale of goods, the conditions for the placement of foreign investments, and much more. Legal norms are important only when they are effective. Therefore, the state must organize control over compliance with the "rules of the game" by participants in economic life, perform the functions of the supreme judge, and punish violators. Violations of economic legislation may be associated with non-compliance with the terms of supply of goods, restriction of competition, unfair advertising, dissemination of false information about the quality and properties of goods, and other circumstances.

The state's activity in the field of economic legislation creates one of the important prerequisites for the normal operation of individual economic entities and the national economy as a whole. This is a condition for households and enterprises to conduct their affairs calmly and confidently. Of course, this system may cause inconvenience and economic losses to individual entities, but overall, it is undoubtedly beneficial to society. It is an obstacle to spontaneity, a sign of civilization in human cooperation.

Supporting competition

The presence of competition is one of the main conditions for the effective functioning of the market. The potential of free entrepreneurship is best realized for the benefit of consumers only in the presence of competition. The factor of competition of producers creates the possibility of free choice of consumers, which ensures their influence on sellers of goods.

At the same time, among the participants of market relations there are desires and actions aimed at limiting or even eliminating economic rivalry. Any economic agent is both a seller and a buyer at the same time. An enterprise, for example, acts as a buyer of resources necessary for the production of goods and the provision of services. As a buyer, an economic agent is interested in economic competition – in those markets where he buys the necessary products. From this competition he can gain a gain in price, quality, after-sales service conditions, etc. But as a seller, an economic agent is not interested in competition in those markets where he sells his products. He "suffers" from competition – it can negatively affect his profits, future opportunities, etc. Therefore, there is always an interest in reducing or even eliminating competition in the market. At the same time, it can be seen that the conquest of a monopoly position in the market by any seller changes the distribution of forces in the "seller-buyer" relationship: the

seller gets the opportunity to dictate his conditions, he reduces interest in reducing costs, scientific and technical updating of production, marketing activities.

Therefore, the level of efficiency of using economic resources in the economy decreases. The market itself does not have proper immunity against monopoly, it needs external assistance. Such assistance is provided to it by the state, carrying out measures to protect and develop competition, which are often called antitrust policy.

Production of goods

The organization of production of certain goods and services is another economic function of the state. The business sector does not show interest in creating certain goods and services necessary for society. Entrepreneurs either do not undertake the production of certain goods (services) at all or do not provide a sufficient supply of them. To the examples given earlier, we can add fundamental scientific research, the production of goods with a long payback period for the costs incurred, and some others. Such benefits are often called “public” goods and services: the state and local authorities are engaged in their creation, since they are not produced or are produced in insufficient quantities within the framework of the market system.

In addition, the state purposefully “takes away” the production of a number of goods and services from the market (for example, partially education, medical care, culture), believing that the state needs to engage in them from the point of view of national interests.

The reasons why the market "refuses to pay attention" to some goods and services are related to the following:

a) ***the inability to charge for a good or service from everyone who uses them***. It is better to be on the streets in the dark if they are lit. As you know, this concern is taken on by the state, or rather, local authorities. Tell us, if a private company did this, would it be able to

charge for it from everyone who benefits from street lighting? Obviously not;

b) ***the long payback period***. Almost every country today allocates funds to combat such an extremely dangerous disease as AIDS. Doctors and scientists are looking for, in particular, methods of treatment. No one can even say approximately when they will be found today. And who will undertake to more or less accurately determine the possible payback periods for the invested funds? Along with state funds, private investments also participate in the implementation of programs, but, usually, to a rather limited extent. Private capital is very modestly invested in economic projects with a long payback period.

Income redistribution

The essence of this economic function of the state is that it, using the tax system, "takes" part of the income from the population and enterprises and transfers it to certain categories of people. This transfer can be carried out in various ways. One of them is transfer payments, which directly form the monetary income of pensioners, disabled people, unemployed people, temporarily unemployed due to illness, etc. Another is the reduction in the price of some goods and services due to state subsidies to their producers. This means that consumers, receiving some goods and services, do not pay their full cost. Some part of them is paid for by the state. Examples in Ukraine include travel in public transport, the provision of utility services to the population, the sale of certain types of medicines, etc. The state can completely exempt certain categories of the population (for example, pensioners, disabled people) from paying for some goods and services. By receiving goods with partial personal payment or without it, these people increase their real income, that is, the number of goods and services that they can use.

Taking into account externalities

The producer and the consumer are two parties to any economic transaction. They bear both the costs and benefits associated with the creation and consumption of the object of their relationship – a product or service. However, often these costs and benefits are distributed not only between the direct participants, but also "go" to a third party – as a result, a side (external) effect arises. An external (side) effect is the transfer of some costs or benefits associated with the production or consumption of certain goods to entities that are their direct sellers or buyers.

A side effect can be both negative and positive for a third party. The transfer of negative costs can be most clearly illustrated by examples related to environmental pollution. Suppose a metallurgical enterprise in Dnipro (Fig. 2.2) sells metal to a machine-building enterprise in Kharkiv, receiving a certain income.

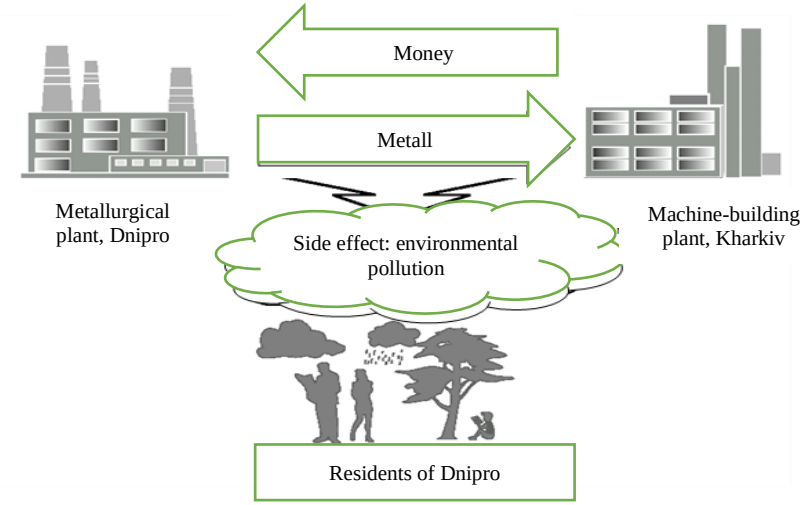

Fig. 2.2. **External (side) effect**

At the same time, the metallurgical plant does not ensure the complete disposal of emissions into the atmosphere: as a result, the residents of Dnipro incur costs associated with the fact that they breathe polluted air, and this negatively affects their health. And no one will compensate them for these forced costs unless there is effective intervention by the state, which, using legal and economic instruments, can force the metallurgical enterprise to bear the costs of applying more effective environmental protection systems, improving technology, and thus take on truly everything. The costs are associated with the production of this product. Its sale should cover all costs if the market situation is correctly calculated.

The external effect can also be positive. For example, by building a cultural center and setting up a park around it with a fountain, benches, and children's swings, a metallurgical enterprise will provide excellent recreational opportunities not only for its employees; employees of other enterprises and other residents of the city will also come here, who will receive a favorable external effect. The provision of such effects should probably be encouraged by the state.

Ensuring macroeconomic stability

No economic system is absolutely stable. Economies are characterized by fluctuations in the volume of national production, prices, and employment. State economic policy is designed to smooth out economic fluctuations and promote: a) economic growth; b) price stability; c) achieving full employment. These problems are very important in macroeconomic analysis, and therefore we will dwell on them in detail in the following sections.

2.3. METHODS AND INSTRUMENTS OF STATE REGULATION. ECONOMIC POLICY

How can the state influence the behavior of households and enterprises? Using techniques well-known in the practice of management at any level, including even families: coercion (direct regulation) and incentive (indirect regulation).

Direct regulation

Direct regulation of economic relations by the state (coercion) involves the direct establishment of certain mandatory norms in the relations of economic entities. Forms of such regulation include the determination of the minimum wage, the procedure for including certain expenses in accounting expenses, insurance deductions, the minimum size of the authorized funds of various enterprises, direct determination of prices, etc. Coercion limits the freedom of action of economic entities, it is unpopular, often causes a painful reaction in business and households. But an objective, realistic view of things requires recognition of the inevitability of the use of coercion. Without it, it is impossible to organize economic cooperation normally. The problem is not in coercion itself, but in the scale of its application. It is important to determine a reasonable measure, to use coercion in reasonable doses. Doctors know that it is the dose that determines the difference between medicine and poison.

Indirect regulation

Indirect regulation of economic relations by the state (incentive) involves influencing the activities of economic entities by changing the conditions in which they are carried out. This is an indirect action, it is not based on the factor of "whip", punishment, fear. Here the motive of

profitability, rationality of a particular behavior is used. A tiger in a circus jumps through a burning ring not because it is afraid of the trainer, but because it expects to receive a reward for this very action. The state does not limit the freedom of choice of an economic entity, but seeks to persuade and interest it in making certain decisions. And therefore it uses such tools as taxes, budget expenditures, monetary regulation, foreign economic policy, etc.

Economic policy of the state. Public choice

The economic policy of the state is the measures taken by the state, created to solve the economic problems of society. How are these measures determined? Whose interests do they reflect? What is the influence of the country's citizens on the economic policy of the state? How can they declare their preferences?

These and other similar questions attract considerable attention from economists and political scientists. In economic science, the ***theory of "public choice***" has been formed (among its representatives stands out the American economist James Buchanan, Nobel laureate in 1986).

The theory of "public choice" is a branch of economic science that studies the process of decision-making by the state. The economic policy of the state should reflect the public choice, i.e. the preferences of the country's citizens. Since all people cannot have the same views on how the economic life of society should be organized, what state decisions should be made, the economic policy of the state should reflect the interests of the majority. The path of formation and expression of public choice is very complex. Very important questions are how to create the necessary conditions for identifying public preferences and how to organize the practical implementation of public preferences.

Let's start with the first question. How can each of us declare our preferences? In a democratic country, the following ways can be identified.

First, when electing people to public positions. Usually, candidates put forward their political programs, in which the economy occupies the most important place, voters get acquainted with them and support or do not support them, voting "for" or "against".

Secondly, through the activities of political parties. Each party develops programmatic principles of activity, has economic goals and projects. By participating in the activities of a particular party, voting for a party, a person thereby expresses his attitude to certain economic problems.

Thirdly, through the activities of trade unions. The scope of economic problems that trade unions deal with is quite wide. The economic positions of trade unions usually reflect the economic sentiments of large groups of people.

Fourthly, through the work of the mass media (Internet, television, etc.).

Fifthly, by holding referendums on the most important issues.

Identifying social preferences is necessary in order to somehow respond to them, to take them into account in the economic policy of the state. The degree of consideration depends on many circumstances: for example, on the organization of state power in the country, on, say, how much the strength of staying in a political chair depends on the degree to which a politician's activities correspond to the interests and preferences of voters. It also depends on political culture, political traditions, and moral standards. Political practice provides examples of when, for example, at the stage of the pre-election campaign, one promise is made, and after victory, specific actions have, to put it mildly, a different nature. In general, in a democratic society, there are much more chances of realizing social preferences in political actions. However, one should not idealize politicians and think that they are

always guided by public interests, and only that. The theory of "social choice" advises analyzing their actions in the same way as the adoption of economic decisions by households and enterprises. And the latter, as is known, are guided primarily by the satisfaction of their own interests. If this pattern is indeed manifested politically, then the country's political system should reflect the key principle of the market: the personal well-being of a certain subject should crucially depend on how he satisfies the needs of other people with his actions and results.

Brief conclusions

1. In a mixed economic system, the role of regulators of the national economy is performed by the market and public administration. The need for active participation of the state in the economic life of society is caused by: a) the need to maintain conditions for self-regulation of the economy, effective functioning of the market; b) the shortcomings of self-regulation and the need to overcome them; c) the need for a certain redistribution of income, increasing accessibility to certain goods and services.

2. In a modern economy, the state performs the following main functions: a) the formation of the legal basis of economic activity ("rules of the game"); b) protection and development of competition; c) organization of production of certain goods and services; d) redistribution of income; e) accounting for side (external) effects; e) ensuring macroeconomic stabilization

3. The state uses methods of direct (coercion) and indirect (incentive) regulation of economic relations. The first involves the direct establishment of certain mandatory norms in the relations of economic entities, the second - influence on the activities of economic entities by changing the conditions in which it is carried out.

4. The economic policy of the state is the measures taken by the state, created to solve the economic problems of society. This policy

should reflect public preferences. The theory of "public choice" is a branch of economic science that studies the process of decision-making by the state. The problem of public choice includes two most important points: a) creating the possibility of identifying public preferences; b) organizing the practical implementation of public preferences.

Basic terms and concepts

- *The need for state regulation of the economy*
- *Economic functions of the state*
- *Goods and services of public use*
- *Transfer payments*
- *External (side) effects*
- *Circular flows in the economy with state participation*
- *Direct state regulation*
- *Indirect state regulation*
- *Economic policy of the state*

Questions for reflection and discussion

1. Today, Ukraine faces a choice: to build a liberal model of the economy, where state regulation is quite limited, or to try to accelerate economic growth through active state influence. Give arguments for and against strengthening the role of the state. What economic functions, in your opinion, should the state take on, and which should remain for market self-regulation?

2. Today, representatives of almost all economic schools recognize a certain role of the state in regulating the economy. However, supporters of the liberal idea and Keynesianism fundamentally disagree in assessing the forms, scales and criteria for the effectiveness of state intervention in the economy. What, in your opinion, are the views most

acceptable for the current state of the Ukrainian economy and correspond to the tasks it solves? Give a detailed system of arguments.

3. It is known that the state can use both direct influence (coercive methods) and indirect (incentive methods) methods to regulate the economy. In your opinion, which of them are more effective? By what criteria can the effectiveness of state regulation be assessed? If some methods are more effective, then perhaps it is advisable to abandon the less effective ones altogether?

CHAPTER 3. INDICATORS OF THE NATIONAL ECONOMY

Before you start studying this topic, conduct a small experiment: ask a few friends which country is more developed: France or Laos? Having received the answer, try to find out on the basis of which indicators they made their conclusion. And here you will notice that most of them will have difficulties in substantiating their answer.

In everyday life, we often divide countries into developed, medium- and underdeveloped, without thinking about what are the criteria for determining the level of development. At the micro level, when characterizing the state of the enterprise, such indicators as fixed, variable, average and marginal costs, average and marginal income, depreciation charges, fixed assets, etc. were used. And what indicators can be used to express the results of the functioning of the national economy as a whole?

We have demonstrated only one problem, the solution of which requires the use of indicators of the national economy. In fact, there are much more of them. Therefore, before a detailed consideration of the macroeconomic problems discussed in Chapter 1, let us try to find out what quantitative parameters can be used to characterize the national economy and its dynamics, how to calculate the indicators of the national economy, and what is the relationship between them. All this constitutes the main content of the chapter.

3.1. INDICATORS OF NATIONAL PRODUCTION

The role of macroeconomic indicators

The scope of application of macroeconomic indicators is very wide. But we can single out several most important problems, the solution of which involves the use of indicators of the national economy.

1. ***Management of the national economy***. As soon as the state becomes an active participant in economic life, it seeks to give purposefulness to its actions. One of the functions of management is planning. And planning, as is known, involves the analysis of the actual state, determination of the desired state and identification of ways of transition from the first to the second. This can be done only using certain quantitative macroeconomic indicators. The fact is that partial indicators, for example, the volume of production of individual types of products, can have multidirectional dynamics, and therefore some resulting indicators are needed, which are formed as a co-action of many partial indicators. Another most important function of management is control. It is possible to control the effectiveness of state processes only by comparing actual results with planned indicators.

2. ***Obtaining information about the state of the national economy***. When deciding on investments, say, in Ukraine, a foreign investor first of all studies macroeconomic indicators that characterize the current state of our country's economy, its development trends, and prospects.

3. ***Assessment of the country's economic potential***. Quite often, there is a need for a general assessment of the country's economic potential: can a particular country provide serious competition in the world market; how much will the economic capabilities of an international organization increase when a new country joins it? These

questions can be answered convincingly only on the basis of macroeconomic indicators.

4. ***International comparisons***. We began the presentation of this topic by emphasizing the importance of the international comparison of macroeconomic indicators. The obvious need to develop general indicators of the level of development to determine its place in the "ranking table" is beyond doubt. And we will use these characteristics in the following topics, where the modern world economy will be analyzed.

System of National Accounts

The system of macroeconomic indicators performs the same role as accounting accounts for an enterprise. Therefore, such indicators are also called national accounts. ***The System of National Accounts (SNA) is a set of indicators of a consistent and interconnected description of the most important processes and phenomena in the economy: production, income generation, consumption, capital movements, etc***.

Since 1994, Ukraine has been using the system of national accounts recommended by international standards – the UN SNA (currently in the 2008 edition). According to the adopted methodology, all entities of the national economy (institutional units) are divided into five groups (sectors):

1. ***Non-financial companies***. These include enterprises that carry out market production of goods and services in order to make a profit.

2. ***Financial corporations***. These are market institutions specializing in financial intermediary activities (banks, investment funds, trust companies, insurance companies, etc.).

3. ***The general government sector***, which includes central and local government, non-profit budgetary organizations and extra-budgetary funds.

4. ***The household sector***, which unites individuals as consumers, and sometimes as subjects of unincorporated production activities.

5. ***The sector of non-profit organizations serving households***, which includes political, religious and other organizations created by citizens that do not set themselves the task of making a profit.

Measuring national production volumes

The most reliable information about production volumes is provided by natural indicators. But is it possible to express the entire volume of production in the country in natural units if different types of products are produced? Of course, it is possible to calculate the total volume of goods production in tons (this will not work with services). And this indicator will make sense if we want to determine the total volume of freight turnover or the need for vehicles, and even then, very approximately. But it is unable to fulfill the role of a generalizing indicator of the functioning of the entire economy.

Since modern production is commodity by its nature, the absolute majority of created products and services share a common property - price. As a common denominator, it makes different goods comparable. But, on the one hand, monetary valuation simplifies the process of summing up and calculating production volumes, and on the other hand, it creates many problems, which will be discussed in the next paragraph.

The simplest way to calculate the volume of national production may be to sum up the volumes of production of goods and services by each enterprise of the country. But, as you know, the simplest is not always the best. Let us demonstrate this with the following example. Let us imagine that some hypothetical national economy consists of only three enterprises: a coal mine, a coke plant and a metallurgical plant. The results of their activities are presented in Table. 3.1.

The resulting figure – 2400 MU (monetary units) – in the system of national accounts, ***gross output*** is called the total value of goods and

services created by residents (citizens and legal entities registered in this country) over a certain period of time. Will it reflect the final results of the functioning of our hypothetical national economy? No. The fact is that the cost of coal was included in the cost of coke, for the manufacture of which coal was used. Further, the coke consumed in the production of rolled products also constituted part of the cost of metal products. Therefore, this method of calculation ***allows for repeated counting***, which distorts the results of activities. In addition, the total amount ***depends on the organization of production***. Let's imagine that the metallurgical plant was divided into a blast furnace, a steelmaking plant, and a rolling mill, producing, respectively, 1,000 MU of pig iron, 1,100 MU of steel, and 1,200 MU of rolled steel. Then our figure would immediately increase to 4,500 MU, although there were no changes in the physical indicators.

Table 3.1

Options for calculating total production volume

Enterprise	***Product type***	***Sales amount, MU***	***Added value, MU***
Mine	Coal	300	300
Coke plant	Coke	900	600
Metallurgical plant	Rolled products	1200	300
Total		**2400**	**1200**

To eliminate double counting and provide a reliable description of the final results, you can use an indicator called ***gross domestic product (GDP).*** It can be defined as the ***total market value of final goods and services produced in a country over a certain period.*** It differs from gross output by the value of the intermediate product, that is, the value of goods that are subjected to further processing, processing or resale. In the example above, the intermediate product is 1200 MU (the cost of coal and coke). The cost of the final product (the cost of rolling) is the same. We will obtain a similar result by summing up the added values

created by all enterprises. The added value includes primary income created by the participants in production and distributed among them.

GDP calculation options

To make further considerations clearer, try first to calculate how much your living and studying cost last year. This can be done in two ways: add up all income for the year and adjust them by the amount of change in savings, or sum up all payments that you had to make. Table 3.2 presents a conditional scheme for such a calculation.

Table 3.2

Scheme for calculating tuition costs

Income item	Sum	Expense item	Sum
1. Scholarship	300	1. Food	400
2. Parental assistance	250	2. Accommodation	100
3. Earned income	70	3. Clothing	80
4. Other income	20	4. Textbooks	10
5. Accumulation at the beginning of the year minus accumulation at the end of the year	-20	5. Other expenses	30
Total	**620**	**Total**	**620**

The same result will be obtained either by summing up the change in income or all expenses for this period. Similar considerations will lead us to identify ways to calculate GDP. Since, as follows from the definition, GDP is the total market value of all production, we can determine how much all final consumers had to pay for the purchase of this product. But the expenses of some are necessarily the income of

others, therefore, we will have the same result if we sum up all the income received by sellers from products.

In other words:

GDP	**=**	**Amount of expenditure on the purchase of goods produced this year**	**=**	**Cash income received from production this year**

The entities that make expenditures on the purchase of goods can be households, enterprises, the state or foreign consumers. To characterize the last element of GDP calculation, the net export indicator is usually used as the difference between exports and imports. The recipients of income are primarily the owners of any resources (labor, capital, land or entrepreneurial abilities) and the state. In a generalized form, the options for calculating GDP by expenses and income are presented in Fig. 3.1.

The methods of calculating GDP described above are accepted in most countries of the world. However, this method also has a number of disadvantages, since it underestimates the actual volumes of national production. The fact is that commodity production, although the dominant type of its organization, is not the only one. Part of the product created in society does not acquire a commodity form, therefore, is not included in GDP. First of all, we are talking about natural production within households.

In Ukraine, households have a particularly large share in the production of agricultural products. The development of subsidiary farming, the expansion of the network of summer cottages and gardening societies, etc. contribute to an increase in this share. Unaccounted types of work include the construction of houses by one's own forces, and the repair of apartments carried out by residents, and washing and cooking by housewives, etc. However, as society develops, the share of these works tends to decrease, and therefore GDP will more and more accurately reflect the actual overall results of the activities of all economic entities of the country.

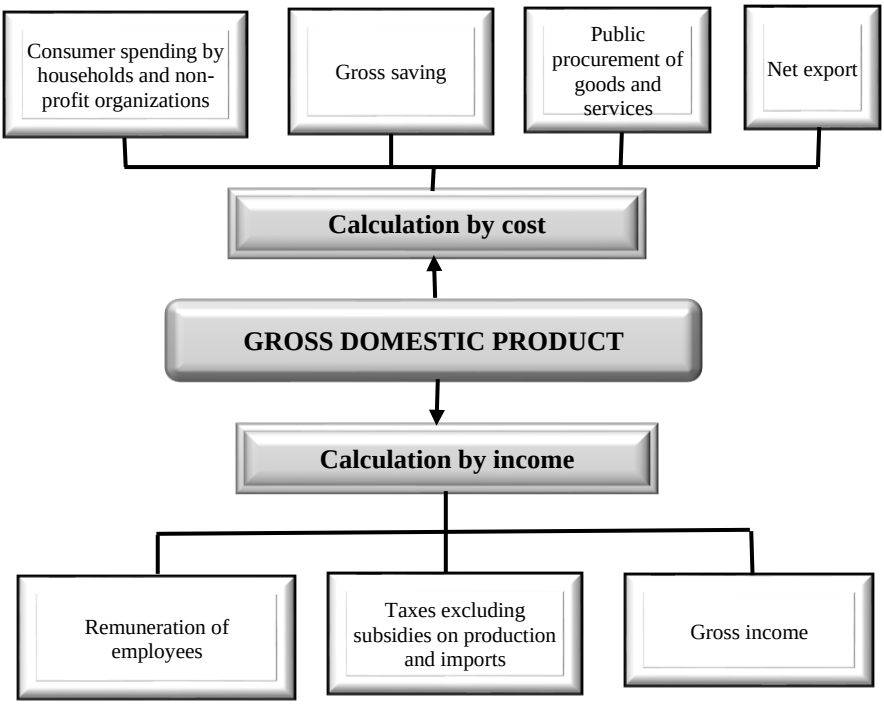

Fig. 3.1. **GDP calculation options**

To better understand this calculation, it is necessary to keep in mind the following:

1. ***Consumer spending*** by households, non-profit organizations, and spending by government agencies to satisfy the individual and collective needs of society constitute ***the final use of material goods and services***.

2. ***Gross savings*** are the results of investments. The latter are the use of funds for the growth of fixed assets and the increase in material working capital.

3. ***Net exports*** will have a "plus" sign when supplies abroad exceed supplies of imported goods to the country. With the inverse relationship, this indicator will have a "minus" sign.

4. ***Taxes on production and imports*** include only those payments to the state that are directly related to the volume or cost of goods produced and sold (value added tax, excise duty), and their export outside the country (export duty). This also includes payments by enterprises and organizations to the state budget and extra-budgetary funds in connection with the use of resources and obtaining permits for specific types of activities (for example, a license to engage in retail trade or securities transactions).

5. ***Gross income*** is an indicator that characterizes the excess of income over current expenses that enterprises have as a result of production. ***Net income*** is determined by excluding consumed fixed capital (depreciation) from gross income.

6. ***Subsidies*** are reimbursement from the state budget of expenses of enterprises for the production of certain types of products or for the implementation of certain types of activities.

3.2. NOMINAL AND REAL GDP

Price level change

The system of national accounts is built using monetary units of measurement. Therefore, the dynamics of GDP and other macroeconomic indicators will be affected not only by changes in physical production volumes, but also by price dynamics. If GDP increased by 10% compared to the previous year, this does not mean at all that physical production volumes increased by one tenth. They could even decrease if prices grew faster. Therefore, to obtain reliable information about the dynamics of physical production volumes, it is necessary to level out the influence of changes in the price level.

As a rule, price dynamics are presented in the form of an index. ***The price index (Ip)*** is the ratio of the price of a certain set of products in this year to the price of a similar set in the base year:

$$I_p = \frac{Price\ of\ a\ set\ of\ products\ this\ year}{Price\ of\ a\ set\ of\ products\ in\ the\ base\ year} * 100\%$$

The purchasing power of a monetary unit is judged based on the value of the price index. If Ip > 1, inflation occurs, and if Ip < 1, then deflation is observed in society.

To adjust GDP taking into account changes in world practice, the GDP price index (GDP deflator) is widely used. It is calculated for a certain range of goods, which includes, in addition to consumer goods, investment goods, raw materials, and exported products. With its help, the corresponding individual trend in price changes for individual goods is found. If, for example, in 2025 the GDP price index was 110% against 100% in 2024, this means that the overall price level for this period increased by 10%. If, at the same time, the price index for 2010 was determined to be 50%, it can be argued that in 2010 prices were on average half as low as in 2025.

GDP adjustment

The calculation of the GDP deflator allows for a comparison over time of the physical volumes of national production. ***Nominal GDP is the volume of production expressed in prices that exist at the time of its receipt.*** If prices have changed during the analyzed period, then the nominal goods of this year compared to the nominal goods of the base year provide distorted information about the dynamics of production in natural terms. Table 3.3 presents conditional data on the dynamics of GDP.

As it is clear from this table, the nominal GDP in 2025 increased fourfold compared to 2005. But the fact is that most of this growth was achieved due to an increase in prices. Column 4 shows data on the GDP price index, where 2015 is taken as the base period. To express the GDP of different years in comparable prices, it is enough to divide its

nominal indicator by the price index of the corresponding year. Real GDP, say, in 2005, differs significantly from the nominal volume. This means that if prices in 2005 were at the 2015 level, then production volumes in 2005 would have been 500 MU, not 250.

Table 3.3

Dynamics of nominal and real GDP

Year	Nominal GDP, MU	Nominal GDP growth rate, %	GDP deflator, %	Real GDP< MU	Real GDP growth rate, %
1	2	3	4	5	6
2005	250	100	50	500	100
2015	800	320	100	800	160
2025	1000	400	110	909	182

Real GDP is the annual output of goods and services adjusted for inflation or deflation:

Real GDP = Nominal GDP / GDP Price Index

Real GDP will vary depending on the choice of base period. If in the above example we take 2005 prices as the base, then real GDP is equal to:

2005 - 250 MU;

2015 - 400 MU;

2025 - 455 MU.

Therefore, in economic analysis, it is not so much the absolute level of real GDP that matters, but the ratio of such indicators over several years to determine the dynamics of physical output.

3.3. INDICATORS OF THE USE OF GROSS DOMESTIC PRODUCT

Consumption and savings

The state of the national economy, its dynamics, the level of well-being and other characteristics depend on the proportions in which the gross domestic product is divided into different areas of its use. As noted, part of GDP in the form of depreciation deductions has a very specific purpose (restoration of the consumed part of the capital), and the user has very limited freedom to choose the areas of its use. The remaining part (net product) is divided into a consumption fund and savings.

The consumption fund is a part of the net product used to meet the personal needs of the population. It is used unproductively, serves as the basis for the reproduction of the workforce and its development. The consumption fund of society consists of *individual consumption funds*, which are formed at the expense of personal incomes of citizens and transfer payments of the state, and *public consumption funds*. The latter ensure the satisfaction of priority needs for society and, to a large extent, for each individual and are designed to form the necessary social conditions for stable economic growth both within individual enterprises and society as a whole. This part of goods and services is consumed, as a rule, collectively and provides, among other things, a certain leveling of the real incomes of various members of society. Public consumption funds in Ukraine largely satisfy the needs for education, health care, social security, etc.

An important characteristic of the level of development of a country and an indicator of well-being can be the share of consumption in the gross national product. Analyzing actual data from different countries, it can be found that, usually, the higher the level of development of the country, the greater this indicator.

However, the absolute majority of income recipients do not use them for consumption in full. Part of the income is postponed, stored for one reason or another. ***Savings are income remaining after taxes, not spent on the purchase of consumer goods.*** Savings can be caused by various reasons, among which the following can be distinguished:

- *refusal of current consumption in order to improve consumption in the future*. A young family, for example, limits its consumer spending today, expecting to increase consumption after the birth of a child;

- *savings as an insurance fund*. When studying political economy, the meaning of such a need as the desire for stability, the fight against risk was discussed. Savings are a form of such a fight. They allow you to maintain or at least slightly reduce consumption when a source of income disappears (an employee's illness, loss of job, deterioration of the enterprise's position in the market, which caused a decrease in wages, dividends, etc.);

- *smoothing the level of consumption over time*. For example, seasonal workers receive income only for a certain part of the year, so part of it is postponed for consumption in subsequent periods;

- *accumulation of funds for the purchase of durable goods*. With the current income of most households, it is impossible to immediately purchase all the desired goods. Quite often, they form savings over a more or less long period to purchase a house, car, etc.;

- *obtaining additional income*. The immediate motive for saving may be the desire to invest this money in such a way as to receive additional income. The most characteristic of households is the desire to receive additional income by investing savings in any banking system institution or purchasing securities.

Investments

Savings are a potential source of investment. Savings are transformed into real investments only when they fall into the hands of

those who use them productively. The concepts of investment from the perspective of society and the individual do not coincide. A person, buying shares of an enterprise, in his opinion invests money. From a social point of view, this cannot be recognized as investment, since no changes have occurred in social production: only the right to receive income has passed from one to another.

Investments (capital investments) are expenses for the purchase of machinery, equipment and other means of production, construction and increase in production stocks. Depending on the criterion, different parts can be distinguished in society's investments (Fig. 3.2).

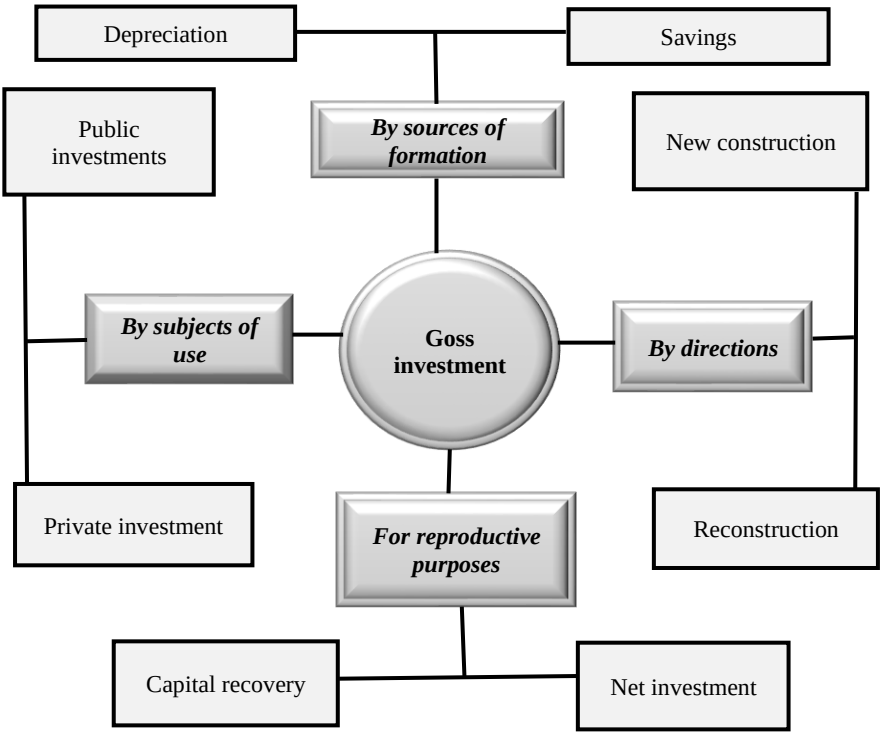

Fig.3.2. **Structure of gross investment**

According to their reproducing purpose, investments are divided into two parts:

a) capital investments that go to compensate for the consumed means of production – simple reproduction;

b) investments that ensure an increase in production potential – expanded reproduction.

If total capital investment is called ***gross investment***, its second part is called ***net investment***

Net investment differs from gross investment by the amount of depreciation deductions and, in a balanced economy, the level of savings. Therefore, in the following topics, we will specifically investigate the mechanism for achieving equilibrium between investment and savings.

In the process of economic activity, part of the capital is consumed, and new capital is received to replace the capital that has left. The dynamics of GDP depends on the ratio of capital withdrawal and investment. Since withdrawal is reflected in depreciation deductions, and investment is reflected in gross investment, then from their ratio we can draw conclusions about the possibilities of economic growth.

If gross investment is greater than depreciation, that is, capital is being increased through net investment, we are dealing with a growing economy; if these indicators are equal, the economy is in a static state; if gross investment is less than depreciation, this means that there is not even a restoration of capital, and therefore, the economy can be characterized as shrinking.

State investment policy

By subjects of use, gross investments can be private or in the form of public investments. In the case of a mixed economy, public investments perform the following functions:

1. Development of socially significant areas that are not attractive to private entrepreneurship (education, culture, fundamental science, etc.).

2. Development of the public sector in the production sector.

3. Implementation of public investment policy.

Investment policy is the activity of the state to form and use a fund of capital investments in order to achieve the desired structure of social production. The main methods of implementing investment policy are:

a) structural changes in public investments;

b) a system of privileges for private investments, which creates conditions for the interested party for certain areas of capital investments;

c) a system of sanctions and fines to deter certain areas of capital investments;

d) administrative restrictions on certain types of investments.

Investment policy should be considered as the most important component of the general economic policy pursued by the state. Depending on the economic situation in the country, the directions of the state's investment policy may change. Today, the prerequisites for the following directions of investment policy have been formed in Ukraine:

- encouraging private investments in the production sector and reducing the share of the state;
- stimulating investments aimed at creating resource-saving technologies;
- promoting the movement of capital into knowledge-intensive industries;
- encouraging investments related to the creation of additional jobs;
- attracting foreign investment.

Some of the listed directions will be discussed in more detail in the following chapters.

Brief conclusions

1. A system of interrelated indicators is used to characterize the state and dynamics of the national economy. Their accounting is necessary when making informed decisions on managing the national economy, in order to assess the economic potential of the country, and for international comparisons.

2. Gross domestic product is the basis of the entire system of national accounts. It is the total market value of the entire volume of production of goods and services of the economy for a certain period. When calculating GDP, repeated counting is excluded and only final results are taken into account.

3. The dynamics of the indicators of the national economy are affected by both changes in physical production volumes and changes in prices. The price index is the ratio of the price of a certain set of goods in this period to the price of a similar set in the base period. Therefore, it is necessary to distinguish between nominal GDP as the volume of production expressed in prices existing at the time of its receipt, and real GDP as the volume of production of goods and services adjusted for inflation or deflation.

4. From the point of view of final consumption, GDP can be divided into the part that restores consumed capital (depreciation), the consumption fund and savings. Depreciation deductions and savings are a source of investment.

5. Net investment is used for capital growth and is defined as the difference between gross investment and depreciation. Based on the ratio between gross investment and depreciation, one can judge whether the economy is growing, static or shrinking.

6. Investment is one of the objects of state regulation. Investment policy is the state's activity in the formation and use of the capital investment fund in order to achieve the desired structure of social production.

Basic terms and concepts

System of National Accounts
Gross Domestic Product
Nominal and real GDP
Price index
GDP deflator
Consumption fund
Savings
Gross investment
Net investment
Investment policy of the state

Questions for reflection and discussion

1. Most often, the GDP per capita indicator is used to characterize the level of development of a state. However, in recent years, this indicator has been criticized as not taking into account (both quantitatively and qualitatively) important aspects of society's life. To what extent, in your opinion, is this criticism justified? What is really not taken into account when calculating GDP? How can the situation be improved: change the procedure for calculating GDP or supplement it with calculations of other indicators?

2. Analyze changes in the structure of Ukraine's GDP (by income) over the past 5 years, explain their causes and macroeconomic consequences

3. Analyze changes in the structure of Ukraine's GDP (by expenditure) over the past 5 years, explain their causes and macroeconomic consequences

4. Conduct a comparative analysis of the structure of Ukraine's GDP and one of the European countries. Explain the differences identified

5. There are different motives for saving. Analyze what determines the promotion of one or another motive for saving to the top positions. Compile a short questionnaire to identify the main motives for saving and conduct a survey among your family and friends. Summarize the results.

6. Analyze the structure of investments in Ukraine by funding sources over the past few years. In your opinion, what are the reasons for the corresponding structural changes?

CHAPTER 4. DYNAMICS OF NATIONAL PRODUCTION

Society is aimed at constantly improving the level of solving its economic problems, providing itself with an increasing number of goods and services. However, the results obtained are far from always adequate to this aspiration: the levels of national production volumes achieved, prices, employment are unstable, their changes have both positive and negative characteristics. Positive characteristics reflect improvements in economic cooperation, its results; negative ones - deterioration. And such instability of the main macroeconomic indicators is a serious problem of the national economy. It affects the activities of all economic entities, penetrates all spheres of the economic life of society. This chapter explains the essence and causes of macroeconomic instability, analyzes in detail the problem of cyclicality in relation to the volumes of national production, and considers the foundations of the stabilization policy carried out by the state.

4.1. THE ESSENCE OF MACROECONOMIC INSTABILITY

Desirable and real

The volume of national production, inflation and unemployment rates are the main macroeconomic indicators. Their value and changes determine the state of health of the national economy. These are the main economic indicators. The dynamics of the volume of national production is most often expressed through changes in the GDP indicator. Its dynamics can be both positive, evidence of economic growth, and negative, indicating a decline in production.

To understand the essence of macroeconomic instability, let's try to imagine some ideal state of the dynamics of the main macroeconomic

indicators and compare it with the actual dynamic's characteristic of most countries in the world.

Most likely, the desired or ideal state of change in the volume of national production (Table 4.1) for any country would be the achievement of stable, high rates of economic growth. ***The rate of economic growth is the ratio, expressed in percentage terms, of the volume of real GDP at the end of a certain period of time to its value at the beginning of this period of time***. The period of time for which the GDP growth rates change is usually taken to be a month, quarter, half a year, or year.

Table 4.1

Ideal and actual state of key macroeconomic indicators

Macroeconomic indicators	***Ideal state***	***Actual state***
Volume of national production	Sustained rapid growth	Fluctuation
Inflation	No or low growth	Fluctuation
Employment	Low (natural) unemployment rate	Fluctuation

Analysis of actual data for Ukraine (Fig. 4.1), as well as for other countries of the world, indicates unevenness and instability of GDP changes. In other words, the actual movement of this indicator can be defined as fluctuations.

Inflation is defined as an increase in the general (average) price level. The reverse process of inflation is called deflation. Deflation is a rather rare phenomenon. The problem of price instability is the problem of their growth. The change (growth) of prices is transmitted by the ***price index – expressed in percentage terms as the ratio of the cost of a set of goods and services at the end of a certain period of time to its value at the beginning of this period***. The period of time for which inflation is measured can be a year, half a year, a quarter, a month, and even a week. It is clear that the desired state for society would be the

absence of inflation or its insignificant rates (say, no more than 5% during the year). However, the actual picture of price dynamics, and, in particular, in Ukraine, often appears different, sometimes very far from ideal, which we will discuss in more detail in Chapter 6. However, even a simple look at the diagram (Fig. 4.2) is enough to see the fluctuating nature of changes in the price level.

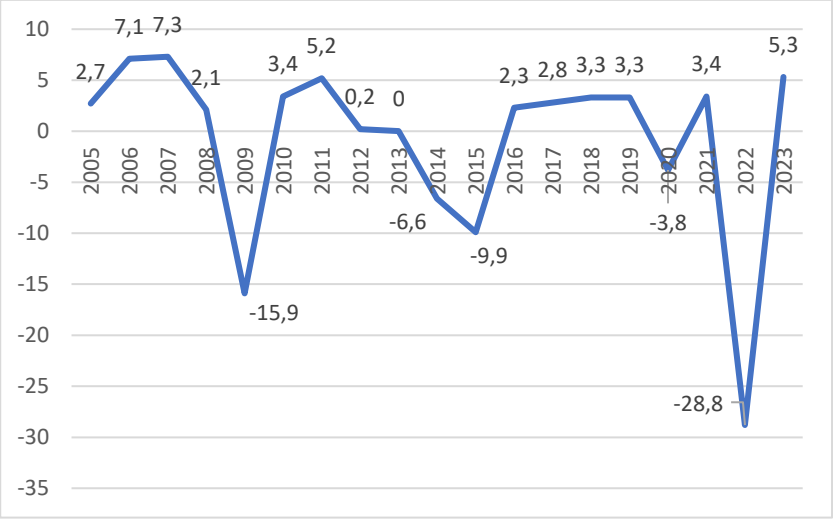

Fig. 4.1. **Growth in real GDP of Ukraine in percentage terms compared to the previous year (according to the website: ukrstat.gov.ua)**

The creation of a sufficient number of jobs, the full and efficient use of labor resources is another fundamental macroeconomic problem of modern society. The most important indicator characterizing the employment situation is the country's unemployment rate. The unemployment rate is the percentage share of unemployed people in the economically active population. The employment problem will be analyzed in detail in Chapter 5. Here we would only like to note that

unemployment does not have a long-term tendency to decrease, which would be desirable, its values are constantly fluctuating, changing both in the direction of reduction and in the direction of increase.

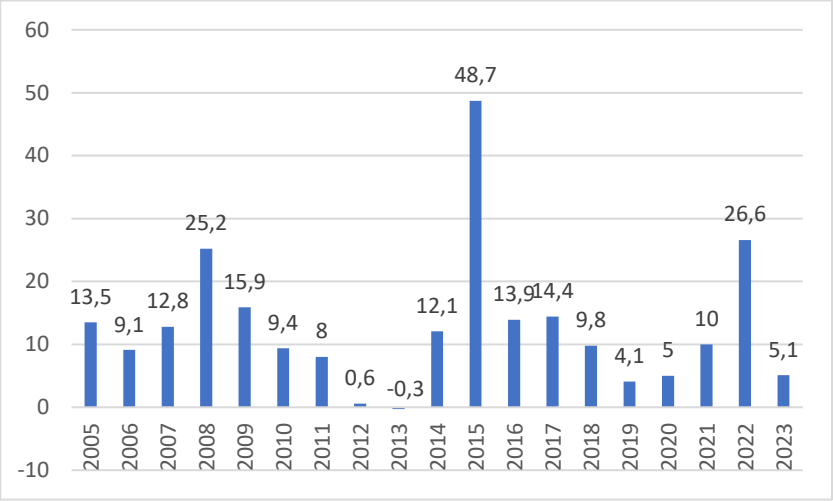

Fig. 4.2. **Inflation rates in Ukraine (price growth in percentage terms compared to the previous year (according to the website: ukrstat.gov.ua)**

Economic fluctuations and the importance of stability

Changes in the main macroeconomic indicators in almost any modern economy are not characterized by long-term stability. The actual state of these indicators is characterized by instability, variability in different directions. Even people with a strong character cannot achieve stability in their mood. The most developed economy is also not completely free from the problem of instability. ***Economic fluctuations are instability, multidirectional variability of the main macroeconomic indicators, characteristic of certain periods of time***.

If we analyze data on developed countries of the world over a long period of time, it is easy to find that periods of economic growth alternate with periods of economic recession - usually of shorter duration. We can also find the same unevenness of changes, instability of the levels achieved in relation to other macroeconomic indicators.

Changes in the volume of national production are also characterized as changes in the degree of business activity. The level of business activity thus finds its expression in a certain number of goods and services created by the country's economy. Therefore, the expression "decrease in the level of business activity" will mean either a decrease in the growth rate of production, or even a reduction in production. It is easy to understand that the growth of business activity is a characteristic of an increase in production volumes, an expansion of jobs, etc.

Changes in production volumes, the level of business activity are of great importance for society to solve its economic problems. Obviously, a negative impact on the standard of living of people is exerted by a decrease in production volumes. But, at the same time, even a seemingly small difference in the growth rate of production is of great importance. For example, if the growth rate is on average 2%, then the average standard of living in the country doubles in 35 years, and at a rate of 4% - in 17.5 years. Therefore, maintaining economic stability, smoothing economic fluctuations, achieving the highest growth rates of production is one of the most important tasks of macroeconomic regulation of the economy.

4.2. ECONOMIC CYCLES: THEIR PHASES AND CAUSES

Types of cycles

A closer analysis of economic fluctuations reveals that they do not occur randomly, with a certain repeatability, which allows us to speak of the cyclical nature of economic development. ***Economic cycles are***

the periodic recurrence of certain states of the national economy. The stability of the repetition of such states gives reason to consider cyclicality a regularity of economic development.

However, cyclicality is inherent not only to the economy. Remember what natural cycles you know and most often feel their impact on your life? Of course, this is the daily cycle: the change of day and night. It is a consequence of the Earth's rotation around its axis and is repeated with the same frequency as the Earth makes its rotation. The same can be said about the cycle of the phases of the moon: its material basis is the rotation of the Moon around the Earth. And the annual cycle, which lasts as long as the Earth rotates around the Sun.

This simple analogy with natural phenomena allows us to draw several conclusions that can be extended to economic life:

1. There may be economic cycles of different duration.

2. The forms of manifestation of the different cycles can differ significantly.

3. Each cycle has its own material basis, different from the other.

4. Cycles influence each other, which can cause their modification (for example, the ratio between day and night within the daily cycle will depend on which phase of the annual cycle the Earth is currently in).

In economic science, there is no generally accepted list of economic cycles. But the most common types of cycles are:

- short-term cycles (duration 1.5-3 years);
- medium-term cycles (duration 7-11 years);
- long-term cycles (duration 40-60 years).

Please note that, unlike the cycles of nature, which we have discussed, it is impossible to measure their duration absolutely accurately with respect to economic cycles. Economic processes are the result of not functional, but correlational, probabilistic relationships. Therefore, depending on numerous unpredictable factors, the duration of cycles may vary under certain conditions. However, this only modifies a specific cycle, without changing its nature.

Let us dwell in more detail on the analysis of each of the identified types of cycles.

Short-term cycles and their relationship to the product life cycle

Short-term cycles are manifested in periodic increases and decreases in purchasing activity. They cause fluctuations in the rate of economic growth. And although ordinary citizens do not notice these cycles and cannot determine which phase of the cycle they are in at a particular moment in time, short-term cycles are easy to identify by constructing dynamic lines of macroeconomic indicators: GDP volumes, retail trade, industrial production, etc.

Most economists believe that each short-term cycle is materially based on the life of the product. The theory of the product life cycle, developed in the past by Werner, has found wide application in the theory of international trade, strategic management, marketing, etc.

Traditionally, the life cycle of a product is divided into four phases: introduction (small production volumes, low market share, low profitability, and sometimes even financial losses from production, high advertising costs); growth (rapid growth in production volumes, increasing market share and profitability of production); maturity (high stable market share and highest profitability) and decline (gradual reduction and cessation of production) (Fig. 4.3).

As can be seen from this description, there are two opposite stages in the life of a product in terms of the direction of change in sales volumes: the growth stage and the decline stage. For unknown reasons, society synchronizes these stages for a significant part of the products on the market. As a result, significant fluctuations in sales volumes can be observed, which lead to short-term cycles.

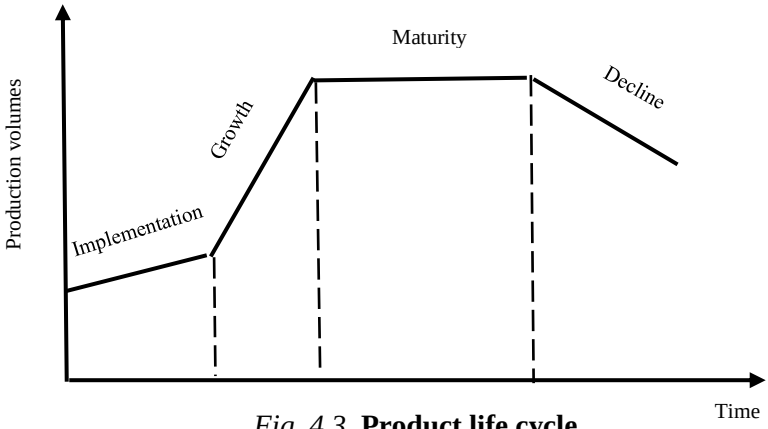

Fig. 4.3. **Product life cycle**

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At the same time, short-term cycles should not be considered as a general law of market production. They appear only at a certain stage of its development and are the result of the corresponding consumption structure. A life span of 1.5-3 years is characteristic only for a certain category of goods. In the 19th and first half of the 20th centuries, the consumption structure was dominated by goods with a life span not only of several years, but also of several decades. In the second half of the 20th century, the situation changed radically. The consumer basket in developed countries began to rapidly fill with household appliances and other technical goods, which led to an increase in the proportion of goods with a real market life of 1.5-3 years. It can be assumed that the synchronization of stages in this period of the product's life is due to the general technical, technological and socio-aesthetic basis of innovations, which stimulates manufacturers to update production more or less simultaneously. It should be noted that short-term cycles do not pose a serious threat to the country's economy. They primarily affect performance in retail trade and the production of consumer goods and only remotely and indirectly affect the production of capital goods. As

already noted, ordinary citizens do not feel these fluctuations, which cannot be said about medium-term cycles.

Medium-term cycles and their material basis

Medium-term cycles are the most thoroughly studied in the scientific literature. They are associated with a periodic loss of correspondence between demand and supply at the macro level, which manifests itself in the overproduction of goods compared to demand with a subsequent decrease in production.

The history of overproduction crises has almost 200 years. Crisis phenomena have always accompanied the economy. However, the first overproduction crisis occurred in England in 1825. England at that time was the so-called "factory of the world". It ranked first in all major economic indicators. The annual growth rate of industrial production was approaching 12-14%. Suddenly, in 1825, the English economy stopped. Production did not grow even by 1%. In the following years, economic growth resumed. And what happened could be forgotten, but in 1836 (exactly 11 years later) the situation repeated itself, although its manifestations were somewhat different. Bankruptcy is a normal phenomenon in a market economy. This leads to the liberation of the economy from weak entrepreneurs. However, in 1836, the number of bankruptcies was four times higher than in the previous year, 1835. This forced economists to more actively search for the causes of periodic economic shocks.

But at that time, historical material was not enough, which made in-depth scientific research impossible. A new crisis of overproduction occurred in 1847. For the first time, there was a reduction in production volumes. Although overall it was not very significant, several industries were seriously affected.

The next crisis of overproduction in 1856 for the first time went beyond England and covered all of Europe. And since then, surprisingly

systematically, crises have been repeated for more than 170 years and have shaken the world economy.

Among the many crises of the 20th century, several deserve special attention. ***The crisis of overproduction of 1929-1933 was the deepest in history.*** But it is famous not only for its depth.

First, unlike previous situations, when crises, as a rule, began in the retail sector, and later spread to other sectors of the economy, the crisis of 1929 confirmed that the financial sector, and in particular the stock exchange, is the most sensitive sector to suffer from crisis phenomena. In October 1929, the total value of shares traded on the New York Stock Exchange alone decreased 5 times. The correctness of this conclusion is confirmed by the beginning of the 2008 crisis, which also began on the stock exchange.

Second, the Great Depression led to a revision of the role of the state in the economy. Until then, it was believed that the state should not interfere in the economy at all. The market mechanism itself is capable of solving all problems. But the crisis demonstrated that the market has a number of shortcomings. Keynes's theory became the scientific basis for the development of a new economic policy based on the role of the state. Over the next 40 years, the governments of the most developed countries in the world managed the economy on the basis of Keynesian theory.

The overproduction crisis of 1974-1975 was the second deepest after the Great Depression. The main results of this crisis were:

- the emergence of such an economic phenomenon as ***stagflation***. As a rule, stagnation and inflation did not exist simultaneously. During periods of crisis, a decrease in prices was observed, and an increase in prices was accompanied by an expansion of production. For the first time, these two processes coincided in 1974. This demonstrated the limitations of state control over the economy based on Keynes's theory. As a result, the positions of monetarism strengthened;

- the cyclical crisis coincided with a number of other non-cyclical crises: energy, environmental, and food.

Characteristics of the phases of the medium-term cycle

Economists most often distinguish four stages of the economic cycle. In Fig. 4.4 they are named as follows: recession, depression, recovery, expansion. What are the characteristics of an economy depending on what stage of the economic cycle it is in?

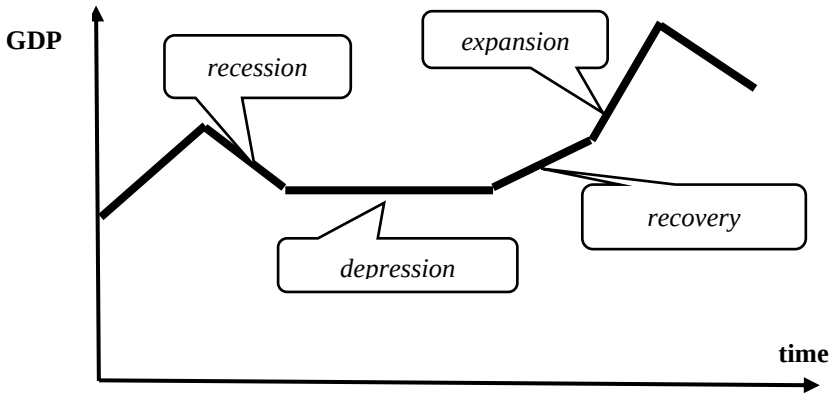

Fig. 4.4. **The phases of the medium-term cycle**

Recession (slowdown). As a rule, a recession is preceded by fairly rapid growth. An increase in production leads to an increase in income. However, according to J.M. Keynes, a basic psychological law comes into play here: with an increase in income, consumption also increases, but consumption grows more slowly than income grows. This can be explained at least by the action of the law of diminishing marginal utility. Consumers first satisfy their urgent needs. And each new portion of growing income will either be directed to satisfying less important needs, or saved. The growth of savings leads to a lag in the growth of aggregate demand from aggregate supply. When this lag becomes

significant, a crisis of overproduction occurs. The economy is entering a recession phase.

The following processes are characteristic of the recession phase:

- production volumes are reduced;

- unemployment is increasing, which is directly related to the reduction in production at enterprises;

- capacity utilization is decreasing;

- if the recession becomes long-term, prices usually begin to show a downward trend. The decline in prices is associated with a sales crisis: goods are not sold in the same volumes as before. One way to increase sales is to switch to a lower price level. The phenomenon of a decrease in price levels during a decline in national production manifests itself in a developed mixed economy, where there is a powerful private sector, where known norms of entrepreneurial activity operate. However, there are exceptions to this general rule.

Depression. Along with the reduction in income during the recession, demand also decreases. However, it decreases more slowly than income decreases. The reason for this is a decrease in prices and the use of savings that were formed by consumers as an insurance fund. At some stage, this leads to a balance between supply and demand. And the economy enters a phase of depression. This is the lower part of the economic cycle, its bottom. Here the economy reaches critical points in the field of production volumes, employment, wages. During the depression, production volumes reach their lowest level, there is a high level of idle capacity, unemployment reaches its largest scale, the number of bankruptcies, the reduction in demand for labor leads to a decrease in wage rates, the price level continues to decrease or they stabilize at a low level.

Gradually, inventories return to normal, certain reserves of free cash accumulate, which can be invested. Provided that prices are low, demand limits production volumes, the only real way to increase profits is to reduce costs. And for this it is necessary to update technologies,

the material basis of which are fixed production assets. Therefore, there is a demand for the products of manufacturers of such equipment; they are now able to expand production, purchase larger volumes of raw materials, attract new labor resources. The multiplication effect is triggered. The economy is starting to emerge from depression.

Recovery. At this time, the economy begins to gradually recover. There is a massive replacement of fixed assets with new ones. Production volumes are growing. Entrepreneurial activity is increasing. Incomes of enterprises and households begin to grow, demand for both consumer goods and resources increases. Expansion of production ensures the creation of new jobs, which leads to a reduction in unemployment. The sales crisis has passed, there is a slight increase in prices for goods.

Expansion. The recovery period ends with the achievement of the pre-crisis level of national production. Exceeding it means that the economy enters a new stage of the economic cycle - expanson. Here the economy demonstrates further expansion of production, increased capacity utilization, reduced unemployment, approaching full employment, and increased income. Investments and consumer spending are continuously expanding. Demand for goods and services is growing, but due to the fact that the economy is operating at full capacity and aggregate demand continues to grow, the trend of rising prices is gaining strength. However, demand growth is gradually lagging behind supply growth. Prerequisites are beginning to form for the economy to enter a new cycle.

"Long waves" in the economy

Considering economic processes in a wide historical space, some economists believe that there are very long economic cycles: "long waves" in the economy. They are also often called Kondratiev cycles. Nikolai Kondratiev (1892-1938) is economist who is considered the

founder of the theory of large business cycles. In his works, taking into account the analysis of extensive statistical material, he distinguished cycles lasting 40-60 years. In particular, in the period from the end of the 18th century to the 1920s of the 20th century (140 years), M. Kondratiev identified three such cycles.

The long-term cycle has two phases: an accelerating phase and a decelerating phase. They differ in average rates of economic growth: higher or slower. The reasons for this may be the correspondence or discrepancy between the passive and active parts of fixed assets. When at the foot or at the very beginning of the acceleration phase, some technical or scientific discovery occurs that changes the very face of the economy, there is a need for mass construction of production infrastructure facilities (buildings, structures, roads, etc.). They are built in accordance with the existing level of development of the active part of fixed assets (machine tools, equipment, other mechanisms). This makes it possible to fully use the potential that is inherent in technologies, which accelerates economic growth.

However, on average, every 10 years, the active part of fixed assets is updated. And with each such update, the discrepancy between the capabilities of modern technologies and the somewhat outdated infrastructure, which is updated on average after 50 years, increases. As a result of such a discrepancy, the rates of economic growth decrease. And this will happen until a new technical or scientific discovery and mass construction bring the active and passive parts of fixed assets into line.

It should be noted that the described mechanism of long-term cycles is characteristic of the industrial economy. The modern post-industrial economy (knowledge economy or digital economy) undermines the foundations of this mechanism, since modern production processes often do not require capital structures, and therefore the very material basis of the "long wave", the life cycle of production infrastructure, disappears.

The impact of cycles on different sectors of the economy

We have already noted that the impact of the cycle is felt by all economic entities, all its spheres. However, the impact of the cycle is felt differently in different sectors of the economy. It is generally accepted that the sectors of production of consumer durables and means of production (raw materials, machinery, etc.) are more susceptible than others to general economic fluctuations. What is this connected with?

Firstly, with the fact that when difficulties increase in the economy, there is a general decline, many enterprises reduce their investment costs: they build less, they are less engaged in updating equipment, etc. They experience problems with the sale of their goods, they do not need to expand their production during this period. Therefore, their investment activity fades, which is reflected in the producers of means of production. As for consumer durables, in the conditions of increasing economic difficulties experienced by most families, people postpone purchases of expensive goods until better times. But it is practically impossible to postpone the purchase of food, clothing, footwear, utilities and transport services, the costs of purchasing these goods and services can only be reduced somewhat.

Secondly, the level of competition in industries where the means of production are created is usually lower, the sales markets for these goods are divided among a smaller number of firms, here the level of concentration of production is higher, producers have a certain power over consumers. Therefore, under conditions of reduced demand in these industries, they are in no hurry to look for ways to reduce prices in order to stimulate sales. The most common method they resort to is to reduce output, reduce supply. And in other industries, where the level of competition is higher, where the number of subjects of supply of goods is greater, survival in conditions of worsening economic

conditions requires active work with prices; prices here are significantly reduced.

Thus, certain discrepancies are revealed in fluctuations in production volumes, prices, employment in different industries of the economy, caused by general cyclical fluctuations.

Causes of economic cycles

There are many theories explaining the emergence of economic cycles. To the issue of cyclical fluctuations in the economy, economic science proceeded from the study of crises. D. Ricardo, J. Mill, J. Sismondi, K. Marx, K. Robertus, M. Tugan-Baranovsky and other economists analyzed to one degree or another the problem of crises that periodically arise in the economy. Subsequently, in the works of V. Sombart, W. Mitchell, E. Lacombe, N. Kondratiev, J. Schumpeter and other economists, crises are considered as an integral part of a broader problem – economic cycles. Currently, it is customary to distinguish the causes of fluctuations into external and internal. ***External*** – these are factors that are outside the economic system, ***internal*** – take place within the economic system itself. The following are called external causes of economic cycles:

a) *changes in population size*: population growth leads to an increase in employment and production, causes economic growth; population decline has the opposite effect. Given the relative stability of the population of the developed countries of the world, it is difficult to recognize the significant significance of this factor under modern conditions;

b) *political, military and other extraordinary events*. Thus, perhaps the greatest event in history in the second half of the twentieth century was the cessation of the existence of the USSR. A whole series of new independent states emerged, including Ukraine. Did this event affect the state of the economies of the new states? Undoubtedly. Their

economies received a strong external impetus, which is associated with inevitable complications in the economic relations of the republics of the former USSR. This was one of the main reasons for the decline in production in these countries. The conduct of large-scale hostilities in some regions can push the economies of some countries to increase the output of certain products, and their cessation can lead to a decline in business activity. The same events can lead to the aggravation of political relations between any countries;

c) *the emergence of innovations of a revolutionary nature*. Such inventions include the automobile, rail transport, airplanes, synthetic materials, computers, and digital communications. They dramatically affect labor productivity, open up new opportunities for satisfying needs, and cause a massive surge in investment activity and consumer spending.

The main internal causes of cyclicality include:

a) *instability of investment spending*. Changes in investment volumes affect the demand for equipment, materials, construction services, etc. An increase leads to an increase in their production, the creation of new jobs, an increase in income, which usually also gives an increase in consumer spending. A decrease has the opposite effect;

b) *instability of consumer spending*. Households form the demand for a very large number of goods and services created by the economy. A change in one direction or another in total consumer spending gives impetus to the expansion of production in certain industries, or to a reduction. The impulse received in these industries will be relayed to all others;

c) *state activity in the field of economic regulation*. The state's economic policy significantly affects the general state of the national economy. Certain actions in the field of macroeconomic regulation, related, for example, to changes in tax policy, currency regulation, and monetary policy, can contribute not only to the growth of production, but, unfortunately, to its reduction.

4.3. STABILIZATION POLICY

Smoothing economic fluctuations by the state

Wrinkled clothes usually do not evoke positive emotions in us, and we take up the iron to give our things a more attractive appearance. Undulating development is the "wrinkles" in the economic life of society. We must fight them, take measures to smooth out economic cyclicality. This is done by the state, playing the role of a kind of iron. It is impossible to completely smooth out these "wrinkles", the cyclicality of development is still irresistible, but trying to reduce the height of the waves, the amplitude of fluctuations is real, and this is what the modern state strives for, pursuing a stabilization policy. ***Stabilization policy is the state's measures designed to smooth out economic fluctuations***. This activity of the state is also called counteraction to fluctuations in the conjuncture.

Containment and expansion

There are two types of stabilization policy: ***containment and expansion***. The state, depending on the stage of the cycle in which the national economy is located, applies a containment policy or an expansion policy (Fig. 4.5).

Both types of policy are ultimately related to the regulation of aggregate demand, with an impact on the amount of spending carried out by participants in economic life. The main instruments of macroeconomic stabilization are:

1. ***Fiscal (tax and budget) regulation***, which involves the collection of taxes from enterprises and households, as well as the implementation of certain budget expenditures, to influence the macroeconomic situation, the level of business activity in the country. This tool is often called ***financial policy***.

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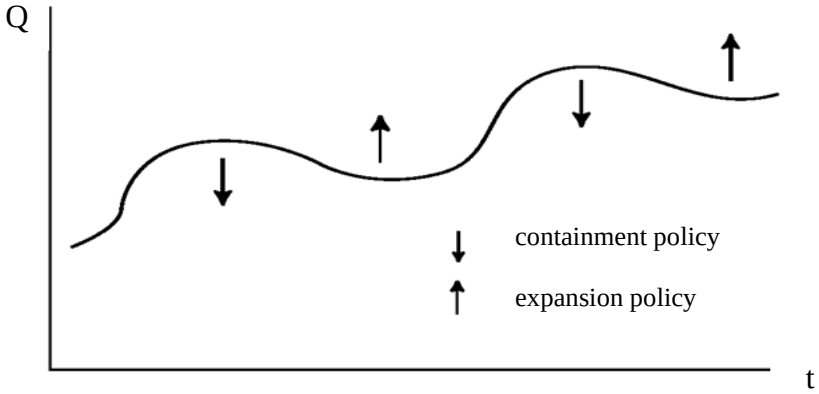


Fig. 4.5. **Types of macroeconomic stabilization policies**

2. ***Monetary (credit and monetary) regulation***, which involves influencing the state of the national economy, the level of business activity through state control over the country's money circulation.

The state, of course, also uses other levers of influence to stabilize the economy. These include instruments of foreign trade, currency, direct price regulation, wage control, privatization, and others.

The choice of priorities in using certain instruments of economic stabilization depends on many circumstances: the characteristics of the national economic system, the severity of macroeconomic problems, the worldview of people who exercise state management, the degree of integration of the national economy into the world economic system, etc. Therefore, it is impossible to mechanically transfer stabilization techniques used, for example, in the USA, to the economy of Ukraine. What is effective in one system, in one condition, may be ineffective in other conditions. Common sense and high managerial art of applying well-known methods of macroeconomic regulation in specific national conditions are needed here.

Let us now consider each of the above types of stabilization policies.

Containment policy is the activity of the state aimed at limiting aggregate demand. It is applied when the economy is in the expansion stage. It is then that the inflationary potential accumulates in the economy, the situation heats up: there is an increase in demand, producers strive to expand production. But this expansion has its limits at every moment of time, there comes a moment when production begins to react to the expansion of purchasing costs not so much by increasing output as by raising prices. And here containment measures are needed, aimed at deflating the inflationary potential, cooling the economic situation. Obviously, in this case, measures related to increasing taxes, reducing state budget expenditures, increasing the cost of loans, etc. will be suitable. Containment policy can be an anti-inflationary measure, but at the same time cause an aggravation of the employment problem.

Expansion policy is the activity of the state aimed at expanding aggregate demand. The state resorts to such measures when the economy is experiencing a recession. By stimulating spending, the state tries to "feed" production, increase the level of business activity, and warm up the economy. The state tries to achieve an increase in spending and intensification of production by reducing taxes on enterprises and households, increasing state budget expenditures, reducing bank interest rates on loans, etc. Expansionary policy creates the prerequisites for economic growth and reducing unemployment, but carries the threat of price increases. In conclusion, we note that in this paragraph we have only outlined the approaches and instruments of macroeconomic stabilization. The implementation of stabilization policy itself is a very difficult practical matter. In addition, there are differences of opinion among economists regarding what and how the state should do to support the stable development of the national economy. We will turn to a detailed analysis of the work of fiscal,

monetary, and other regulatory instruments and an explanation of the contradictions that arise in it in the following chapters.

Brief conclusions

1. Instability is characterized by the main macroeconomic indicators: the volume of national production, the price level, the employment level. Economic fluctuations are instability, multidirectional dynamics of the main macroeconomic indicators, characteristic of certain periods of time.

2. The economic cycle is a set of certain states of the national economy that are regularly repeated. The stages of the medium-term cycle are recession, depression, recovery, and expansion. The average duration of the economic cycle is 7-11 years. The economic cycle has a different impact on different sectors of the national economy: the production of means of production and consumer durables is most susceptible to its influence.

3. There are external and internal reasons for the cyclical development of the economy. The external ones include: a) changes in the population; b) political, military and other extraordinary circumstances; c) the emergence of revolutionary inventions, and the internal ones: a) instability of investment spending; b) instability of consumer spending; c) state activity in the field of economic regulation.

4. The state seeks to smooth out economic fluctuations, reduce the rigidity of cyclical development. Stabilization policy is the state's measures designed to smooth out economic fluctuations. There are two types of such policies – containment and expansion. Containment policy is the state's activity aimed at limiting aggregate demand. Expansion policy is the state's activity aimed at expanding it. Containment should protect the economy from high inflation rates, overheating of the economic situation, expansion – to stimulate

production growth, reduce unemployment. The main instruments of macroeconomic stabilization are fiscal and monetary regulation.

Basic terms and concepts

Indicators of macroeconomic dynamics
Economic fluctuations
Economic cycles
Product life cycle
Short-term economic cycle
Medium-term economic cycle
Recession
Depression
Recovery
Expansion
"Long waves" in the economy
External and internal causes of economic cycles
Stabilization policy
Fiscal regulation
Monetary regulation
Containment policy
Expansion policy

Questions for reflection and discussion

1. Analyze the dynamics of real GDP of Ukraine over the past 10 years. Explain the reasons for economic fluctuations

2. Analyze the dynamics of real GDP of one of the developed countries of Europe over the past 20 years (according to the World Bank). Can you notice cyclical fluctuations in this dynamic?

4. Based on national statistics, conduct a comparative analysis of the main macroeconomic indicators of Poland and the Czech Republic.

What do you see as the fundamental difference between the economic models of these countries?

5. Give examples of the life cycles of several specific goods. Why, in your opinion, is the synchronization of the phases of the life cycle of different goods?

6. It is generally accepted that the economy develops cyclically. What, in your opinion, is the basis of medium-term cycles in general? What instruments and measures of the state's stabilization policy exist and which of them do you consider the most effective?

CHAPTER 5. EMPLOYMENT AND UNEMPLOYMENT

The employment situation is one of the main indicators of the national economy. It reflects how labor resources are used in society, and therefore the possibilities of economic growth. World experience indicates the impossibility of achieving full use of available labor resources, the existence of the problem of unemployment, which affects millions of people. And it is among the most important and acute economic and social problems of society.

Macroeconomics studies the issue of unemployment, determines its essence, types, causes, consequences, the role of the state in regulating the processes taking place in the labor market. This chapter is devoted to considering these and some other issues.

5.1. LABOR MARKET AS A REGULATOR OF EMPLOYMENT

To satisfy their economic needs, people must work and earn income. For more than 90% of the economically active population of Ukraine, which corresponds to similar indicators in other countries, income is associated with the supply of labor services, that is, these people act as employees, get jobs at state, municipal or private enterprises. The labor market is the main mechanism through which the interaction of sellers (employees) and buyers of labor services (employers) is carried out. Like any other market, it assumes a free nature of the interaction of counterparties, competition and a significant role of price in achieving coordination of their decisions.

The mechanism of the labor market consists of: demand for labor, supply of labor, wages (the price of labor). Employees offer

their labor services for a fee, and employers demand them and pay for their actual implementation.

Supply of labor

The supply of labor services is the volume of labor offered for sale at certain wage rates. As with any product, the supply increases with an increase in the price (wage} and decreases with its decrease. For example, during the formation of the market system and entrepreneurial structures in Ukraine, there was a clear need for accountants, marketers, specialists in finance, investment and banking, their salaries significantly exceeded the level of remuneration for workers in other specialties. This caused an increase in applicants for the relevant specialties of higher educational institutions, an expansion of admissions and, ultimately, led to an increase in the supply of these specialists. In recent years, the digitalization of public life has increased the demand for specialists in IT and other areas with a large "filling" with a digital component.

The supply of labor is free: people voluntarily choose between employment and unemployment, determine their profession, type of activity, and decide to change jobs. At the same time, this freedom is limited in nature, it is a choice within a certain "corridor of freedom". The factors that limit freedom of choice or, in other words, establish this corridor of freedom are:

a) *the existing level of education, professional specialization*. For example, it is difficult for a metallurgist to offer himself as a mathematics teacher, and for a lawyer – as a specialist in the IT field;

b) *a person's physiological abilities*. Age, gender, health status, and other individual data leave their mark on a person's competitiveness in certain specialized labor markets, objectively affect his/her ability to perform a particular job. Often, the employer himself/herself initially fixes his/her requirements for hiring. For example, you can find an

announcement with something like this: "The company will hire an employee under the age of 30, sociable, creative";

c) *social conditions*. Place of residence, family circumstances limit the possibilities of offering labor in certain markets. For example, it will be problematic for a woman with young children to offer her work where the work is related to business trips or is carried out in several shifts;

d) *lack of experience*. We can give an example of another public invitation to work: “An accountant with at least 3 years of work experience is needed”. Here, the employer immediately sets a certain bar for the employee’s experience requirements.

In general, the following are the main factors that determine the behavior of employees in the labor market: the number of wages, working conditions (physical burden, intensity, variability, ecology), remoteness of work from the place of residence, prestige of work, dedication to the profession, degree of independence and responsibility, etc.

Demand for labor

The other party in the labor market is the employer - the one who forms the demand for labor. ***The demand for labor services is the amount of labor that will be in demand at certain wage rates***. The law of demand, as is known, is formulated as follows: the amount of goods purchased increases when the price per unit decreases and decreases when it increases.

The behavior of the employer in the labor market has both an objective basis and subjective manifestations. Objective characteristics of the employer's activities are determined by the position of the enterprise, the conditions of its activities. The purpose of the activities of a non-state enterprise, with rare exceptions, is to make a profit, to achieve a greater difference between revenue from products and the

amount of expenses incurred. The resource policy of the enterprise is analyzed through the prism of the profit rate, that is, the ratio of profit to expenses. The selection and involvement of resources in production, including labor, is regulated by the profitability criterion. The enterprise seeks to select the best, in its opinion, resources from those available on different markets, capable of bringing the highest economic effect in current and prospective conditions.

The position of the enterprise depends on how its products are sold. The enterprise cannot be insured against fluctuations in the volume of products sold. These fluctuations depend on both internal circumstances (the level of marketing work, organization of production, product quality, organization of after-sales service, etc.), and external reasons (competition, resource capabilities, stage of the economic cycle, seasonality, etc.). This instability makes it impossible to maintain a certain constant level of wage costs, and therefore the level of employment for the enterprise. The volumes and costs of the enterprise's production reflect the economic feasibility that has developed, taking into account the specific economic situation.

In addition to the objective parameters in which enterprises (employers) operate in the labor market, the latter also contains subjective elements. These may include, in particular: dedication, loyalty of employees; prejudices that cause certain discrimination (by gender, age, nationality, etc.); attitude towards the institution in which special education was obtained; family ties; personal sympathies or antipathies, etc.

Labor price

The coordinating role of the supply and demand for labor is played by its price – wages, which are the core of the labor market mechanism. ***Wages are the price of a person's intellectual and physical abilities to create economic benefits***.

The wage rate depends mainly on three factors: 1) the ratio of labor supply and demand; 2) government regulation; 3) the activities of trade unions.

The regulatory role of wages is manifested in the same way as the market price for any product. If, for example, the number of people wishing to serve in the police decreases, and the state intends to intensify the fight against crime and expects to attract additional people to work in the police, the main factor that opens up the possibility of expanding the ranks of the police is an increase in employee salaries, bonuses for rank, length of service, etc. There are no other decisive levers. The only alternative can be coercion. Another example: if there is an objective reduction in demand for metal (its consumers reduce the metal content of products, the use of new structural materials (plastics and others) expands), a structural shift should occur in the economy: some people from metallurgy should move to other industries with favorable economic conditions. A decrease in average wage rates in metallurgy will affect the labor supply in this industry and direct labor resources to where their use will be more effective.

Competition in the labor market

The subjects of the labor market compete for the best realization of their interests. Competition among employees is for jobs, among employers – for employees, for labor resources.

The presence of competition means for those who work for hire or are looking for work, the need to constantly care about the quality of their labor services, strive to improve their qualifications, and continuously maintain interest in their labor opportunities among employers. There is no other way, with rare exceptions. Anyone who wants to have prosperity, some guarantees of unemployment, must constantly engage in self-improvement, and daily prove the competitiveness of their work.

The changes that have occurred in the economy of Ukraine over the past two decades have significantly affected employee-employer relations. If in the conditions of a centrally planned economy the state acted as the employer-monopoly, which quite often showed itself "softly", "tolerantly" towards negligent employees, then market conditions have changed both the structure of employers and their requirements for employees. Under such conditions, people should rely less and less on the state, on paternalism, and more on themselves, on their own efforts, knowledge, willingness and ability to work effectively. The state takes under its protection only those who, for objective reasons, cannot compete on an equal footing with others in the labor market (for example, disabled people). It is necessary to forget forever the well-known saying: work is not a wolf, it will not run away into the forest, as such, as one that does not correspond to the realities of economic existence and the economic psychology of the employee operating in a market environment. Competition among employees generally increases the qualitative level of labor resources available in society. It opens up the possibility of choice for employers. On the other hand, competition among employers gives employees a choice - they can sell their labor services on more suitable conditions, choose a place of work that, for reasons of profitability and other motives, will bring them the greatest benefit and satisfaction.

5.2. LABOR MARKET INDICATORS

Quantitative parameters

The main parameters characterizing the state of employment, the state of the labor market can be called the following quantitative indicators: ***economically active population (labor force), economically inactive population (not part of the labor force), employed, unemployed, unemployment rate***.

The country's population can be divided primarily into economically active and inactive population (Fig. 5.1.).

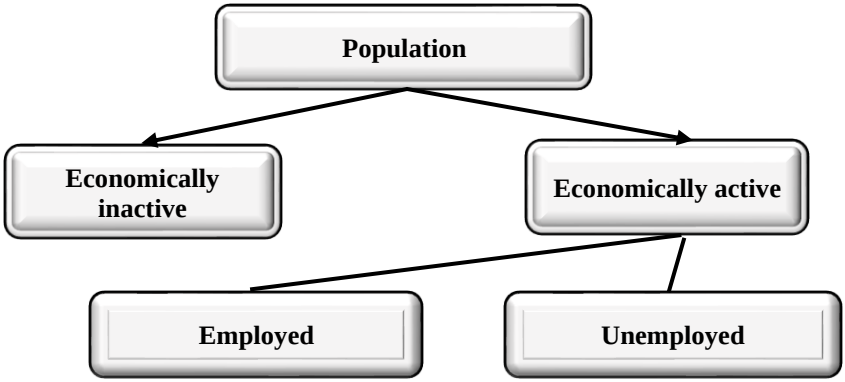


Fig. 5.1. **Key labor market indicators**

The economically inactive population includes:

a) persons under the age of 16;

b) persons in psychiatric hospitals and correctional institutions;

c) pensioners, students, housewives and other persons who have dropped out of the labor force - do not work and are not looking for work.

The economically active population includes those who are employed, as well as the unemployed.

The employed population is people who have a job that brings them income in monetary or other form.

The unemployed are people who do not have a job, but are able to work, are ready to work and are looking for work. Of course, this definition has some drawbacks. In particular, in practice it is very difficult to distinguish between unemployed people who are looking for work (they should be included in the unemployed) and those who are not looking for work (they are no longer part of the economically active

population). But at the same time, it provides fairly clear criteria for distinguishing the unemployed population. Employment services, organized in Ukraine since 1991, make decisions on the assignment of unemployment benefits based on the definition of the status of the unemployed. Such benefits can only be received by those who have the official status of the unemployed.

Unemployment rate

The absolute number of unemployed people cannot fully reflect the severity of the country's unemployment problem. The number of unemployed people is an important indicator, but it exists in isolation from the number of economically active people. Therefore, the main indicator of the use of labor resources is the unemployment rate in the country. ***The unemployment rate (Ur) is the ratio of the number of unemployed to the economically active population, expressed in percentages***:

$$Ur = \frac{total\ number\ of\ unemployed}{economically\ active\ population}\ 100\%$$

The experience of Ukraine, as well as the world experience in general, shows that using only the number of unemployed who have officially received the status does not give a sufficiently accurate picture of the situation on the labor market. There are certain circumstances that lead to the fact that the actual number of unemployed may significantly exceed their officially registered number.

First, much depends on the methodology for determining the unemployed. If only the number of officially registered unemployed is taken into account when calculating the unemployment rate, then the unemployment rate is underestimated compared to the actual one. On the one hand, not everyone who is unemployed and who is looking for it turns to the relevant services. On the other hand, the procedure for

obtaining the status of unemployed does not seem simple enough, and therefore not everyone who turns to the employment services manages to master it. To avoid this drawback, in a number of countries, for example, the USA, the number of unemployed is determined on the basis of sample surveys of the population. This method makes it possible to obtain more complete information, although it also has certain disadvantages.

Secondly, the problem is the accounting of partial unemployment or partial employment. Thus, in Ukraine, during periods of economic crises, the aggravation of the employment problem often manifested itself in hidden forms. For example, at enterprises, due to the reduction in production volumes, people were not so much officially dismissed as sent on long-term unpaid leave, the working week was reduced by several days, the minimum wage was paid without actually providing work, etc. On the one hand, enterprise managers hoped for favorable changes in the situation in the future and tried to retain qualified personnel. On the other hand, people who found themselves in such situations simply did not have a better choice in many cases, since in the conditions of the general economic crisis the total number of jobs was decreasing. Therefore, most often today the number of unemployed for calculating the unemployment rate is determined according to the methodology of the International Labor Organization (ILO). In this case, a person is considered unemployed if he or she: did not have a job, was looking for a job, was ready to start working for four weeks. Ukraine also joined the use of this methodology. It is easy to see that the number of unemployed calculated in this way in recent years is almost 4 times higher than the level of officially registered unemployed. However, there is every reason to believe that even the ILO methodology does not describe the situation accurately enough, since it is also unable to accurately take into account both the number of hidden unemployed and hidden employed in the shadow economy.

5.3. TYPES, CAUSES AND LOSSES OF UNEMPLOYMENT

Types of unemployment

There are ***three types*** of unemployment.

Frictional unemployment is unemployment associated with voluntary changes in employment and periods of temporary layoff.

In our lives, we often encounter cases when people voluntarily resign from work, hoping to get a new job, which, in their opinion, will be advantageously different from the previous one. This benefit may consist of higher income, better prospects, that is, in the emergence of favorable opportunities for career advancement, convenience of location in relation to the place of residence, etc.

There are also seasonal jobs (agricultural, trade, resort services, construction), where some workers are hired for a season, that is, for a certain period. In the intervals between periods of work, they are temporarily laid off.

Another type of frictional unemployment is a situation when some people are looking for work for the first time (this applies mainly to young people who have graduated from educational institutions).

The existence of frictional unemployment should be considered an inevitable, natural phenomenon. This is the easiest form of unemployment, since it does not require retraining, spending time and money on it. Many of its cases, such as, for example, a voluntary change of job, associated with the desire to find a more profitable job, can even be considered to some extent desirable and useful, since this is about searching for areas or places of more efficient use of labor resources. At the same time, it is obvious that not every change of job turns out to be, in the end, successful for the employee, and therefore for the entire economy. But these are inevitable costs. In football, not every shot on

goal ends with a goal, but if there were no shots, there would be no goals and, perhaps, no football at all.

Structural unemployment is unemployment associated with changes in demand for goods and in production technology. In market conditions, no enterprise is able to have guaranteed sales of its products, the sale of goods is associated with many circumstances. It is impossible not to notice that the needs of households and enterprises do not remain frozen, once and for all given. On the contrary, they change, and in certain periods quite actively. A decrease in demand, for example, for coal from the energy sector, may reduce the demand for miners. Within the coal industry, the number of jobs will decrease. Dismissed workers must look for new applications for their labor skills, turn to other industries. It is obvious that in most specific cases, miners will face a difficult search and adaptation in new industries. And, in principle, the very fact of high demand for labor in some other industries changes little. Unemployed miners are unlikely to be significantly helped by the commissioning of a mineral fertilizer plant or a battery plant, as, for example, weavers who have been left without work by the commissioning of new units at a nuclear power plant located in this region. This problem may be especially acute in those regions where a highly specialized production orientation has developed, such as, for example, in the same Western Donbas in Ukraine.

As for technological changes, their result is a reduction (maybe complete elimination) or an increase (possibly even creation) of demand for certain workers. For example, the "computer revolution" has generated a massive demand for programmers. On the other hand, there is practically no demand for chimney sweeps anymore.

Structural unemployment, which arises as a result of a mismatch between the structure of supply and the structure of demand for labor, is undoubtedly also inevitable, but at the same time more long-term and more complex than frictional. Here the market cannot do without

serious assistance from the state. It is necessary to organize a flexible system of retraining workers, to carry out certain measures within the framework of the state's structural policy (regional placement of new production, creation of conditions for interregional migration of labor, etc.).

Cyclical unemployment is unemployment generated by a general economic recession. Cyclical unemployment is one of the consequences of a reduction in GDP. Aggregate demand is decreasing, national production is decreasing, jobs are being lost, and unemployment is increasing as a result. The “treatment” of the problem of cyclical unemployment can only be achieved by improving the situation in the economy as a whole. The need to overcome the recession and increase entrepreneurial activity is the basis for implementing the expansionist version of the state stabilization policy, which was discussed in the previous chapter.

«Full employment»

When sailors talk about complete calm, and physicists about “a body at complete rest,” we understand that we are talking about the absence of wind and movement of some object. But when economists talk about “full employment,” this does not mean at all the absence of the unemployed, since the presence of frictional and structural unemployment is considered by economists to be the “normal” state of the economy. Therefore, if there is no cyclical unemployment, then there are no serious problems with employment: everything is going as it should be. Although this impartial macroeconomic approach to phenomena should not overshadow the problems, and often the suffering of each individual person who has been left without a job. But if at the level of the entire economy the natural state of employment is the absence of cyclical unemployment (without it, the number of those looking for work and the number of vacant jobs approximately

correspond to each other), then one of the goals of macroeconomic policy should be to combat cyclical unemployment, the desired result of which is its elimination, that is, the goal is not the elimination of unemployment in general, but the elimination of its cyclical form.

Thus, ***"full employment" is the absence of cyclical unemployment***. To quantitatively characterize this phenomenon, the concept of the natural rate of unemployment is also used, which reflects the level of unemployment corresponding to full employment in the economy (***NUr)***:

$$NUr = \frac{number\ of\ frictional\ and\ structural\ unemployed}{economically\ active\ population}\ 100\%$$

The value of the natural rate of unemployment causes some disagreement among economists. It is believed that for different periods of time it may differ, and it is possible to observe some growth over time. For this period, the value of the natural rate of unemployment is estimated by many economists at 5-6.5%. For the number of economically active population that Ukraine has, this would correspond to 0.85 - 1.11 million unemployed.

Causes of unemployment

We have already largely mentioned the causes of unemployment when analyzing its types. Here we will give them a generalization, setting out in a stricter form.

In economic science, it is customary to distinguish three main concepts of explaining unemployment: 1) classical; 2) Keynesian; 3) monetarist.

The classical theory of employment, with which the names of D. Ricardo, J. Mill, A. Marshall and other economists are associated mainly in the 19th century, is based on the belief that the market has sufficient abilities to effectively coordinate all processes occurring in

the field of employment, ensuring the full use of labor resources available in society. According to the classics, the cause of unemployment is too high wages, which generates an excess supply of labor. This is the result of certain requirements of hired workers. The free play of market forces – demand, supply, wages – will provide the necessary coordination in the field of employment. If there is an excess supply of labor, a wage reduction should reduce it, but at the same time increase the demand for labor. If wages in this situation do not decrease, this is prevented by the workers themselves, their unions, thereby they "voluntarily" agree to the existence of a certain number of unemployed.

The Keynesian theory of employment was formed mainly in the 30s of the twentieth century. It is associated with the name of the English economist J. M. Keynes, the most prominent researcher in the field of macroeconomics. In 1936, in his work "The General Theory of Employment, Interest and Money", he proposed a fundamentally new explanation of unemployment.

The classics did not see unemployment as any serious problem. However, real events increasingly corresponded to the classical postulates. A massive explosion of unemployment occurred in the early 30s during the so-called "Great Depression". At this time, the US unemployment rate reached 25%. It became clear that the problem could not be solved by classical recipes alone. Keynes agreed that lowering wages could lead to an increase in employment. But at the same time, he pointed out that: 1) in practice, due to certain circumstances, it is difficult to lower wages; 2) even if wages could be lowered, there would be a decrease in demand for consumer goods, which would negatively affect production and employment. Keynes also believed that in conditions there would be no noticeable increase in demand for investment goods, since investment decisions are largely based on future expectations, which in these conditions are considered unfavorable by many business entities.

Keynes rejected the position on the ability of the market to ensure full employment, came to the conclusion about the ineffectiveness of the policy of non-intervention of the state ("laissez faire"). The cause of unemployment is low demand. The cure for unemployment is the expansionist policy of the state, which is based mainly on the use of fiscal instruments. By changing taxes and budget expenditures, the state can influence aggregate demand and the level of unemployment.

The monetarist theory of employment is consonant with the ideas of the classical school. Monetarism is a direction in economic science that challenged the Keynesians in the 60s and 70s (American economist M. Friedman and others). Monetarists are trying to revive faith in the strong regulatory potential of the market, in its ability to ensure a high level of macroeconomic stability. According to monetarists, the state, with its activity in the economic sphere, has shackled market forces and unjustifiably limited the constructive possibilities of the market. In particular, the labor market has lost its flexibility, it is deformed due to excessive intervention by the state and trade unions. Too rigid wages create major problems in the employment sector. Therefore, the cure for unemployment can be to free the market from unjustified intervention (in the field of wages, prices, etc.) and to implement a subtle state policy to increase its flexibility (creation of a flexible education system, mass dissemination of information, stimulation of interregional labor flows, etc.).

It should be noted that the rational expectations economic school also makes calls that are quite close to monetarism (among its most prominent representatives are the American economists R. Lucas and T. Sargent). They tend to see the causes of many problems associated with instability, including in the employment sector, in the economic policy of the state.

Discussions between representatives of different directions continue. More attention is paid to Keynesianism and monetarism. Many economists emphasize the fact that both prescriptions for

unemployment are in principle quite acceptable. In particular, different types of unemployment require different approaches: wage restraint, increasing aggregate demand, or increasing market flexibility.

Unemployment losses

Unemployment brings great problems both to the person who is left without a job and seeks to get it, and to society, the economy as a whole. Losses from unemployment are what it costs, what is the payment for it. The payment can be economic, psychological, social, etc. The losses from unemployment include:

1***. Individual losses from unemployment***. What are the losses from unemployment for those people who find themselves unemployed? *Firstly*, the level of their cash income decreases or even becomes zero. *Secondly*, problems with cash income give rise to problems with the volume and quality of consumption. Unemployment negatively affects not only the level of economic well-being of a person and family. *Thirdly*, unemployment often leads to a loss of qualifications. Maintaining a certain level of professional qualifications is sometimes possible only with systematic practice. *Fourth*, often a new job that is obtained turns out to be less profitable than the previous one, one of the reasons for which may be a decrease in the level of qualifications during the period of unemployment. *Fifth*, unemployment brings significant psychological problems. The psychological state of a person changes – depression, feelings of inferiority, dissatisfaction with life, nervousness arise. Stress, health disorders may arise.

2. ***Losses from unemployment for society***. This is, *firstly*, underproduction of GDP. The real volume of national production turns out to be less than the potential, that is, what society could have if the labor resources it has been fully used.

American economist Arthur Oaken derived an economic law according to which, if the actual unemployment rate exceeds the natural

rate of unemployment by 1%, underproduction of GDP is 2.5%. This means that with the actual unemployment rate of the country, for example, 8.3% and the natural rate of 6%, this country has lost 5.75% of GDP during the year (8.3 - 6.0 = 2.3 x 2.5 = 5.75). In other words, if full employment is achieved, the GDP of this country would be almost 6% higher. If these percentages are translated into value or physical volumes of goods and services, we will get impressive figures. Thus, due to the lag of the real GDP from the potential level, the possibilities of increasing the general (average) level of well-being are reduced.

Secondly, unemployment causes a certain social tension in society. And the higher its level, the greater the degree of this tension. Unemployment is fraught with manifestations of mass protests in society, political conflicts, and, in general, it threatens the stability of society. Unemployment, of course, has a negative impact on family relations.

Thirdly, an increase in the unemployment rate can complicate the criminogenic situation in the country, contribute to the growth of crime and, thereby, reduce the level of security of citizens. Economic and psychological problems that arise in the unemployed can push them to commit illegal acts. On the other hand, increasing the level of security will require taxpayers to either increase tax contributions or redistribute them in favor of law enforcement agencies with a loss, as a rule, for other areas of budget financing. Thus, it can be seen that unemployment is a serious personal and social problem. The responsibility for its solution lies with the employees themselves, entrepreneurs, and the state. The labor market is the main regulator of employment. At the same time, solving the problem of achieving full employment requires the active participation of the state. We have considered various aspects of this activity in this section. At the same time, social guarantees in the field of employment were not analyzed here: who and how does the state support in these matters - this will be discussed in Chapter 12.

Brief conclusions

1. Employment is regulated by the labor market and the state. The labor market is the main way in which sellers and buyers of labor services interact. Its mechanism is formed by the demand for labor, the supply of labor and wages as the price of labor.

2. Labor supply is the amount of labor offered for sale at certain wage rates. The main factors of employee behavior in the labor market are: the number of wages, working conditions, distance from work to residence, prestige of work, dedication to the profession, degree of independence and responsibility.

3. Labor demand is the amount of labor that will be in demand at certain wage rates. The behavior of the employer is determined by the objective conditions of the enterprise's activity (profit orientation, sales volumes, enterprise prospects, product range), as well as subjective preferences (employee loyalty, political views, nationality, gender, family ties, etc.).

4. Wages are the price of a person's intellectual and physical abilities to create economic goods. It depends on the ratio of labor supply and demand, state regulation, and trade union activities.

5. The main indicators of the labor market are the number of economically active population, employed, unemployed, and the unemployment rate. The unemployment rate is the ratio of unemployed to economically active population expressed in percentages.

6. There are three types of unemployment: a) frictional unemployment, associated with voluntary changes in jobs by employees and periods of temporary layoffs; b) structural, associated with changes in demand for goods and production technology; c) cyclical, associated with a general decline in the economy.

7. Full employment is the absence of cyclical unemployment. The natural rate of unemployment reflects the level of unemployment corresponding to full employment.

8. The main causes of unemployment are determined as: a) high wages (classical theory); b) low demand (Keynesianism); c) insufficient flexibility of the labor market (monetarism).

9. Individual losses from unemployment are: a) loss of income and a decrease in the standard of living; b) loss of qualifications and income in the future; c) adverse psychological changes. The social costs of unemployment include: a) underproduction of GDP; b) social tension in society; c) increased crime. According to Okun's law, an excess of the actual unemployment rate over the natural rate by 1% leads to a shortfall in GDP of 2.5%.

Basic terms and concepts

Employment and unemployment
Labor market
Labor demand
Labor supply
Wages
Economically inactive population
Economically active population
Employed
Unemployed
Unemployment rate
Natural rate of unemployment
"Full employment"
Frictional unemployment
Structural unemployment
Cyclical unemployment
Classical employment theory
Keynesian employment theory
Monetarist employment theory
Individual losses from unemployment

Social losses from unemployment
Oaken's law

Questions for reflection and discussion

1. Conduct a comparative analysis of the unemployment rate in Ukraine, calculated according to the ILO methodology and according to official registration data. What is the reason for the differences in these indicators?

2. Analyze the dynamics of the unemployment rate in one of the developed countries depending on the phase of the economic cycle. Try to calculate the level of cyclical unemployment in individual years.

3. Compare the system of social protection of the unemployed in different countries. Assess its effectiveness by comparing the unemployment rate.

4. As a rule, they talk about the losses of society from unemployment. And can it benefit from this phenomenon in some way? Justify your position with specific examples.

5. Describe the unemployment rate in developing countries. What are the reasons, in your opinion, that the unemployment rate most often has an inverse relationship with the level of development of the country.

CHAPTER 6. INFLATION

In recent decades, Ukraine, unfortunately, has repeatedly experienced inflationary shocks – sharp increases in the general price level. Such periods are extremely difficult for families, enterprises, the economy and society as a whole.

Significant price instability economically and psychologically literally exhausts most people, destroys savings and destroys their hopes, paralyzes the activities of many enterprises, and creates enormous social tension in society.

There is no doubt that the instability of the general price level in the economy is one of the most important macroeconomic problems. Many researchers are even inclined to believe that of all macroeconomic troubles, inflation causes the greatest harm. In addition, the fight against inflation is always difficult, complex and painful.

In this Chapter, we will focus on such issues as the essence of inflation, the causes of its occurrence, and also analyze its main consequences. The issues of combating inflation are considered here and in Chapters 9 and 10, where they are analyzed in the context of the state's financial and monetary policy.

6.1. THE CONCEPT OF INFLATION AND ITS MEASUREMENT

The essence of inflation

For most of the goods and services that we buy, we have to pay directly. The monetary form of exchange involves the transfer of a certain amount of money for a certain number of certain goods. ***The***

price of a good is the amount of money that must be paid for its purchase.

It is easy to see that the prices of goods and services are not constant. They can both increase and decrease in different periods. There are many different goods in circulation in the economy, which means that there is the same number of prices. It is practically impossible to track and reflect how literally all the prices of goods and services in the national economy change in order to obtain a macroeconomic picture. Macroeconomics derives the average price level as a general economic indicator and records its changes or fluctuations. It is with the average (general) price level that the concept of inflation is associated.

Inflation is an increase in the average (general) price level in the economy. It should be emphasized that an increase in prices for individual goods and services is not yet evidence of inflation. The increase in the price of some goods may be compensated by their decrease in others. Private price fluctuations can be caused by various reasons, mainly related to changes in the ratio of demand and supply for specific goods. But inflation is always a characteristic of the movement of the general price level, its increase.

Measuring inflation

Thus, inflation reflects an increase in the average price level in the economy. ***The average price level is the weighted average cost of various goods and services in the economy***.

The movement of the average price level, or simply the price level in the economy, is measured using a price index. ***The price index shows the ratio, taken as a percentage, of the cost of a certain set of goods and services in the current (or reporting) period to its cost in the base period***.

This fixed set of goods and services can be called a ***market basket***.

Thus, to calculate the price index, it is necessary to select a certain market basket, calculate the cost of the goods and services included in it on a certain date (C_c). And then every month, quarter, etc., you can determine the cost of the same basket (C_b), divide it by the cost of the basket in the base period and get the price index.

If, for example, you determine the price level in 2025 (I_{p2025}) relative to 2024, then the formula for the calculation will look like this:

$$I_{P2025} = \frac{C_{2025}}{C_{2024}}$$

Suppose we get an answer equal to 105%, this will mean that prices in the country's economy have increased by 1.05 times, or by 5% (the inflation rate) in a year. The period during which inflation is measured can be different. Its minimum duration is more often a month, sometimes you can find reports of changes in the price level per week, and the maximum can be measured in decades.

The most common price index (inflation index) in world practice is the ***Consumer Price Index*** (CPI). As the name suggests, the role of representative goods in the definition is played by a certain consumer product, that is, those purchased by households. The number of representative goods used to calculate this index is usually several hundred. Among them are food, clothing, footwear, housing, transport, etc. These goods "fall" into the consumer basket not only with their prices per unit, but also with their weights. The weights of goods and services included in the consumer basket are their specific weight (share) in consumer spending.

Let's explain this with an example. Let's assume that the average consumer spends 50% of his expenses on food, 30% on other consumer goods, and 20% on services. If the food price index was 95%, other consumer goods were 105%, and services were 115%, then the consumer basket cost index would be:

$$95 * 0,5 + 105 * 0,3 + 115 * 0,2 = 102\%.$$

At the same time, both in Ukraine and in other countries, other price indices are also used. For example, the statistical authorities of Ukraine periodically inform about the values of the industrial product price index and the agricultural product purchase price index. They are based on changes in the prices at which producers sell these products.

To calculate the ***growth rate of the average price level*** for a certain period (inflation rate, $T_{\Delta P}$), the following formula is used:

$$T_{\Delta P} = \frac{I_{Рз} - I_{Рб}}{I_{Рб}} \times 100\%$$

For example, the price index of the reporting period is 110%, and the price index of the previous period is 105%. Then the price growth rate will be (110-105): 105 x 100 = 4.8%.

The "rule of 70" can also be applied to inflation measurements. By dividing the number 70 by the annual price growth rate, you can determine the number of years during which the price level can double. For example, with an annual price growth rate of 5%, the price level will double in 14 years. It should be noted that the accuracy of this rule decreases with the use of high inflation rates.

In terms of rates, inflation is divided into ***creeping, galloping and hyperinflation***. This classification is designed to convey the degree of severity of the inflation problem, its consequences and the time required to calm it down. For countries with developed economies, inflation is considered to be creeping up to 10%, galloping up to 100%, hyperinflation - over 100%. It is believed that for countries with unstable transition economies, it is necessary to use more "soft" criteria (for example, for hyperinflation, according to the widespread view, it can be over 1000% per year). Table 6.1 presents data characterizing inflation in Ukraine.

In the 90s of the 20th century, Ukraine experienced hyperinflation. The "record" years for price growth were 1992 and 1993: prices

increased, respectively, 21 and 103 times in one year! By the beginning of the 21st century, hyperinflation had been quelled. But the price for this was the impoverished situation of the population and a destroyed economy.

Table 6.1

Inflation rate in Ukraine (consumer price index, December to December of the previous year) % *

Years	Consumer Price Index	Years	Consumer Price Index
2002	99,4	2013	100,5
2003	108,2	2014	124,9
2004	112,3	2015	143,3
2005	110,3	2016	113,9
2006	111,6	2017	112,4
2007	116,6	2018	109,8
2008	122,3	2019	104,1
2009	112,3	2020	105,0
2010	109,1	2021	110,0
2011	104,6	2022	126,6
2012	99,8	2023	105,1

* Calculated based on data from: State Statistics Service of Ukraine [Electronic resource]. Available fat: http://www.ukrstat.gov.ua/

Over the next twenty years, there was even deflation (a decrease in the general price level) in 2002 and 2012. However, galloping inflation was most often observed, which harmed investment activity and made it impossible to achieve the desired rate of economic growth.

6.2. CAUSES OF INFLATION

Excess demand

One of the causes of inflation is associated with excess aggregate demand. This is the so-called ***demand-pull inflation***.

Excess, or overstated, demand occurs when the country's production capacity is almost fully loaded and production cannot respond to growing consumer spending by increasing physical production volumes, but begins to "reflect" this demand pressure by raising prices.

An increase in costs does not necessarily cause an increase in prices in any situation. In Fig. 6.1, point Qf corresponds to the volume of national production at full employment, i.e. full utilization of production capacities is achieved (Q is the real volume of production and employment).

Thus, if the state of the economy corresponds to the characteristics of segment 1 (unemployment, underproduction), then an increase in aggregate costs will have practically no effect on the price level, since there will be an increase in employment and an increase in physical production volumes without an increase in resource prices. In segment 2, the situation looks a little different: here there is a smaller reserve of the unemployed population, it is gradually being exhausted, an increase in demand for labor with a simultaneous decrease in the supply of free hands leads to an increase in wages and an increase in prices, a consequence of an increase in the costs of enterprises. In segment 3, the economy has already reached its limit in increasing the physical volume of production, here a further increase in aggregate costs leads to an increase in the price level.

As already noted, aggregate costs are formed by: a) households; b) enterprises; c) the state. The behavior of each of the named demand subjects can cause a certain inflationary pressure. Thus, household

consumer demand can increase due to an increase in wages, a reduction in savings, and an increase in the use of loans. Enterprises, by increasing their costs, can increase the demand for investment goods. The state can increase demand by increasing budget expenditures. The reason for the increase in demand may be the activities of foreign entities. This situation arises when, for example, the interest rates of commercial banks of the country are higher than in other countries, and funds of foreign entities are directed here. However, the decisive moment in inflation, as many economists believe, is the activity of the state. And first of all, its sphere, which is related to budgetary and monetary policy. The state, as is known, through the activities of the central bank controls the money circulation in the country. In particular, it has the ability to regulate the amount of money in circulation. And there is a certain dependence between the money supply and the price level in the country. And therefore, when, for example, the state, being unable to cover its budget expenses with the help of tax and other non-inflationary revenues, resorts to money emission, that is, an increase in the money supply, this causes inflation or increases its pace.

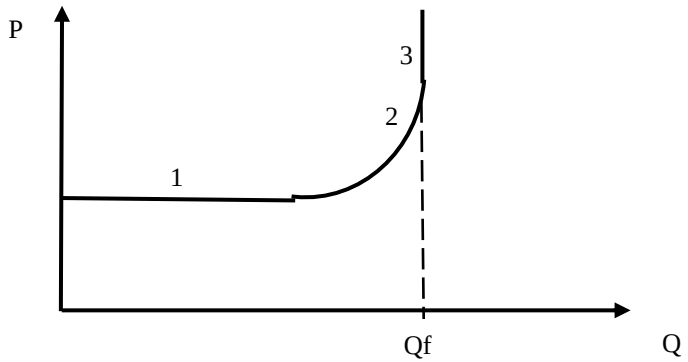


Fig. 6.1. **Movement in national production volumes and price levels**

When characterizing the relationship between the money supply and the price level, many economists turn to the well-known equation of exchange of the American economist Irwin Fisher, who was a prolific analyst of inflation problems. This equation has the following form:

$$MV = PQ,$$

where M is the amount of money in circulation;

V is the velocity of money;

P is the average price level;

Q is the physical volume of goods and services produced.

The formula shows that money, prices and goods are somehow related to each other. According to the equation of exchange, an increase in the quantity of money, given constant physical output and the velocity of money, will lead to an increase in prices.

How tight is this connection? How quickly do changes in the quantity of money affect only the price level? The answers to these questions reveal discrepancies. Thus, monetarists believe that this connection is very close, that changes in the money supply directly affect aggregate demand, and also that the velocity of money is relatively constant, that is, the factors that determine it change slowly and quite predictably. And this means, in their opinion, that it is possible to predict quite accurately the reaction of output to a certain change in the money supply. In general, monetarists come to the conclusion that changes in the money supply are the main cause of instability in the price level and output.

Keynesians have a different view of this problem. Their point of view is that the relationship between the quantity of money, the price level and the volume of production is not as rigid and much more complex than the monetarists present it. According to Keynesians, the velocity of money is not stable, but, on the contrary, constantly fluctuates and is unpredictable.

Many economists also emphasize the complexity of defining the money supply itself: new types of payment instruments are constantly emerging – payment and credit cards, new bank accounts, today also cryptocurrency, etc., as well as the difficulty in determining which of them to include in the money supply and which not. Keynesians also point out that different elements of the money supply have different velocity of circulation. And depending on what the ratio between these elements is, how it is transformed as a result of a change in the money supply, there can be both an increase and a decrease in the velocity of money, and therefore, a different reaction of the price level and the volume of production to a change in the money supply will be observed. This means that there is no stable connection between the phenomena under consideration.

Based on their ideas about the nature of inflation, monetarists and Keynesians attach different importance to the methods of its treatment. The former emphasize monetary (credit and monetary) policy, the latter – on fiscal (tax and budget). The practical policy of any developed state involves the use of both those and other instruments.

Rising costs

When prices rise due to an increase in the cost of producing goods and services, this is called cost-push inflation.

Let us now analyze the increase in unit costs as another cause of inflation.

As is known, any production requires resources – labor, capital, raw materials, land***. Costs are payments that must be made to obtain the resources necessary for production***. ***Unit costs, or average costs***, are determined by dividing total (aggregate) costs by the volume of products produced. The amount of costs is one of the main factors in the supply of goods and services. An increase in average costs leads to a decrease in profit, reduces the volume of products offered for sale at existing price levels. A decrease in supply leads, under other conditions,

to an increase in prices. If the physical volume of goods produced decreases, then with the same aggregate demand, prices for goods increase.

What are the reasons for the increase in costs? The main factors for increasing costs include:

1. ***Increase in wages***. What circumstances can force employers to increase wage rates? First of all, this may be pressure from the employees themselves, who usually use their own organizations, such as trade unions. If trade unions manage to achieve a higher wage increase from employers than the increase in labor productivity (and sometimes they manage to achieve higher wages without increasing output per unit of time), then employers bear high unit costs, lose some of their profits and interest in maintaining the previous supply at existing prices. Changes in the ratio of demand and supply lead to an increase in the price level.

Events of this kind that began in one or more industries can give rise to a chain reaction in other industries of the economy. In general, such a development of events poses a serious danger to the economy – an inflationary spiral may arise in it, when inflation will continuously feed itself. In Fig. 6.2 we tried to show this picture. Every wage increase that is not accompanied by an adequate increase in production leads to an increase in the price level. The increase in prices increases the cost of living: the same amount of money can buy fewer goods and services. This causes discontent and new demands for wage increases, their implementation under the above conditions directs the development of events according to the already familiar scenario.

In the economy of Ukraine, there are some industries where prices do not always cover all costs associated with the production of certain products (for example, the coal industry). In this case, part of the costs is paid from the state budget. If employees and trade unions of these enterprises demand a wage increase and the price of products remains the same or increases less than the wage increase, this means an increase

in budget expenses. If there is a deficit in the state budget, the state can finance the increase in wages by issuing money, thereby opening its inflationary source.

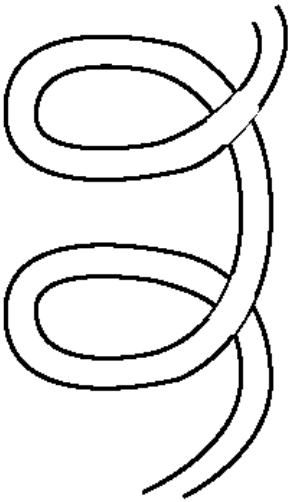


Fig. 6.2. **Inflationary spiral**

The experience of Ukraine and other countries shows how difficult it is to stop the inflationary spiral. It also requires great personal courage from the state and its leaders to take, as is obvious, completely unpopular measures aimed at curbing the growth of wages, budget expenditures, etc.

2. ***Unexpected circumstances that change the supply of certain goods.*** For example, the introduction of significant restrictions on the sale of oil by OPEC countries – the largest exporters – leads to an increase in oil prices and an increase in inflation in many countries. Ukraine faced a similar problem when Russian suppliers of oil and gas began to switch to sales at world prices, which led to a tenfold increase

in the price of imports of these goods, an increase in costs for their consumers and, as a result, an increase in the price level in Ukraine.

Structural change inflation

Observation of price dynamics demonstrates situations when inflation can occur even under the condition of unchanged aggregate demand. The reason for the increase in prices can be structural shifts in demand. Let us demonstrate this with the following example.

Suppose there are two commodity markets (goods A and B), which are currently balanced and a certain equilibrium price level has been established there (Fig. 6.3, a).

Under the influence of some factors (for example, scientific and technological progress), structural shifts in aggregate demand have occurred while maintaining its total volume: the demand for good A has increased, while the demand for good B has decreased by exactly the same amount. According to the laws of the market, the demand curve for good A will move to position D_1, which will lead to an increase in the equilibrium price for this good. The demand for good B has decreased and now the point of intersection of the new demand curve with the supply curve will correspond to a lower price level. It would seem that the increase in the price of some goods is compensated by the decrease in the price of others in such a way that the overall price level remains unchanged.

However, in reality, everything will look a little different. If in relation to goods A all the arguments work and prices increase, then in relation to goods B, a decrease in prices will not occur in most cases. There are at least two reasons that will prevent this. The first of them is associated with the action of the so-called "***ratchet effect***", which allows certain economic indicators to easily increase (for example, prices or wages), but slows down their decrease (more on this in the next chapter). The second is caused by the fact that quite a few

industries are represented by oligopolistic competition, the participants of which are more likely to reduce production volumes than to reduce prices (Fig.6.3b).

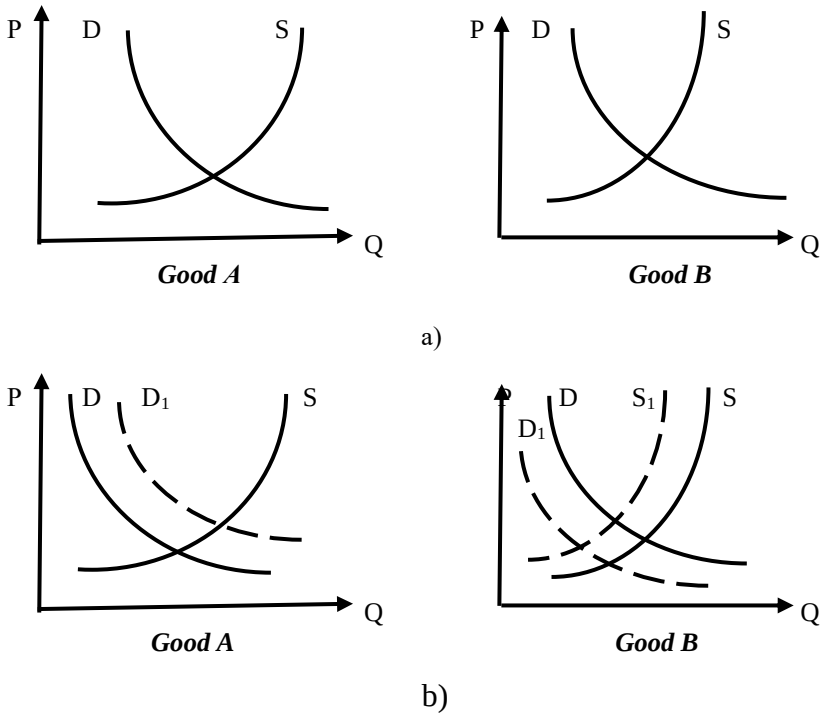


Fig. 6.3. **Structural change inflation**

Therefore, in reality, in the market for good B, the supply curve also shifts so that its intersection with the new demand curve will correspond to the previous price level. As a result, the increase in prices for good A and their maintenance at the previous level for good B leads to the fact that the general price level increases, which means inflation.

6.3. CONSEQUENCES OF INFLATION

Who suffers from inflation and how?

First of all, it should be noted that some kind of price increase occurs in the economy almost always. Periods of deflation – a decrease in the general price level – are very rare. Low and relatively stable inflation, which can be predicted and taken into account in economic decisions, is unlikely to create any serious problems. Significant difficulties arise when the level of inflation is high, when its rates fluctuate sharply. We will consider the consequences of such inflation in this paragraph.

So, to whom and what troubles does inflation bring?

For most households, inflation leads to a decrease in real incomes. Inflation reduces the purchasing power of money: a monetary unit can be exchanged for a smaller number of goods and services. For those people who cannot increase their incomes at least at the same level as price increases, it becomes impossible to maintain the previous standard of living. If the annual inflation index was, for example, 110%, and the income index for this period was 105%, this means that real incomes decreased by almost 5% during the year. It is especially difficult for people with fixed incomes. For example, teachers, military personnel, doctors, cultural workers, civil servants and many others have fixed salaries. Pensioners, the unemployed, mothers on parental leave also have fixed incomes. People with fixed incomes do not have the opportunity to protect themselves from inflation by increasing their labor productivity, increasing production and, accordingly, income. Their salaries, pensions, and benefits are adjusted by the state in conditions of high inflation, but, as a rule, this always happens with a long delay and more often than not, income growth does not fully cover price increases.

Inflation also devalues savings. For example, in Ukraine, many people directed their free money to bank deposits. Thus, they did not so much increase their income as they saved money to buy cars, furniture, summer houses, apartments, and other expensive things. And many older people saved money in order to have a sufficiently secure life during the period when they would be retired. The hyperinflation of 1992 was a real shock for depositors, savings turned into nothing in the first months. And in general, over the year, the purchasing power of money, as already noted, decreased by more than 20 times! How many hopes were dashed, how much work was devalued, how many disappointments were destined to be experienced by many people!

Unexpected inflation causes losses to creditors, i.e. those who lent money. Of course, usually lenders charge a certain percentage for issuing loans, but an unpredictable increase in inflation rates, of course, cannot be taken into account in the loan agreement, as a result, the interest on the loan turns out to be lower than the inflation rate. In such a situation, money is returned to the lender with less purchasing power. Similar consequences arise when selling goods on credit.

Inflation causes nervousness in people, increased social tension in society. It can be a serious factor in social upheavals, political cataclysms. In this regard, economists usually talk about Germany as an example, where hyperinflation in the 1920s is considered an important factor in Hitler's rise to power.

For enterprises and entrepreneurs, inflation introduces an element of disorganization into production. The prices of production factors increase, thereby increasing costs. Manufacturers try to compensate for the increase in costs by raising the price of their products. However, not all manufacturers manage to achieve full compensation. Inflation complicates planning, its unpredictable jumps change the level of benefits of certain concluded contracts. All this negatively affects production volumes.

And there is another important aspect of inflation – *it disrupts the investment process, and hyperinflation actually destroys it*. Manufacturers must update equipment, technologies, strive to expand production. To do this, investment costs must be incurred. But inflation quickly devalues deductions and other savings intended for investment purposes. The same thing happens as with the savings of the population. In conditions of high inflation, the flow of investment costs is sharply reduced, and the possibilities of tomorrow's economy are significantly damaged.

Who benefits from inflation and how?

Those who manage to increase their income faster than the inflation process under inflation conditions can benefit from inflation. Inflation can be a factor in increasing demand for certain goods and services. For example, the demand for foreign currency largely depends on the level of stability of the national currency. Inflation destabilizes the national currency, therefore, expands the income of those who provide currency exchange services. That is, inflation can bring special (inflationary) income to some business entities.

Inflation introduces changes in the distribution of income that has developed in society. People with fixed incomes, working in those structures where there is no possibility of compensating for the increase in expenses by increasing the prices of their products, lose their purchasing power - their real incomes decrease. And vice versa: those who can compensate for the increase in expenses through their prices, get a chance to maintain the level of real incomes and even increase them.

Borrowers can benefit from unexpected inflation. We have already touched on this point above. Those who use a loan during a period of unexpected inflation will return to the lender money that has less purchasing power. This is often easier to repay, since nominal incomes

usually increase during periods of inflation. Finally, *the government can benefit from inflation*. It also borrows money: in Ukraine, the National Bank of Ukraine is the lender to the Ministry of Finance. Inflation, as we have noted, reduces the value of money, and therefore, when repaying debt, the government pays with "cheap" money. The state can receive some benefits through the tax system. Inflation increases cash income and taxpayers can move to a higher tax bracket, which, other things being equal, can increase budget revenues.

Brief conclusions

1. Price stability is one of the most important macroeconomic problems. Inflation is an increase in the average (general) price level.

2. Inflation is measured using a price index, which expresses the ratio of the cost of a certain set of goods and services in a given period to its cost in the base period, taken as a percentage. The most common price index is the consumer price index. The inflation rate is defined as the rate of increase in the average price level for a certain period. Hyperinflation occurs when the annual price increase exceeds 1000%, or the monthly one – 50%.

3. Excess demand is one of the causes of inflation. There is a certain relationship between the money supply and the price level. Monetarists believe that this relationship is very close, that changes in the money supply directly affect aggregate demand. Keynesians, on the contrary, believe that this relationship is not strict, it is unstable. In anti-inflationary measures, monetarists recommend focusing on monetary policy, Keynesians – on fiscal policy.

4. The growth of costs is another cause of inflation. It can be caused by an increase in wages that exceeds changes in labor productivity. The unwinding of the inflationary spiral of price and wage movements becomes very dangerous – here inflation feeds itself. Producer costs can also increase due to unforeseen circumstances that

change the supply of goods (for example, a sharp increase in the price of imported energy sources). Inflation can also be caused by structural shifts in aggregate demand while maintaining its total volume.

5. As a result of inflation, real incomes in most households decrease, their standard of living falls, savings are depreciated, and nervousness and social tension increase in society. Inflation disorganizes production, negatively affects production volumes, and disrupts the investment process. Those economic agents who manage to increase their incomes faster than prices under inflationary conditions can benefit from inflation, and even borrowers, including the government, in the event of an unexpected acceleration of inflation.

Basic terms and concepts

Inflation
Average price level
Price index
Consumer price index
Consumer (market) basket
Inflation rate
Hyperinflation
Causes of inflation
Equation of exchange
Keynesian explanation of inflation
Monetarist explanation of inflation
Consequences of inflation

Questions for reflection and discussion

1. According to the World Bank or the International Monetary Fund, find the country with the highest inflation rate in recent years.

Demonstrate how inflationary processes in this country have affected other macroeconomic indicators.

2. Compare the inflation rate and unemployment rate in several developed countries over the past 20 years. Is the theoretical proposition that these indicators have a feedback relationship empirically confirmed?

3. According to the World Bank, find examples of stagflation. What are the reasons for this phenomenon?

4. Does an increase in the money supply in circulation always cause inflation? What is the position of representatives of different economic schools on this issue? Is the statement “Inflation can be beneficial for the state” true? Justify your answer. What examples can you give of measures to regulate inflation in Ukraine?

CHAPTER 7. AGGREGATE DEMAND AND AGGREGATE SUPPLY

If someone set themselves the task of calculating the frequency of use of individual concepts in an economics textbook, we can confidently say that there would be no competitors for the words supply and demand. And in this chapter, we once again specifically address supply and demand. In the course of microeconomics, supply and demand, their coordination are considered in relation to the markets for individual goods. The conclusions obtained in this process are very important for understanding economic processes, but they cannot explain a number of macroeconomic problems. Macroeconomic equilibrium is, first of all, the balancing of the demand of all buyers and the supply of all sellers. The market on the scale of the national economy is formed as a result of a complex interweaving of markets for individual goods, regional markets, etc. Studying the material in this chapter will allow us to find out how the aggregate market of the national economy is formed as a result of the interaction of local markets, what are its features in general and in individual elements – aggregate demand, aggregate supply, general price level. And in Chapter 8, we will examine the views of different economic schools on the mechanism for achieving equilibrium in the national economy.

7.1. AGGREGATE DEMAND

The essence and graph of aggregate demand

Demand, including aggregate demand, characterizes the desires and capabilities of buyers. The latter on the scale of the entire economy are represented by: households (consumer spending), enterprises (investments), the state (government purchases of goods and services),

and even foreign buyers (net exports). The structure of aggregate demand is shown in Fig. 7.1.

Aggregate demand	***Household consumption expenditure***
	Investment costs of enterprises
	Government spending on the purchase of goods and services
	Net exports

Fig. 7.1. **Structure of aggregate demand**

At each moment, the demand of the listed entities will depend on the price level. ***Aggregate demand (AD) is the different volumes of goods and services that households, enterprises and the state are ready to buy at any possible price level.*** The law of demand formulated in the section on microeconomics is also valid for the level of the national economy as a whole: the price level and the value of aggregate demand, the national product, are inversely related. This relationship can be clearly demonstrated using the graph shown in Fig. 7.2. What is the reason for the decline in the aggregate demand curve?

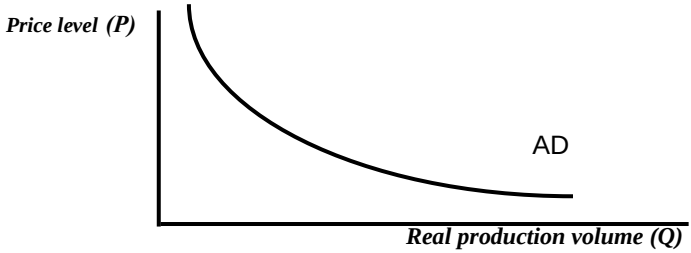


Fig.7.2. **Aggregate demand curve**

Analyzing individual demand, we found that the quantity of demand increases with a decrease in price, since in this situation, at that level of income, the consumer has the opportunity to purchase more goods. To what extent does this pattern manifest itself in the relationship between aggregate demand and the price level? If the price level, say, increases, then buyers spend more money to purchase the same amount of goods and, logically, real aggregate demand should decrease. However, we must not forget that on a societal scale, the expenses of some become the income of others. Therefore, an increase in the price level not only increases the expenses for purchasing the same amount of goods, but also leads to an increase in income, and therefore may not affect aggregate demand. The nature of the AD aggregate demand curve cannot be explained by the effect of substitute goods. Recall that when analyzing individual demand, a switch in purchasing choice is revealed in the event of an increase in the prices of some goods to the purchase of others that can to some extent replace the first ones. If we consider the national economy as a whole, a decrease in the demand for some goods and an increase in it for others will not change aggregate demand. Thus, it can be argued that the downward-sloping nature of the aggregate demand curve is caused by other factors than the similar nature of the individual demand curve. Let us consider these factors.

The effect of the interest rate. At any given moment, a certain amount of money circulates in the national economy, the need for which is determined primarily by the volume of goods sold and their prices. If the price level increases, the demand for money also increases accordingly. But money has its price. The lending interest rate is the main factor. With a constant supply of money and a simultaneous increase in demand for it, the interest rate will increase. Its increase will affect aggregate demand through several channels at once. First of all, investment costs will decrease. Some of them will become economically unprofitable, since it is better not to invest money at a low

profit, but to provide a loan at an increased interest rate. In addition, some buyers will refuse consumer spending, especially related to the purchase of durable goods. After all, a significant part of these purchases is associated with obtaining credit, and in conditions of rising rates it becomes unprofitable.

The effect of wealth. Another direction of influence of the price level on aggregate demand is also obvious. If the price level rises, people who have savings become relatively poorer because the purchasing power of money decreases. If people want to maintain the purchasing power of their savings, many of them will have to reduce their consumption. If you are saving money for a summer vacation and are faced with the problem of its depreciation due to rising prices, then you may have to sacrifice some purchases or reduce paid entertainment to achieve your goal. Since many people may be in a similar situation, there is reason to argue that a rise in the price level leads to a decrease in aggregate demand.

The effect of import purchases. Just as almost every individual product has a substitute product that can replace it to one degree or another, so the gross domestic product may have a substitute. This is the GDP of another country. For example, if the general price level in Ukraine is rising, many buyers prefer imported goods to domestic ones. At the same time, foreign buyers are also refusing to purchase Ukrainian goods. Therefore, a decrease in exports and an increase in imports will reduce the real volume of gross domestic product sold, since an increasing number of the population's needs are met with the help of another country's GDP.

Non-price factors of aggregate demand

So far, we have discussed the factors that determine the decline in the aggregate demand curve. The general price level was considered the main reason for ***the change in the value of aggregate demand***. All

other conditions were assumed to be unchanged. However, ***changes in aggregate demand*** can also be caused by other reasons. ***Unlike the price level, which moves a point on a constant aggregate demand curve, non-price factors will shift the demand curve to the left – a decrease in aggregate demand or to the right – an increase in aggregate demand*** (Fig. 7.3). To establish the non-price factors of aggregate demand, let's analyze what can cause changes in its components (see Fig. 7.1).

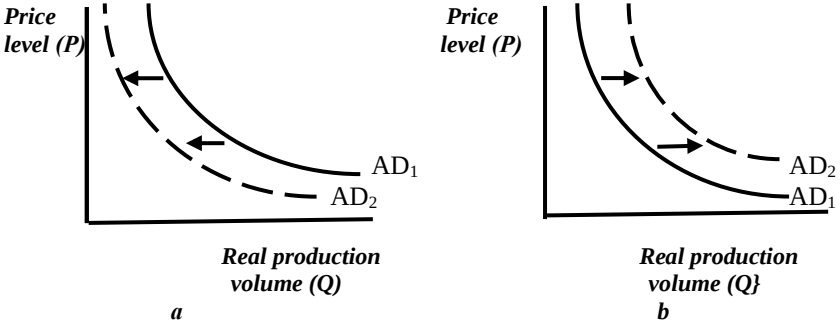


Fig. 7.3. **Changes in aggregate demand:**
a – decrease; b – increase

1. ***Consumer spending***: an increase in it leads to an increase in aggregate demand and shifts the curve on the graph to the right, and a decrease in it reduces aggregate demand, shifting the curve to the left. What does consumer spending depend on? Simple observations show that the amount of expenditure on the purchase of consumer goods is largely determined by the ***size of per capita income***, ***accumulated wealth***, etc., in other words, ***the level of well-being of the population***. If this level increases, then consumer spending also increases, if it decreases, people are forced to use part of their income to compensate for their losses and give up consumer spending. For example, aggregate demand will increase if the general price level remains unchanged and

stock prices increase or it will decrease if the exchange rate value decreases.

Consumer spending also depends ***on buyers' expectations***. These expectations may relate to changes in their own incomes, as well as to possible price levels or other conditions of purchase and sale. If a significant part of the population in July-August expects that bread will become more expensive in the fall due to rising grain prices, then people will strive to make the maximum possible stocks of flour and flour products at the "old" prices. This creates a rush demand, which for a certain time increases aggregate demand. If many people expect their incomes to decrease due to a general economic downturn in the country, then in this situation the aggregate demand curve may shift to the left – current demand will decrease.

Consumer spending depends ***on the size of tax rates***. After all, taxes regulate income, therefore, they directly affect the size of the population's spending.

In many economically developed countries, where a significant share of payments for consumer goods is made up of loans, aggregate demand may change under the influence of ***the amount of buyer debt***. If it reaches a certain size and its maturity date arrives, then, other things being equal, aggregate demand will decrease, since the part of income that goes to repay debt, and not to consumer spending, will increase.

2. ***Investment spending***, like consumer spending, is an element of aggregate demand. A typical motive for investment is the desire to receive income. It is quite clear that ***a higher expected level of return on investments*** will stimulate their increase. A decreasing potential level of return cools the interest of investors, which will lead to a decrease in demand for investment goods.

When deciding on investments, an economic entity compares their profitability with ***the interest rate on loans***. If it increases, it turns out to be better for many to invest money in a bank rather than to make direct investments. Problems arise with using credit as a source of

investment funds, because the profitability of many investment projects is insufficient to pay interest on loans. Therefore, the interest rate is inversely related to investment costs.

The amount of taxes has a similar effect, since real investment opportunities are determined by the income remaining after taxes. All other things being equal, private investment increases if taxes are reduced and decreases if tax rates increase.

Economic theory and business practice have proven that enterprises always need a certain reserve of capacity for economic maneuver. But ***a particular amount of free capacity*** affects investment costs differently. Excessive growth of underutilization of capacity inhibits new investments, while a decrease in the reserve stimulates them.

3. ***Government spending*** is another part of aggregate demand. It depends on many factors, the most important of which are ***state budget revenues***. The main source of state revenue is tax revenues. An increase in taxes leads, on the one hand, to a decrease in consumer spending and private investment, therefore, it negatively affects aggregate demand, and on the other hand, to an increase in government spending, which expands aggregate demand.

Much depends ***on the structure of government spending and priorities in economic policy.*** If, for example, the state increases spending on social programs, expands transfer payments (pensions, benefits, etc.), this leads to a reduction in government purchases of goods and services, but to a certain extent it can increase consumer spending.

4. ***Net export spending***. As we have already noted, the reason for a change in net exports may be a change in the price level in the country. But the ratio of exports and imports may also change regardless of the processes taking place within the country. Since at least two countries participate in foreign trade, a change in the conditions of one of them can affect aggregate demand in the other. How will aggregate demand

change in Ukraine if, for example, the general price level in Poland increases? Then Ukrainian products on Polish markets become more competitive, which increases exports from Ukraine and, accordingly, reduces imports from Poland, which have become expensive. Thus, the country's net exports are significantly affected by the ***economic situation of a foreign trading partner***. ***Exchange rates*** also have a great influence on net exports. The exchange rate is the value of a currency unit of one country, expressed in the currency units of another. If the exchange rate of the Ukrainian currency in relation to, for example, the Polish zloty decreases, this will stimulate Ukrainian exports to Poland. By selling products at the same prices to Poland, Ukrainian entrepreneurs will receive more when converted into the national currency. The same factor will restrain Polish exports to Ukraine: the previous revenue in Ukrainian currency will be lower when converted into zloty.

For clarity and better memorization, the listed non-price factors of aggregate demand are presented in Fig. 7.4.

It should be remembered that they act simultaneously, often in different directions, so aggregate demand is formed as the resultant of many economic forces.

7.2. AGGREGATE SUPPLY

The essence and graph of the aggregate offer

Aggregate supply (AS) combines the supply of all goods sold on the national market. This is the level of the available real volume of national production of goods and services at each possible price level. The behavior of the producer in the market is determined by the expected profitability of his/her activities. Other things being equal, profitability depends on the average costs of producing a good. The price level that has developed in the country should compensate for

costs and provide a sufficient level of profitability that interests the producer to offer his product.

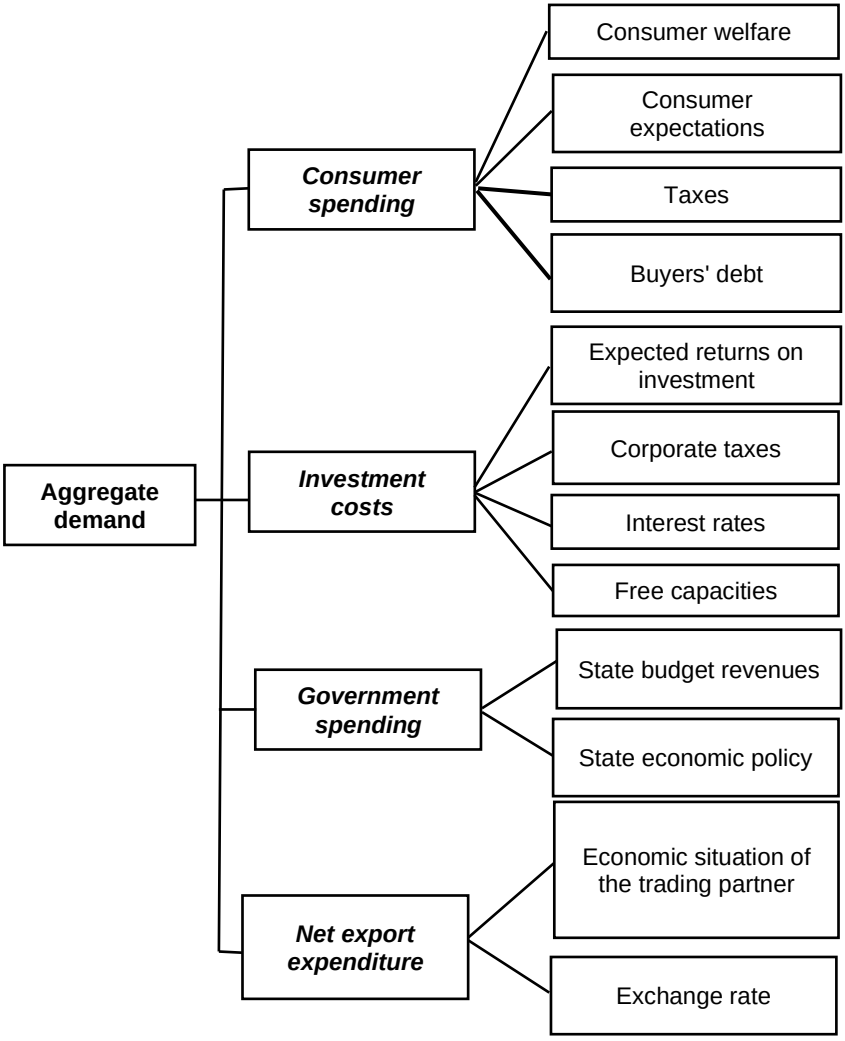


Fig. 7.4. **Non-price factors of aggregate demand**

Therefore, explaining the nature of the relationship between the price level and the real volumes of supply of goods and services means, first of all, explaining the dynamics of the average costs of their production.

It should be noted that in economic science there are serious disagreements regarding the nature of the aggregate supply curve.

Fig. 7.5 shows a graph of aggregate supply AS, which reflects the approaches of different schools to this issue. Without going into a detailed analysis of the arguments of these schools, which will be done in the next chapter, we will present an explanation of the nature of the aggregate supply curve on its sections put forward by their representatives. As noted in Chapter 6, according to J. M. Keynes and his followers, if production is carried out with significant underutilized resources, its increase is not associated with an increase in average production costs and, therefore, will not cause an increase in the price level. If a country has significant underutilization of capacities and many unemployed people, then their involvement in production will not be accompanied by an increase in the costs of purchasing additional units of labor and other resources. Therefore, on the section OQ, aggregate supply is displayed as a horizontal line. ***This section is called horizontal, or Keynesian***.

When the real volume of production corresponding to point Q on the aggregate supply curve is reached, a turning point is observed. The economy approaches a state of full employment. Since this process does not occur simultaneously in different industries, there is a redistribution of resources, which is associated with an increase in costs per unit of labor resources. The capacity utilization rate reaches its critical point, and less productive resources that were not previously used are also used. There is a general increase in the average costs of producing goods and services. Therefore, in order for production volumes to increase beyond the OQ segment, a corresponding increase in the price level is necessary, which compensates for additional costs. ***This***

segment of the aggregate supply curve is called the upward, or intermediate, curve. It reflects the direct nature of the relationship between the price level and the volume of production.

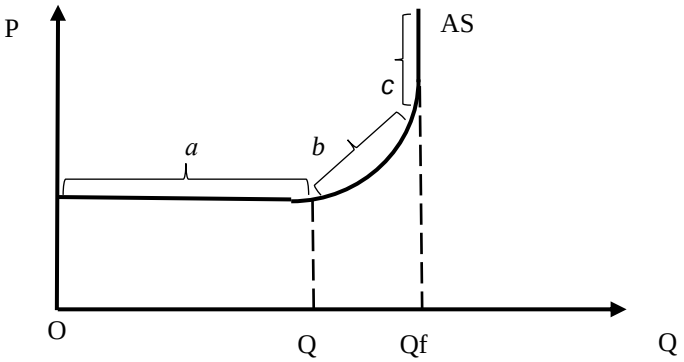


Fig. 7.5. **Aggregate supply curve: *a – horizontal (Keynesian), b – upward (intermediate), c – vertical (classical) segments***

However, the point comes when full employment, or the natural rate of unemployment, is reached, and further increase in real production is impossible due to the lack of additional resources, even if prices increase. Therefore, at point ***Qf,*** the aggregate supply curve takes on the character of a vertical line. Accordingly, ***this section is called vertical, or classical***. The fact is that representatives of the classical direction in economic theory consider the normal state of the economic system when all resources are mobilized. Of course, it should be understood that the state of "full employment" is very mobile. Under certain conditions, new sellers of labor services may enter the labor market who previously did not apply for employment, i.e. did not look for work and, therefore, were not among the unemployed. However, in any case, in principle, it is possible to reach such a state when further expansion of production is impossible.

Non-price factors of aggregate supply

These factors determine the position of the curve itself on the graph. They reflect the new conditions for motivating the producer's activity. Let us ask the question: what can encourage the producer to increase production volumes at the previous price level? The answer is obvious: the opportunity to get higher profits, or more favorable conditions for its distribution. The problem of getting a large profit under fixed price conditions is reduced to the problem of reducing the costs of producing goods and services. Therefore, the first non-price factor of aggregate supply can be called ***a change in production costs***. The relationship between them is inverse: the lower the costs of production, the greater the aggregate supply under constant conditions. The opposite statement is also true. In turn, the value of average costs depends on a number of circumstances, among which resource prices stand out in particular. Since labor, land, capital and entrepreneurial abilities are used as resources in production activities, their increase in price leads to an increase in costs and, accordingly, a decrease in aggregate supply, and their decrease in price leads to a decrease in costs and an increase in aggregate supply. The first case corresponds to the graph in Fig. 7.6 a, and the second one is in Fig. 7.6, b.

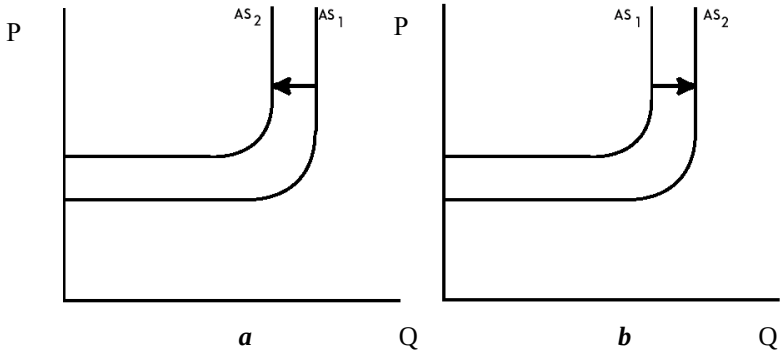


Fig. 7.6. **Changes in aggregate supply: *a - decrease, b - increase***

Prices on the domestic resource market are set as a result of the interaction of supply and demand. World market prices can have a great influence on resource prices, especially in cases where a significant part of domestic needs is covered by imported resources. As already noted, the increase in the price of oil and natural gas, which Ukraine buys, largely determined the decrease in aggregate supply in our country, the shift of its curve to the left.

Changes in production costs can be caused by shifts in the production process itself, which increase or decrease its productivity, that is, changes in productivity. Experts note that the use of powder metallurgy in the manufacture of parts for mechanical engineering dramatically reduces metal consumption compared to the usual manufacturing method. Mass automation of production allows reducing the need for labor resources. Other examples of how productivity is increased and decreased can be cited. It is well known that the depth of mines and quarries is constantly increasing, and minerals with a lower content of useful components are being brought into economic circulation. This increases costs and shifts the aggregate supply curve to the left.

The motive for increasing or decreasing the supply volume at constant prices, costs and profits may be ***changes in the order of distribution of the latter***. Here, ***taxes*** may be the strongest lever. ***Government subsidies*** have an impact on aggregate supply. They reduce costs and contribute to an increase in aggregate supply.

In a generalized form, non-price factors of supply are presented in Fig. 7.7. They all act simultaneously, with different strengths and in different directions. Therefore, to determine the actual dynamics of aggregate supply, it is necessary to analyze each factor and find their equivalent.

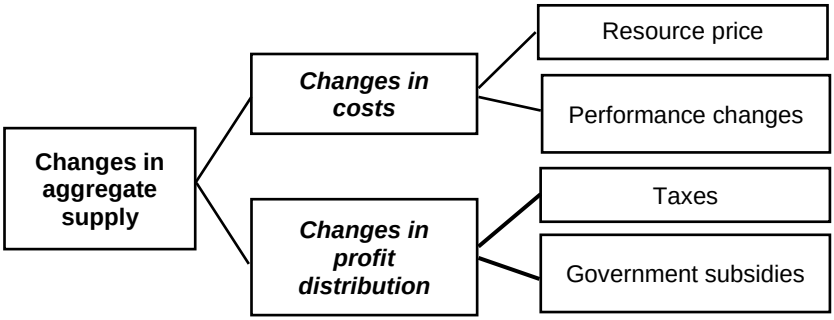


Fig. 7.7. **Non-price factors of aggregate supply**

7.3. EQUILIBRIUM OF AGGREGATE DEMAND AND AGGREGATE SUPPLY

Equilibrium price level and real output

The equilibrium of aggregate demand and aggregate supply is achieved when the desire of buyers to purchase a certain amount of goods and services at this price level coincides with the desire of sellers to sell the same amount of goods and services at the same price level. Graphically, the coordinates of the intersection of the aggregate demand and aggregate supply curves show the equilibrium real volume of national production and the equilibrium price level. The competitive environment, inherent in the market system as a whole, provides a mechanism for restoring equilibrium in the event of a deviation of one of the parameters from the equilibrium level. However, this mechanism has its own specifics for each section of the aggregate supply curve, therefore it requires special consideration.

1. ***Horizontal segment***. Fig. 7.8 shows the option when the aggregate demand and aggregate supply curves intersect on a horizontal

segment. The point of intersection with the coordinates (***Qe Pe***) is the equilibrium point: ***Qe*** is the equilibrium real volume of production, and ***Pe*** is the equilibrium price level. Under these conditions, the freedom of choice of producers is quite large. At the current price level, they can increase production to ***Q1***. But if this really happens, then there will be serious difficulties in selling products, inventories will increase, and producers must reduce production until they reach ***Qe***, that is, restore equilibrium in the aggregate market. Note that overproduction under these conditions does not lead to a decrease in the price level, since lower prices will lead to the cessation of production altogether.

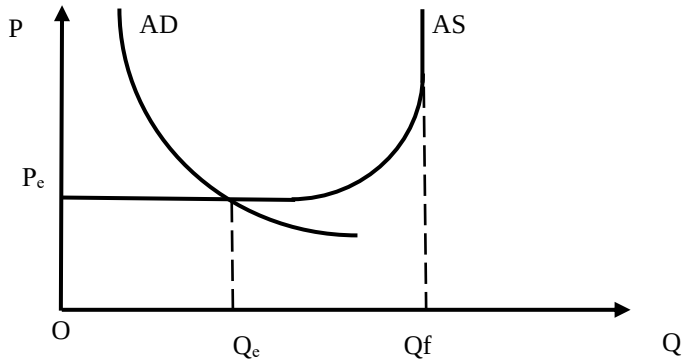


Fig. 7.8. **Equilibrium on the horizontal segment of the aggregate supply curve**

2. ***Intermediate segment***. When the aggregate demand curve intersects the aggregate supply curve at the intermediate segment, a traditional mechanism, well known from the analysis of individual markets, is triggered. For example, if the price level decreases below the equilibrium level, the volume of real production decreases. Insufficient supply and increased demand increase competition between buyers, which leads to an increase in the price level. This, in turn, stimulates the growth of aggregate supply and limits aggregate demand. Eventually, equilibrium is restored.

3. ***Vertical segment***. If the equilibrium point occupies a vertical segment, then the mechanism for restoring the equilibrium state feels the influence of full employment conditions. If the price level decreases from P_e to P_1, the value of aggregate demand will increase from Q_e to Q_1 (Fig. 7.9). However, the volume of goods and services offered will remain unchanged. Competition among buyers due to excess demand will restore the equilibrium price level. If the opposite situation occurs and the price level is higher than the equilibrium level, then the aggregate demand will decrease with the supply remaining constant. In this case, competition between sellers due to excess supply will lead to a decrease in the price level and the restoration of equilibrium.

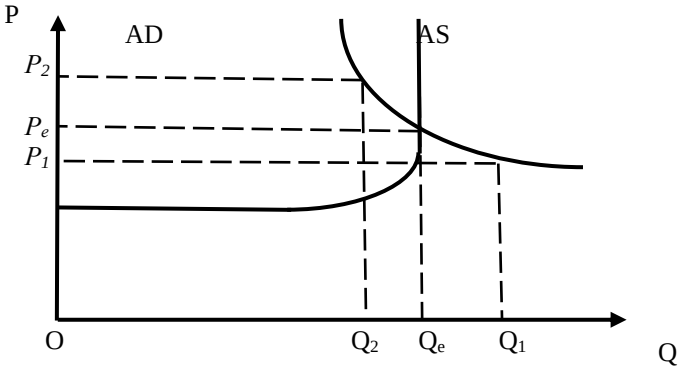


Fig. 7.9. **Equilibrium on the vertical segment of the aggregate supply curve**

Thus, on the horizontal segment, the restoration of equilibrium is achieved by changing production volumes at a constant price level, on the vertical segment – by changing the price level and constant production volumes, and on the intermediate segment – by simultaneously changing both production volumes and the price level.

Changes in equilibrium

When considering the mechanism of restoring equilibrium, we have not yet taken into account the effect of non-price factors of aggregate demand and aggregate supply, which determine the very position of the curves on the graphs. Now we will analyze these conditions.

For the reasons discussed in the first paragraph, the aggregate demand curve may shift to the right. The consequences of such a shift on different segments of the aggregate supply curve will be different. They are presented in Fig. 7.10.

If the shift of the aggregate demand curve occurs on a horizontal segment, this will lead to an increase in the equilibrium output from Q_1 to Q_2 at a constant price level. If a similar process occurs on an intermediate segment, the supply of goods and services will also increase, but at the same time the price level will increase. On a vertical segment, an increase in aggregate demand causes only an increase in the price level, while the supply value remains unchanged. Therefore, the consequence of the movement of the aggregate demand curve to the right on the intermediate and vertical segments will be the so-called demand-bull inflation, which was discussed in the previous chapter.

Certain problems arise when analyzing the consequences of the movement of the aggregate demand curve to the left. Logically, on the vertical and intermediate segments such a shift should be accompanied by a decrease in the price level. However, if prices can change very quickly in the upward direction, then they are inflexible for a decrease and are unable to decrease in a short time. In economic theory, this phenomenon is called ***the ratchet effect*** (a mechanism that allows you to turn the wheel forward, but not in the opposite direction; remember how the springs in a mechanical watch are wound).

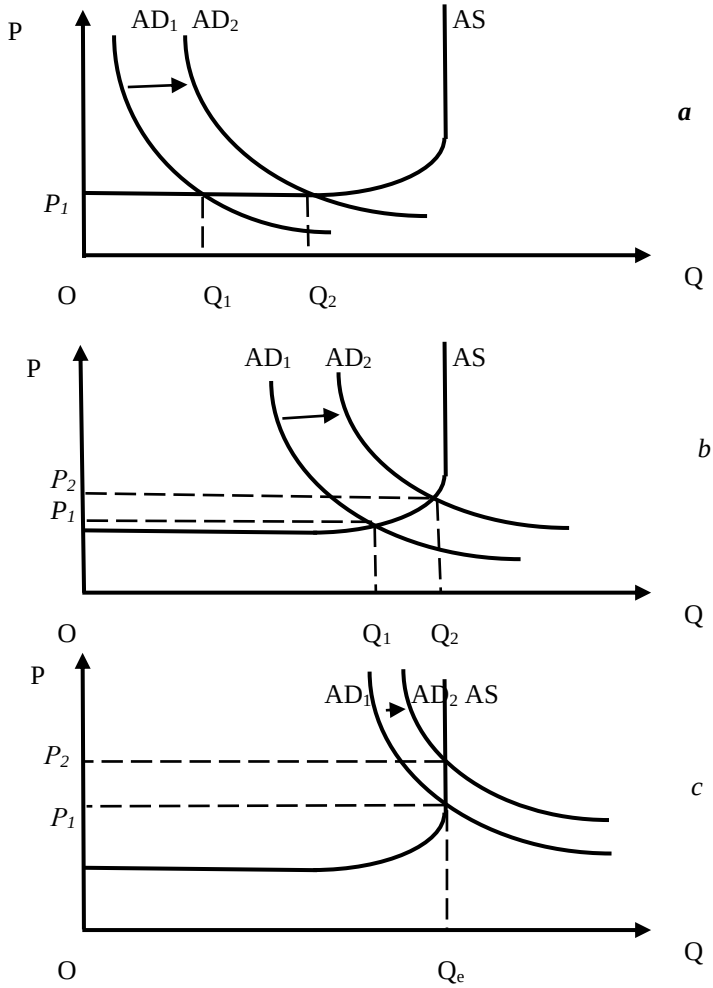


Fig 7.10. **Consequences of an increase in aggregate demand for the segment: *a - horizontal, b - intermediate, c - vertical***

The inflexibility of a decrease in prices is due to a number of circumstances, among which the inflexibility of a decrease in wages should be especially highlighted as one of the most important elements

of costs caused by interference in the process of its formation by the state, trade unions, the personnel policy of the entrepreneur, etc. In addition, the monopoly position of a number of producers in the market allows them to resist price declines.

Due to the ratchet effect, when the aggregate demand curve shifts to the left, prices, if any, decrease, but only slightly, and equilibrium is achieved by shifting the horizontal segment of the aggregate supply curve upward and the vertical segment to the left.

Changes in equilibrium can also occur as a result of shifting the aggregate supply curve. Shifting the aggregate supply curve to the left will mean a decrease in the country's production capabilities. This can be caused by the exhaustion of any domestic resources or an increase in the price of imported raw materials. The consequence of such a situation is an increase in costs. The equilibrium output decreases and the price level rises. This process was considered in the previous chapter during the analysis of cost-push inflation.

Shifting the aggregate supply curve to the right means an increase in the production potential of society. It is also accompanied by an increase in the equilibrium output and a decrease in the equilibrium price level.

Brief conclusions

1. Aggregate demand is the various volumes of goods and services that households, enterprises and the government are willing to buy at any possible price level. It is formed by household consumption spending, investment spending by enterprises, government purchases of goods and services and net exports.

2. The downward sloping nature of the aggregate demand curve on the graph is due to the effect of the interest rate, wealth and import purchases.

3. Non-price factors shift the aggregate demand curve on the graph to the left (a decrease in aggregate demand) or to the right (an increase in aggregate demand). These include changes in investment, consumption, government spending and net exports.

4. The reasons for changes in consumer spending are changes in the welfare of the population, consumer expectations, taxes, and consumer debt. The dynamics of investment spending is determined by expected returns from investments, interest rates, taxes on enterprises and the availability of free capacity. Government purchases of goods and services depend on state budget revenues and priorities in state economic policy. Net exports change under the influence of the economic situation of foreign trading partners and exchange rates.

5. Aggregate supply is the level of available real output of goods and services at each possible price level. The aggregate supply curve consists of horizontal (Keynesian), upward (intermediate) and vertical (classical) segments.

6. The equilibrium of aggregate demand and aggregate supply is achieved at the intersection point of the corresponding curves. On the horizontal segment of the aggregate supply curve, the disturbed equilibrium is restored by changing the output volume at a constant price level, on the vertical segment – by changing the price level at constant output volumes, and on the intermediate segment – by simultaneously changing both output volumes and the price level.

7. The consequence of the movement of the aggregate demand curve to the right on the horizontal segment of aggregate supply is an increase in the equilibrium volume of production at constant prices; on the intermediate segment – an increase in the equilibrium level of prices and production volumes; on the vertical segment – an increase in the price level without an increase in production volumes.

8. The shift of the aggregate supply curve to the left leads to cost-push inflation, to the right – indicates an increase in the production potential of our society and causes a decrease in the equilibrium price level.

Basic terms and concepts

Aggregate demand
Interest rate effect
Wealth effect
Import effect
Non-price factors of aggregate demand
Aggregate supply
Horizontal, intermediate, and vertical segments of the aggregate supply curve
Non-price factors of aggregate supply
Equilibrium price level
Equilibrium real output
Ratchet effect

Questions for reflection and discussion

1. According to the Central Statistical Office, determine the difference between aggregate demand and domestic demand in Ukraine over the past few years. Analyze the reasons for the differences between these indicators. In your opinion, what should the country strive: for aggregate demand to exceed domestic demand or vice versa?

2. How can the introduction of a real estate tax affect aggregate demand? Analyze several possible scenarios.

3. In conditions of economic depression, when the country has significant unemployment and large volumes of idle capacity, the balance between aggregate demand and aggregate supply has been restored. The government decides to increase payments, which will increase aggregate demand and increase the amount of money in circulation. Analyze the possible options for the impact of such actions on economic dynamics and inflationary processes.

CHAPTER 8. GENERAL EQUILIBRIUM THEORIES

In the previous chapters, the importance of achieving equilibrium for the normal functioning of the national economy, as well as the violation of equilibrium states in various markets: labor, money, and others, was considered quite extensively. It is obvious that now the next logical step in understanding macroeconomics should be to clarify the underlying causes of violations of the proportional development of the national economy as a whole and the mechanisms for ensuring its equilibrium state.

Previously, it was repeatedly emphasized that there are differences in the approaches to explaining general equilibrium among representatives of different schools. In this chapter, we will consider in a holistic way the main models of macroeconomic equilibrium in the short run - classical and Keynesian. Long-run models will be devoted to chapter 13. For a better understanding of the above, we recommend that you recall the content of the three previous chapters before studying this chapter.

8.1. CLASSIC SHORT RUN MACROECONOMIC MODEL

The scientific development of macroeconomic equilibrium issues is a relatively new problem for economic theory. The works of economists of the 18th and 19th centuries (for example, D. Ricardo, A. Marshall, A. Pigou) considered individual aspects of this problem, but they did not acquire a complete general equilibrium model. Only in the 1930s did J.M. Keynes manage to systematically analyze macroeconomic models. A whole direction in modern economic science is named after him - Keynesian. The group of economists of the neoclassical direction in creating the theory of general equilibrium of economic systems relies on the ideas of the aforementioned economists of the 18th and 19th centuries and has different views on this problem from the Keynesians. These two main approaches to the problem of

general equilibrium are called classical and Keynesian macroeconomic models.

Before considering these models, it is necessary to note some simplifications that are used at the initial stage of analysis.

1. *The short run period is considered*, i.e. a period of time sufficient for enterprises to attract additional labor and raw materials, but insufficient for changing production capacities.

2. *The economy is analyzed as a closed system*, i. e. foreign economic relations are not taken into account.

3. *It is assumed that the state does not actively intervene in the economic sphere*. Therefore, in the first approximation, taxes, transfer payments, etc. are not taken into account, which allows the word income to be understood as net national product, national income, and personal income, because under this assumption they do not differ quantitatively.

It is obvious that in reality such economic systems do not exist, but by building simplified models, one can achieve an understanding of how the economic world works. At the following stages of economic analysis, these simplifications are removed and a fairly complete picture of the real economic problem is achieved - general equilibrium.

Say's Law

The basis of the classical macroeconomic model is the statement ***that any supply creates an equal demand***. The justification for this law was given by ***Jean Baptiste Say***, a French economist of the late 18th and early 19th centuries. The logic of his reasoning can be presented as follows. *Each producer is ready to purchase exactly as many monetary units of goods as he can sell his products. Therefore, for him, demand and supply are identical. But if this statement is true for each person, it is also true for the society formed by the community of these people*. Even if in one sector of the economy the supply exceeds demand, then

there will probably be another sector where the excess of demand over supply is compensated. Thus, the general equilibrium will be maintained. In other words, if we denote by ***Y*** – total income, and by ***E*** – total expenses, then the general equilibrium assumes the identity:

$$\mathbf{Y=E.}$$

However, this justification is based on two assumptions: a) all income is used for consumption; b) only own funds are spent. In reality, part of the income is saved (see Chapter 3), and the source of expenses, in addition to own income, is often also loans.

Then total income can be represented as a composite of its two parts, intended for consumption (***C***) and savings (***S***):

$$\mathbf{Y = C+S.}$$

Total expenditure consists of consumer expenditure (***C***) and investment expenditure (***I***):

$$\mathbf{E = C + I.}$$

Thus, it is not difficult to see that general equilibrium will be achieved in those cases when the portion of income retained is equal to investment expenditure:

$$\mathbf{S = I.}$$

The task is complicated by the fact that there is often a discrepancy in the actions of individuals who retain part of the income and individuals who make investments. In their economic activities, they are guided by different interests and motives. However, according to classical economists, in a competitive market environment there is a mechanism that automatically ensures equality of savings and investments.

Savings, investments and interest rates

To understand this mechanism, one should refer to the motives that guide the recipient of income, directing part of it to savings. In Chapter 3, one of these motives was called obtaining additional income. But even if the ultimate goal of saving is different (for example, the purchase of durable goods), the business entity will prefer to invest money at a certain interest rate compared to storing it in cash. Other things being equal, with an increase in the interest rate, an additional incentive to save will appear: the amount of savings will increase either due to an increase in their share in the income of individuals, or due to the emergence of savings among those who preferred to direct the entire amount of income to consumption. Therefore, it can be argued that savings is an increasing function of the bank interest rate (***r***):

$$\mathbf{S = f(r).}$$

Investors are guided by the interest of making a profit in their activities. In this they are ready to share part of the future profit with suppliers of financial resources. If the cost of money capital (interest rate) is not too high, then investments will be significant, since it becomes profitable to implement even not very profitable investment projects. If the loan fee increases, then investment activity will undoubtedly decline. Therefore, representatives of the classical school argue that investments can also be considered as a function (but decreasing) of the bank interest rate:

$$\mathbf{I = f(r).}$$

So, we can consider a specific financial market, where savings act as the supply of money, and investment as the demand for it. And the

price of money will be the interest rate. These considerations can be presented graphically (Fig. 8.1).

There is a single point on the graph at which the volumes of investment and savings are equal: this is the point of intersection of the two curves. Why does the economy strive for this particular state? Let us build our reasoning on a technique known in mathematics as proof from the converse. Let the economy have an interest rate equal to r_1. Savings S_1 and investments I_1 correspond to it. As we can see, in such situation, the existing demand for money will be much higher than the amount of their supply. Competing borrowers will be willing to pay a higher interest rate for using credit. This will expand the supply of money and at the same time repel some borrowers. The demand for money will decrease, and the supply will increase. The processes will continue until the interest rate reaches the level r_e and savings and investment are equal. We will obtain similar conclusions by considering the situation when the interest rate is set at a level above the equilibrium (r_2).

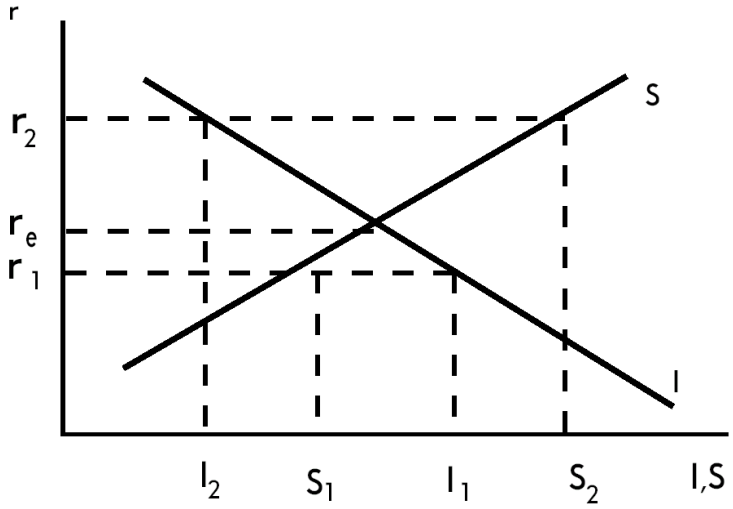


Fig. 8.1. **Savings and investment balance in the classical model**

Thus, a flexible change in the rate of interest under the influence of competition between sellers of money capital or its buyers inevitably leads to the achievement of an equilibrium of savings and investment, and therefore the equation of aggregate demand and aggregate supply in the commodity market.

Employment theory

The second problem of general economic equilibrium is equilibrium in the labor market. Therefore, let us somewhat expand the presentation of the classical theory of employment, contained in Chapter 4. According to the representatives of the classical school, in the formation of demand and supply in the labor services market, the real wage acts as the price, i.e. not just the amount of money offered to pay for labor, but the real amount of goods and services that can be purchased with this money. Based on the general theory of coordination of demand and supply, the mechanism for forming the equilibrium price in the labor market can be presented in the form of a graph (Fig. 8.2).

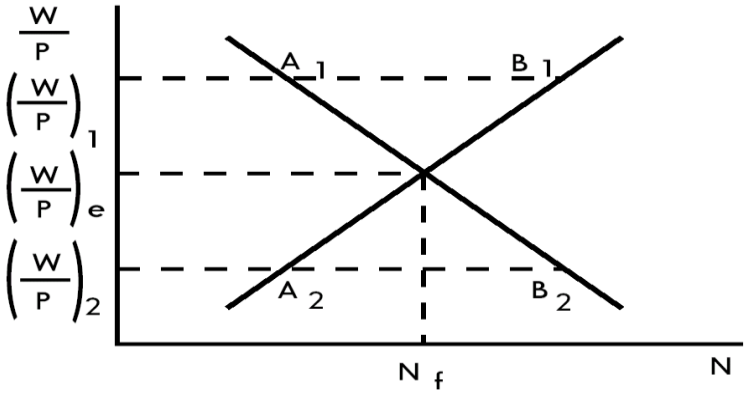


Fig.8.2. **Labor market equilibrium in the classical model**

At a real wage equal to $(W/P)_e$, equilibrium is achieved in the labor market, i.e. all employers are able to purchase the desired volume of labor services at this price, and all sellers who agree to work for such a wage have found a place to apply their labor abilities. And although not all the working-age population in this case is involved in social production, such a state can be considered full employment (N_f), because everyone who wants to get a job has got a job. If the real wage is set at $(W/P)_1$ or $(W/P)_2$, then the equilibrium will be violated. In the first case, there will be unemployment, an excess of those willing to work compared to the demand for labor services, in the second – some jobs will be unoccupied, i.e. there will be a shortage of labor.

The main principle of the theory of employment in the classical school is formulated as follows: ***in conditions of perfect competition, market forces act in the direction of restoring equilibrium and full employment.*** The discrepancy between supply and demand in the labor market cannot be sustainable, since competition between workers leads to a decrease in wages if there is unemployment; competition between employers leads to an increase in wages in the event of a shortage of labor services in the market. Therefore, the market situation is again brought to a state of equilibrium.

If in reality there is persistent unemployment, then, according to the supporters of the classical school, the reason must be sought in a violation of wage flexibility. In this case, the law of competition does not apply and a period of prolonged underemployment may occur. Insufficient wage flexibility can be caused by the purposeful activities of trade unions, unions of entrepreneurs, and the state. Therefore, in someone's interests, some excess of labor supply over demand for it is revealed. Therefore, in the strict sense of the word, such unemployment cannot be called forced, since it is caused not by the internal laws of the functioning of the market, but by non-market structures introduced from outside.

Theory of money

Classical economic theory assumes that the economic system operates on the basis of traditional commodity exchange, money exists only to ensure the development of real processes, but does not affect their outcome in any way. This statement is based on the well-known quantity theory of money and the explanation based on it of the mechanism for establishing the general price level.

There are two versions of the quantity theory of money. In Chapter 6, we analyzed one of them, expressed in the Fisher exchange equation (***MV = PQ***). Let us recall only that, according to its supporters, if at any given moment the volume of production is given, and the velocity of money does not depend on its quantity, then the general price level (***P***) should change in the same direction and in the same ratio as the quantity of money.

Another version of the quantity theory of money was developed by A. Marshall. In his opinion, economic entities strive to have a certain amount of money in its most liquid form (cash). In this case, it is necessary to compare the gain from simplifying transactions with cash payment each time, and the loss from the fact that cash could generate income if used differently (for example, when investing in a bank, purchasing bonds, etc.). According to Marshall, it is possible to calculate what share of income economic entities prefer to have in the form of cash. This share does not depend on the amount of money in circulation and is more or less constant. Then the equilibrium of money supply and demand for it can be expressed by the formula:

$$M = KPQ,$$

where ***M*** is the money supply;

KPQ is the demand for money;

K is the share of income that society considers it advisable to keep in monetary form;

P is the general price level;

Q is the volume of national production of goods and services.

Since neither ***K*** nor ***Q*** depends on the quantity of money in circulation nor on the price level, we can draw the same conclusion that was drawn from the analysis of the Fisher equation of exchange: the general price level changes in the same way as the quantity of money in circulation.

Thus, classical economists are convinced that a competitive market system has automatic mechanisms capable of ensuring general equilibrium and full employment. Therefore, they argue that the tasks of the state should be limited to ensuring the functioning of a competitive market by removing various obstacles, removing the causes of price inflexibility, guaranteeing the stability of the purchasing power of money, and performing certain services that are vital to society as a whole (for example, defense, education, health care, etc.).

8.2. KEYNSIAN MACROECONOMIC MODEL

Classical theory has long been the key to understanding economic life, was the scientific basis for developing state policy in the field of economy. However, after the First World War, the situation in most developed countries went beyond the traditions of the classical school. The urgency of developing new approaches to understanding macroeconomic equilibrium became especially noticeable during the Great Depression of 1929-1933. The governments of some countries (primarily the USA, the UK, Sweden, etc.) began to resort to active participation in economic processes, thereby violating the principle of neutrality preached by the classical school. The theoretical basis of the new policy for many decades was the concept of J.M. Keynes, who

substantiated the inability of the competitive mechanism to always ensure the full use of resources and developed his model of macroeconomic equilibrium.

Theory of effective demand

First of all, Keynes disagreed with the fundamental principle of classical theory – Say's law. According to his theory, ***it is not aggregate supply that creates aggregate demand, but, on the contrary, aggregate demand creates its own supply***.

Let us ask the question: what determines aggregate supply in the short run? If the technological level of production and production capacities remain unchanged (and these are signs of the short run), then the level of production is determined by the number of employees. Producers are ready to offer any quantity of products on the market, and therefore to provide employment for any number of workers, depending on the revenue that they will receive from selling goods and services. This revenue, which encourages them to produce a particular volume of products, Keynes called ***the price of supply***.

In other words, at each moment of time the aggregate supply function is given, since the costs of producing any volume of goods and services are given by the achieved level of development.

When forecasting the results of their activities, producers expect to actually receive a certain price for each volume of production. This expected revenue can be called ***the demand price***. The expected revenue is more or less closely related to the actual revenue, since producers are constantly adjusting their expectations depending on the results obtained and the market situation.

Actual production will constantly tend to the point at which the supply price (***S***) and the demand price (***D***) coincide. Any other state is unstable. Indeed, if the demand price (expected revenue) is higher than

the supply price, then significant additional profits encourage producers to increase production. If the expected revenue does not compensate for the costs required to produce a given volume of the product, supply will decrease. This relationship can be seen in the graph shown in Fig. 8.3.

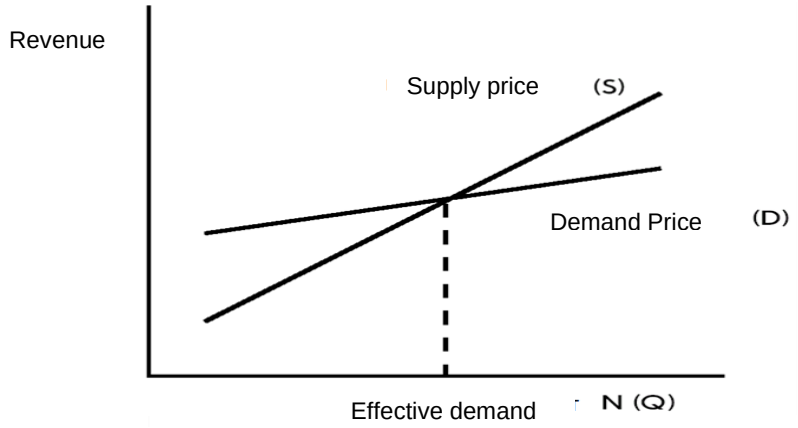


Fig. 8.3. **Effective demand**

The producer will focus his actions on the supply volumes corresponding to the intersection point of the supply price and demand price curves. ***The value of aggregate demand at the intersection point of the curves was called effective demand by J.M. Keynes***.

Thus, Keynes concludes, the aggregate demand and aggregate supply functions determine the level of production and employment. But since in the short run the aggregate supply function is given, it can be argued that the real level of production and employment is determined by the aggregate demand function. Therefore, special attention in Keynesian theory is paid to the analysis of aggregate demand, and primarily consumer spending.

Consumption and savings

Analyzing the factors that determine the volume of consumption, Keynes formulates his "***fundamental psychological law": as income increases, consumption increases too, but consumption increases more slowly than income increases***. To quantify this dependence, the ***average propensity to consume*** (***APC***) and ***marginal propensity to consume*** (***MPC***, or ***c***) are used, which are calculated as follows:

$$\mathbf{APC = C/Y;\ MPC = \Delta C / \Delta Y,}$$

where ***C*** is consumption;

Y is income.

This connection between income growth and the diminishing growth of consumption serves as one of the arguments in substantiating the fact that in economic development there comes a point when effective demand turns out to be insufficient to ensure full employment, and therefore, the equilibrium of demand and supply in the goods market can occur with more or less stable forced unemployment.

Another important conclusion that follows from the basic psychological law concerns the saving function. Keynes believes that savings depend very little on bank interest, since obtaining additional income from savings is far from their main motive. Consumption and savings form aggregate income, ***so a diminishing propensity to consume will simultaneously mean an increasing propensity to save***. Accordingly, we can introduce the concepts of the average propensity to save (***APS***) and the marginal propensity to save (***MPS, or s***):

$$\mathbf{APS = S/Y;\ MPS = \Delta S / \Delta Y.}$$

But since

$$\mathbf{\Delta C + \Delta S = \Delta Y,}\ \text{then}\ \mathbf{c + s = 1.}$$

The relationship between savings and total income is shown in the graph in Fig. 8.4. Savings occur starting at a certain level of income. Since the marginal propensity to save is greater than the average, the curve will increase with acceleration.

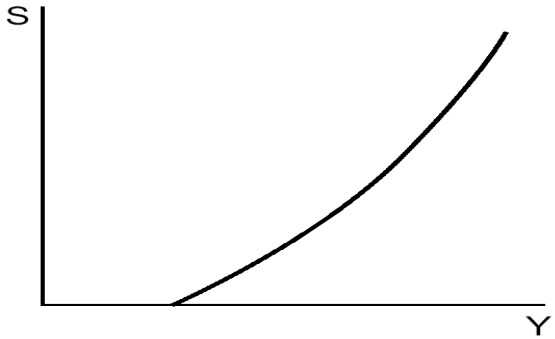


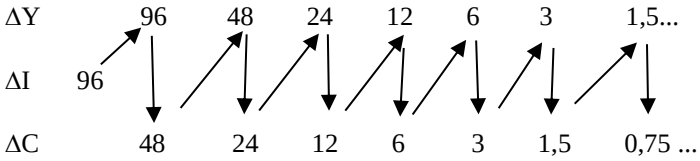
Fig.8.4. **Dependence of savings on total income**

Multiplier

Another component of aggregate demand, as is known, is investment spending. Analyzing the relationship between investment and income, Keynes reveals the multiplier effect (multiplication). Let us demonstrate it with the simplest example. Suppose that at some point an additional 96 MU is invested in public production ($\Delta Y = 96$). What increase in aggregate income (Y) will this increase in investment cause?

Additional investment spending by some (expenses for purchasing machinery, equipment, construction, etc.) will lead to additional income by others of the same amount. But if we assume that the marginal propensity to consume is 0.5, i.e. half of the increase in income goes to consumption, and half to savings, then the consumption fund will increase by 48 MU. This increase will be used to purchase consumer goods and increase income.

A new increase in income will in turn cause a further increase in consumption, etc. This chain of events can be conditionally represented by the following scheme:



If we sum up all the income gains, we can get a value that is close to double the investment gain. Having formalized the above considerations, we find the following relationship:

$$\Delta Y = \Delta I + c\Delta I + c^2\Delta I + \ldots + c^n\Delta I = (1/s)\,\Delta I.$$

The multiplier (M) is a numerical indicator that characterizes how many times the increase in total income will be greater than its increase in investment. Quantitatively, it is equal to the inverse of the propensity to save:

$$M = 1 / s = Y / I.$$

The multiplier effect has become widespread in economic theory and, in particular, in the justification of government economic policy by Keynesians. By increasing taxes on the population and reducing savings, the state directs the withdrawn funds to investment and thereby stimulates economic growth.

Balance of investment and savings

The general equilibrium in the commodity market is achieved when savings and investments are equal. Since investments and savings in the Keynesian model are determined by different motives and are carried out by different subjects, the explanation of achieving their

equilibrium is somewhat more complicated compared to the classical model. In Fig. 8.5, a graph of the equilibrium of savings and investments is constructed using the method of asymmetric transfer of points.

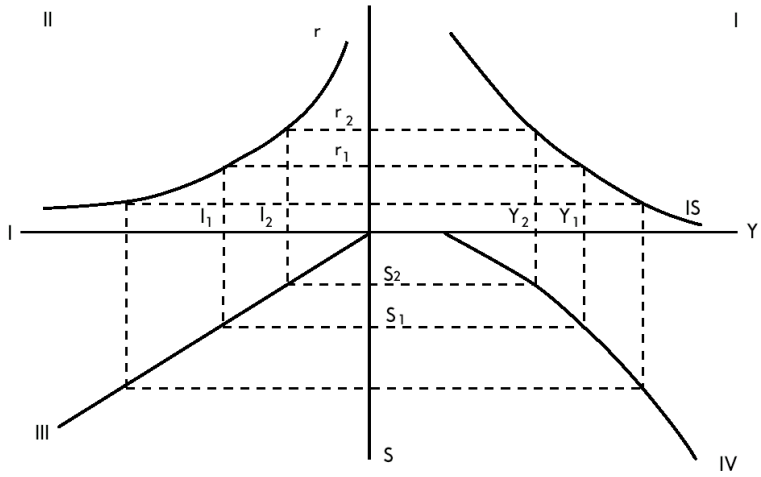


Fig. 8.5. **Investment and savings balance in the Keynesian model**

In quarter II of the graph, the function of investments depending on the interest rate is presented, and in quarter IV, the function of savings depending on the level of income. The diagonal in quarter III means the equality of investments and savings. Each point of the curve on the graph in quarter I shows what level of the interest rate should correspond to each level of aggregate income in order to balance savings and investments. Since total income at any given moment is a more or less stable quantity and cannot respond quickly to the economic situation, and the interest rate, on the contrary, is very flexible, their correspondence is a phenomenon more random than regular. Therefore, the balance of savings and investments is unstable by the very laws of

the market, and therefore state intervention is necessary to maintain the general equilibrium.

Employment theory

Analyzing the labor market, Keynes makes a seemingly small but very significant clarification: an increase in real wages is a factor in increasing labor supply (***Ns***) only after full employment is achieved. If there is involuntary unemployment, the supply of labor services is perfectly elastic with respect to real wages (Fig. 8.6).

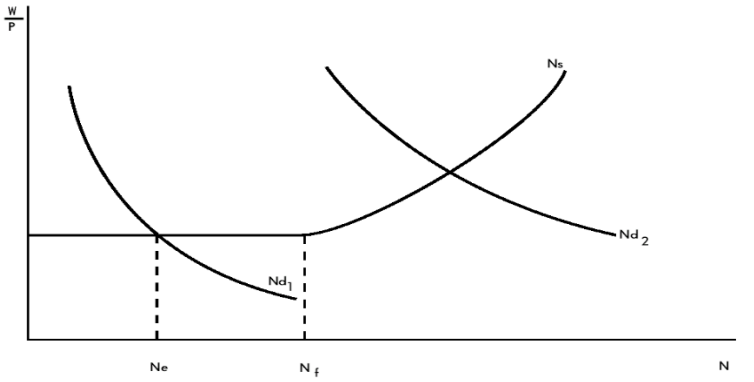


Fig. 8.6. **Labor market equilibrium in the Keynesian model**

The demand for labor (***Nd***) depends on the real wage. But due to the constant lag of demand from income growth due to a decrease in the marginal propensity to consume and weakening incentives for investment, the intersection point of the demand and supply curves, as a rule, falls on a horizontal section. Thus, the mechanism for achieving equilibrium is turned off, and the economy is characterized by excess supply, i.e. forced unemployment. To turn on the mechanism for achieving equilibrium, it is necessary, by stimulating the demand for goods, to achieve a shift in the demand curve for labor services to the right, until the intersection point goes beyond full employment (N_f).

Equilibrium in the money market

Keynes treats the money supply in the same way as the representatives of the classical school: he accepts it as something given. In the interpretation of the demand for money, Keynes's position is very original. First of all, he believes that demand consists of two parts – taking into account the functions they perform: servicing commodity transactions and speculative purposes. The demand for money for trade transactions (M_d^t) can be represented as an increasing function of total income. It is easy to calculate the need for money to obtain a unit of total income and express the dependence using the coefficient *K*:

$$M_d^t = KY$$

The second type of demand is related to the possible benefits of owning cash, since it simplifies the conclusion of transactions. Cash is one of the forms of savings. ***Savings are divided into cash (also called speculative or liquid) and those that are stored in a form that brings income depending on the interest rate***. At a higher interest rate, the amount of speculative money decreases. This dependence can be written as follows:

$$M_d^s = L(r),$$

where ***L*** is speculative (liquid) money;

r is the interest rate.

To construct a graph of general equilibrium in the money market, we will use the same technique as in the case of the equilibrium of savings and investments. In Fig. 8.7, the demand function for speculative money from the interest rate is presented in quarter II, and the demand function for money for trade transactions from income is

presented in quarter IV. The condition for equilibrium in the money market will be the constant equality of the sum of M_d^t and M_d^s to the fixed supply of money. The sum of the coordinates of any point on the line in quarter III will be constant and equal to the supply of money. Using the method of transferring points, in quarter I we will obtain a curve, each point of which will show the relationship between the level of aggregate income and the interest rate, which ensure the equality of demand and supply of money.

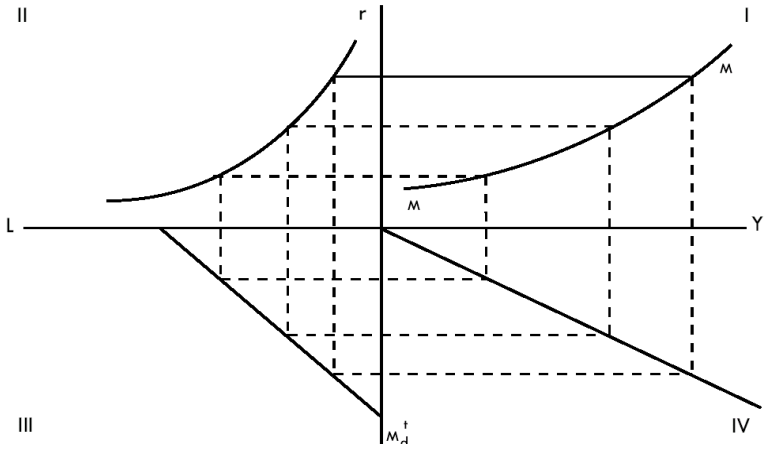


Fig. 8.7. **Equilibrium of demand and supply of money**

Economically, the MM curve can be interpreted as follows: at each possible level of income, the demand for money for trade transactions absorbs a certain part of the money supply, which is considered a given. The remaining part of the money supply can be used to satisfy the needs of a speculative nature. The interest rate changes within the limits necessary to establish an equilibrium between demand and supply. If for any reason the interest rate decreases, the amount of liquid money will increase and the demand for money will exceed its supply. But to

cover the demand for money, large loans will be required and the interest rate will again increase to the equilibrium level.

General equilibrium

So far, the equilibrium of investment and savings, as well as the equilibrium in the money market, have been considered separately. But in real life, these processes are intertwined, forming the general equilibrium of the economic system. To analyze it, we will combine the equilibrium curves in the goods and money markets on one graph (Fig. 8.8).

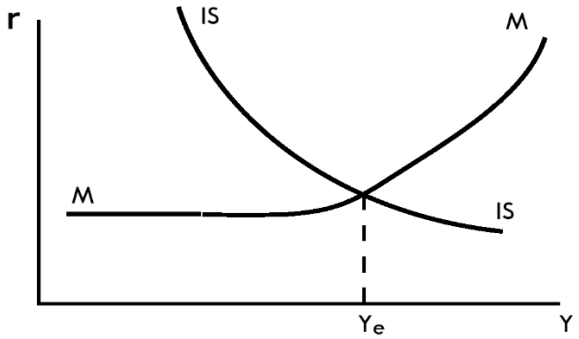


Fig. 8.8. **General equilibrium in the Keynesian model**

The interaction of markets is able to restore equilibrium in the event of a disturbance. Let us consider this using the example of an increase in the money supply. In this case, first of all, the interest rate will decrease, since there will be more liquid money at the same level of income. The result will be an increase in investment and, due to the multiplier effect, total income will increase. This will divert some of the money to trade transactions, respectively, reducing their liquid balance. The interest rate will increase again, reducing investment and total

income. Such fluctuations will continue until the general equilibrium state is restored.

However, in the Keynesian model there is a so-called liquidity trap – a horizontal section of the money market equilibrium curve. It means that the bank interest rate is so low that all money free from trade transactions turns into speculative money. If the intersection point of the curves falls on this section, then an increase in the amount of money in circulation will not lead to an increase in income, since the interest rate does not decrease further and does not cause additional incentives for investment. A real increase in aggregate income can only occur if the curve shifts to the right.

Thus, according to Keynesian theory, a freely competitive market cannot guarantee the achievement and maintenance of full employment. The equilibrium level of income is determined by aggregate demand, the value of which is usually less than that necessary to achieve full employment. In this situation, the state cannot occupy a neutral position regarding the functioning of the economic system. Keynes developed the concept of state intervention in the economy, the most important elements of which are fiscal and monetary policy. The following chapters are devoted to the consideration of fiscal and monetary systems.

Brief conclusions

1. The basis of the classical macroeconomic model is Say's law, which states that any supply creates an equal demand. Since each producer is ready to purchase as many monetary units of goods as he can sell his products, then for him the demand and supply are identical.

2. If we take into account that part of the income is used not for consumption, but for savings, then the problem of equilibrium in the goods market is reduced to achieving equality of savings and investments. According to the supporters of the classical school, both

the first and the second are a function of the interest rate. A flexible change in the interest rate under the influence of competition between sellers of money capital or its buyers inevitably leads to achieving an equilibrium of savings and investments, and therefore to the equation of aggregate demand and aggregate supply in the goods market.

3. In the classical model, the discrepancy between demand and supply in the labor market cannot be sustainable, since competition between workers leads to a decrease in wages if there is unemployment; competition between employers leads to an increase in wages in the event of a shortage of labor services in the market. Therefore, in conditions of perfect competition, market forces act in the direction of restoring equilibrium and full employment.

4. According to representatives of the classical school, the tasks of the state should be reduced to ensuring the functioning of a competitive market by eliminating various obstacles, removing the causes of inflexibility of prices and wages, guaranteeing the stability of the purchasing power of money and performing some services that are vital for society as a whole.

5. The starting point of the Keynesian model is the statement that it is not aggregate supply that creates aggregate demand, but aggregate demand creates its own supply.

6. Consumption as one of the main components of aggregate demand, in accordance with Keynes's basic psychological law, tends to diminish with increasing income. Therefore, there is a tendency for demand growth to lag behind the level necessary to ensure full employment. The equilibrium of supply and demand in the commodity market can occur at a more or less stable level of forced unemployment.

7. The demand for money, according to Keynes, is caused by the following needs: to service commodity transactions and to achieve speculative goals. The demand for money to service commodity transactions can be represented as an increasing function of aggregate income. Speculative money depends on the interest rate.

8. According to the Keynesian model, a market economy is unable to ensure sustainable balanced development. Therefore, the state cannot occupy a neutral position. It must become an active participant in economic life, influencing aggregate demand by encouraging consumption, private investment and government purchases of goods and services.

Basic terms and concepts

Classical macroeconomic model
Say's Law
Mechanism for achieving equilibrium between investment and savings
Classical employment theory
Keynesian macroeconomic model
Supply price
Demand price
Effective demand
Keynes's basic psychological law
Multiplier
Keynesian employment theory
Money for trade transactions
Speculative (liquid) money
Liquidity trap

Questions for reflection and discussion

1. According to the State Statistics Service of Ukraine, calculate the average propensity to consume in Ukraine over the past 5 years. What factors can explain the revealed dynamics of this indicator?

2. According to the State Statistics Service of Ukraine, calculate the marginal propensity to save in Ukraine over the past 5 years. How

can you explain the revealed dynamics? Do the crisis phenomena in Ukraine affect the dynamics?

3. According to the World Bank, conduct a comparative analysis of the average propensity to consume in five developed countries and 5 developing countries. Is there a connection between this indicator and the GDP per capita indicator?

CHAPTER 9. FINANCIAL REGULATION MECHANISM

The state, performing economic functions, uses various regulatory instruments. Many economists, primarily representatives of the Keynesian trend, tend to consider fiscal (financial) levers to be the most important among them. The degree of their influence on the economic life of society can be judged at least by the fact that in developed countries of the world, 30-50% of the gross domestic product is redistributed through the fiscal system.

Financial instruments have a multilateral nature of influence on economic relations in society. With their help, the state is able to influence the volume and structure of national production, investment activity of economic entities, regulate inflation, employment, influence the state of the competitive environment, redistribute income, etc. In other words, in macroeconomic regulation, in achieving equilibrium between aggregate demand and aggregate supply, the financial (fiscal) system of the state plays one of the main roles.

Taxes and the distribution of budget funds are always "hot" topics. There are almost constant discussions about how to make the taxation system more effective. It is clear that taxes cannot be dispensed with, but at the same time, their use can have various effects, including negative ones. Taxes can be compared to a drug, the therapeutic properties of which are manifested only when used in reasonable doses. And the tax practice, in particular, of Ukraine, shows how difficult it is to correctly determine these reasonable doses. In this chapter, we will consider the structure of the tax system of Ukraine, analyze the main types of taxes, show the directions of influence of taxes and budget expenditures on the course of economic processes, on the behavior of business entities, consider the possibilities and main problems of the state's budget policy.

9.1. STRUCTURE OF THE STATE FINANCIAL SYSTEM

Who pays taxes and how?

Taxes are mandatory payments by households and enterprises to the state budget. These payments are legal, i.e. they are collected taking into account the legal norms in force in the country. ***Taxpayers are those who are legally obliged to pay taxes and who do not receive anything directly from the state for these payments.*** Therefore, taxes can be characterized as legal forced withdrawals by the state of part of the income of households and enterprises.

Sources of taxes can be various forms of income: wages, profits, dividends, interest, pensions, scholarships, benefits, etc.

The object of taxation is understood as something that is subject to taxation. It can be income, the cost (part thereof) of certain goods and services, property of enterprises and households (including capital, housing, cars), transfer of property (inheritance, donation, etc.), use of natural resources, etc. In some cases, the source and object of taxation may coincide: as examples, income tax collection and enterprise profits can be cited.

Who sets taxes?

Taxes are established by the state. If we specify this statement in relation to Ukraine, then the following picture emerges.

The following bodies participate in the formation of the conditions for taxation of households and enterprises in Ukraine: parliament (Verkhovna Rada) and local authorities. Depending on who introduces the tax and at whose disposal it comes, they are distinguished:

a) ***national taxes*** – established by parliament and collected throughout the country;

b) ***local taxes*** – established by state laws, implemented by local authorities in certain territories.

The construction of the tax and budget system depends on the form of state structure of the country. If the country has a federal structure (USA, Canada, Germany, etc.), then its tax system consists ***of three levels*** (taxes of the central government, federal subjects, local authorities). If a country has a unitary form of government (Ukraine, France, Japan, Sweden, Finland, etc.), then its tax system has ***two levels*** – there are no taxes of the subjects of the federation. Recently, interstate taxes have emerged that operate within the framework of a certain international economic organization. Such taxes, in particular, have been introduced in the countries of the European Union. They are paid into the organization's budget.

Tax rates and their construction

Tax rate is the amount of tax per unit of taxable object. Tax rate can be:

a) ***ad valorem*** – expressed in percentage (for example, income tax rate);

b) ***specific*** – expressed in monetary amounts per physical unit of taxation (as an example, land tax can be mentioned).

In modern taxation systems, the use of ad valorem rates is preferable.

When determining tax rates, the state may provide for tax benefits, i.e. discounts, reduction of tax deductions in the presence of certain circumstances. We will consider the goals and methods of providing tax benefits when analyzing the functions of the financial system.

The question of how to construct tax rates is important. Depending on the relationship established between the tax rate and income, taxation can be divided into:

a) ***proportional*** – the tax rate is constant, it is not related to the amount of income or its changes. If, for example, a single corporate income tax rate is adopted in a country (regardless of the amount of profit), then this will be an example of using the principle of single proportionality in taxation: the proportion of the "decomposition" of profit into tax and net income (that which remains with the enterprise) is the same for all cases;

b) ***progressive*** – the tax rate increases with the increase in income. Thus, this principle can be used when taxing the income of individuals: the higher the income, the greater its share must be given to the state. And here the tax burden is not distributed evenly among taxpayers, as in the case of proportional taxation. Here it is more for the rich, less for the middle-income, and even less for the low-income categories of the population. The steepness of the progression is also important, i.e. at what rate do rates increase with increasing income, what is the maximum tax rate. World experience indicates the possibility of using two types of progression: simple and complex. In simple progression, a higher tax rate is applied to the entire object of taxation; in complex progression, the object of taxation is divided into parts, each of which is taxed at its own rate, i.e. the increased rate is applied not to the entire object, but only to the part that exceeds the limit of the previous range;

c) ***regressive*** – the tax rate decreases with increasing income. This taxation procedure is not as widespread as the two previous methods. With regressive taxation, the tax burden is greater for entities with lower incomes. To a certain extent, the collection of value-added tax has the properties of regressive

ness. Here, the tax is not calculated on the basis of personal income, but is set as a percentage of the cost of goods and services produced and is included in the sales price. Such a tax procedure affects the incomes of low- and high-income people differently. For example, if two families with different income levels buy children's bicycles at a price of 1200 UAH, which includes 200 UAH. tax, it can be seen that

these 200 UAH. tax deductions will make up a larger share in the income of a less well-off family and a smaller share in the income of a more well-off one.

We will return to the issue of fairness in taxation in paragraph 3.

Direct and indirect taxes

Direct taxes are those taxes whose object is the income or property of the payer. Based on this, they can be divided into ***income and property taxes***. Examples of direct taxes include income tax, corporate income tax, land tax, taxes on movable and immovable property, inheritance taxes, taxes on dividends received on shares, etc. As a rule, preference is given to income taxation. At the same time, it is believed that capital taxation can help solve a number of problems. For example, it can reduce the interest in hiding profits, pumping them into production costs, limit the interest of joint-stock companies in increasing retained earnings to the detriment of dividends, and, for example, make relations between minority and majority shareholders more harmonious.

Indirect taxes are taxes whose object is the circulation and consumption of certain goods and services. These taxes are not so obvious to taxpayers, many of those who pay them are often not even aware of their existence. Indirect taxes are included in the sale price of goods and services and are paid by their buyers. Sellers of these goods mobilize tax revenues and transfer them to the state. Under this taxation procedure, there is no direct connection between the payer and the state. These taxes are taxes not on all income, but on a certain form of its use – consumer spending. Therefore, they are also called ***consumption taxes.*** Examples of such taxes include value added tax and excise duty. Consumption taxes initially arose as excise duties on a limited range of consumer goods (alcoholic beverages, tobacco, tea, sugar, salt, etc.). Modern indirect taxes, among which the dominant position, in

particular, in European countries, including Ukraine, is occupied by the value added tax, can be considered as the result of the merger of turnover taxes and consumption taxes, because in each act of circulation of certain goods, the buyer pays the tax.

In conclusion, the following circumstance should be noted. It is assumed that the final payer of a direct tax is the recipient of taxable income or the owner of taxable property, and of an indirect tax – the consumer of the goods. Economists, however, note that this is not always the case: under favorable conditions, direct taxes can be transferred to the consumer through the mechanism of price increases, and indirect taxes cannot always be transferred to the consumer – the market may not ensure the sale of the previous quantity of goods at increased prices.

9.2. MAIN TYPES OF TAXES

The total number of taxes applied in the country is estimated at dozens. We do not have the opportunity to analyze them all within the framework of this manual. Our attention will be focused on those taxes that have a decisive impact on the economic behavior of households and enterprises. An analysis of these taxes will help to get an idea of the main sources of state revenue.

Income tax

One of the traditional taxes is income tax. It is believed that it first appeared in the British tax system in 1842, and then – at the end of the 19th - beginning of the 20th century – it spread massively in other countries. The object of taxation here is individual income.

In Ukraine, as in many countries of the world, a method of progressive taxation of individual income was used. This means that tax rates increase with income growth.

The taxpayer's gross income is subject to taxation. Until 2004, 5 income levels were applied in Ukraine and, accordingly, 5 tax rates were in effect – from 10 to 40%. Then there was a transition to a system of proportional taxation of individual income. Since 2016, a single 18% income tax rate has been applied.

The technique of fulfilling the taxpayer's obligations may be different. The non-cash method of collecting income tax involves the calculation and withholding of tax by the accounting department of the enterprise (organization, institution) that pays income to the taxpayer. This method is the main, dominant one. Another method – declarative – involves the taxpayer independently calculating his income, filling out a tax return and submitting it to the relevant state authorities. There are many countries where the declarative method of making tax payments from personal income is generally accepted.

Corporate profit tax

Profit tax is perhaps the main tax in the financial relations between the state and enterprises. Taxable profit is formed as the difference between revenue and expenses of the enterprise. Revenue can be obtained as a result of the sale of manufactured products and from so-called non-sales activities (for example, receiving payment from renting out production facilities).

Profit is the main source for the development of enterprises. Tax collection from profit reduces the potential for expansion of the enterprise. Therefore, it is very important to determine such profit tax rates so that they do not undermine the interest of economic entities in increasing the efficiency of economic activity and expanding its scale. Different countries have different systems of profit taxation. If we consider the rates, they are rarely less than 20% and more than 50%. They can be proportional and progressive. In the latter case, the rates

vary depending on the amount of profit received. Various means of establishing tax discounts are also used.

Over the years of independence in Ukraine, the application of this tax has been very unstable. Thus, in 1991, its rate for most enterprises was 35%. In 1992, instead of the profit tax, a gross income tax was introduced - it was defined as the difference between revenue and expenses, which did not include wages, i.e. the company's expenses for attracting labor, – with a rate of 18%. In 1993, the profit tax was first applied, which was soon replaced by a gross income tax. In 1994, the rate of this tax was 22%. Since 1995, Ukraine has applied a profit tax at a rate of 30%. Until 2012, the rate was 25%. From January 1, 2013, it was reduced to 19% with a further reduction in 2014 to 16%. Today, the basic rate on corporate profits is 18%.

Consumption taxes

Consumption taxes (indirect taxes) are an important source of government revenue in Ukraine and many other countries. Recall that these taxes are included in the sales price of goods and services and are paid at the time of their purchase.

Indirect taxes include:

a) ***individual excise taxes*** levied on individual goods at fixed rates. Traditionally, individual excise taxes are applied to alcoholic beverages, tobacco products and other consumer goods;

b) ***universal excise taxes*** (turnover tax), levied on the cost of goods and services sold, taken from a wide range. They differ from individual excise taxes in the coverage of taxable goods and services and the application, as a rule, of a single tax rate. Currently, this tax is not widely used in the world;

c) ***value added tax***. The emergence and widespread use of this tax has become one of the most noticeable phenomena in the development of tax systems in recent decades. The idea of applying a value added

tax belongs to M. Lore, who proposed in 1954 to replace the turnover tax with it. Currently, this tax is applied in many countries, primarily European, and including Ukraine, where it was introduced in 1992 instead of the turnover tax.

The added value, on which the tax is calculated, is defined as the difference between the revenue of the enterprise and the cost of its expenses for raw materials, semi-finished products and services received from suppliers. In other words, it is the value added by the enterprise to the cost of raw materials as a result of their certain processing, refinement or other economic use. This tax is applied where the added value is created. The taxpayer is the buyer of the product, its seller acts as a tax collector – an intermediary between the payer and the state. Quite often, the rates of the value added tax are differentiated for different product groups. Usually, minimum rates are applied for essential goods and services. This allows to reduce the regressive manifestations of this tax. In Ukraine, however, since its introduction, a single rate has been used exclusively for all taxable goods and services (in recent years, 20%). It should be noted that the lack of differentiation and a high tax rate are factors that affect the prices of goods, demand, supply, profitability of enterprises, and levels of real income.

The advantages of this tax, noted by experts, are the following:

- the ability to use relatively low rates due to a broad tax base and, thereby, have a limited impact on the situation of individual economic entities, the presence of great difficulties for those wishing to circumvent the tax, etc.;

- may turn out to be less significant than the problems that an inefficiently constructed system of its collection may bring, its lack of flexible response to changes in macroeconomic conditions.

Target and other payments and taxes

In addition to general taxes, economic entities also make targeted taxes and payments for the benefit of the state, which are sometimes called "almost taxes". Unlike general taxes, which go to the state budget and are intended to finance a wide variety of activities, targeted (special) taxes and payments are made available to the state to finance strictly specific activities, i.e. they have a specific purpose. Most targeted taxes and payments are payments from various forms of social insurance and social security.

The main targeted (special) taxes and payments include:

a) ***payments by enterprises and citizens to the pension fund and the social insurance fund.*** The latter, in particular, pays benefits for temporary disability related to, for example, illness;

b) ***payments by enterprises and citizens to the employment promotion fund***. This fund pays unemployment benefits, finances the costs of training and retraining personnel, and some other measures related to solving the employment problem.

Today, these payments are made only by employers and individual entrepreneurs in the form of a single social contribution at a base rate of 22% of the payroll fund. In the future, this payment is distributed to the appropriate funds.

Other taxes used by the state include the following:

- ***land tax***. In Ukraine, depending on the category of land (agricultural or non-agricultural), its location, and the nature of its use, tax rates are set in fixed amounts per unit of area;

- ***taxes on movable (vehicles) and immovable (capital, housing) property***. The rates of these taxes are usually proportional;

- ***tax on inheritance and gift***;

- ***export*** (when exporting certain goods to other countries) and ***import*** (when importing) ***dutie***s. This is how the state regulates foreign economic transactions.

There are other types of taxes. If we rank all taxes by their importance in the state's tax revenues, then in recent years the leading role in Ukraine will be played by taxes on consumption and on corporate profits, and income tax on citizens.

State and local taxes

As noted, there are certain levels of the tax system. Thus, in Ukraine, all taxes are divided into two groups: national and local.

National taxes, in particular, include: income tax, excise duty, value added tax, personal income tax, customs duty, land tax, mandatory state pension and social insurance fees, environmental pollution fee, etc. These taxes are established by the Verkhovna Rada of Ukraine and for the most part fully or partially go to the state budget. Partial receipt of money for some taxes is associated with the distribution of relevant tax revenues between the state and local budgets in specially established proportions. The formation of these proportions is quite a difficult task, because it is necessary to achieve a combination of national and local interests.

Among ***local taxes and fees***, one can note the fee for parking spaces for vehicles, land fee, transport tax, tourist fee, tax on real estate other than land, and others. The list of these taxes, their maximum rates are established by the Verkhovna Rada of Ukraine. It is up to local authorities to determine which of the established local taxes will actually be applied on their territory. However, in some cases, the central government makes decisions on the mandatory introduction of certain types of local taxes. It is obvious that local taxes and fees are credited to local budgets. In general, they can be considered as an additional source of revenue to local budgets.

Taxes, incentives, shadow economy

It is safe to say that even the most advanced tax system will cause dissatisfaction among taxpayers. Probably, many people will agree with the necessity of the existence of a tax system in principle, but this does not mean that they do not have critical remarks about the tax policy of their state, related to the volumes and conditions for fulfilling tax obligations. Life shows that there are no problems with this. It is also easy for professional economists to find a subject for polemics if we turn to the topic of taxes.

An important condition for the effectiveness of the tax system is the moderation of tax collections introduced by the state. High tax rates can create a number of problems.

First, ***they are able to undermine the incentives and interest of households and enterprises in increasing the level of their economic activity.*** Thus, the state should take a very careful approach to developing a system for collecting income tax: a progressive method of taxation, as is known, assumes that people, as their incomes grow, move into categories of taxpayers for which higher tax rates apply. Building ranges in the taxation system, the applied tax rates should not be a disincentive, i.e. cool the desire of people to work more and better. If we take the corporate income tax, then here the tax pressure can be a disincentive to increasing profits, expanding production, and increasing its efficiency.

Secondly, ***it may happen that the state, having applied higher tax rates, will receive less income from tax revenues***. The dependence that exists between the values of tax rates and the volume of budget revenues is shown in Fig. 9.1.

The figure shows that only up to a certain value (point A) an increase in tax rates can bring large revenues to the state, after this level the state's tax revenues can only decrease. A decrease in the state's tax revenues is the result of the reaction of economic entities to the state's

excessive tax claims. There is a decline in economic activity due to the unprofitability of maintaining it at the previous level. Therefore, the state must always restrain its tax appetites and pursue a balanced tax policy.

Third, ***high taxes can create an interest in hiding income by taxpayers***. Hiding income is one of the elements of the shadow economy. ***The shadow economy is an economic activity related to the production and exchange of goods and services that does not receive legal registration or accounting***. Money earned in the shadow economy is not reflected in the relevant documents and is not taxed.

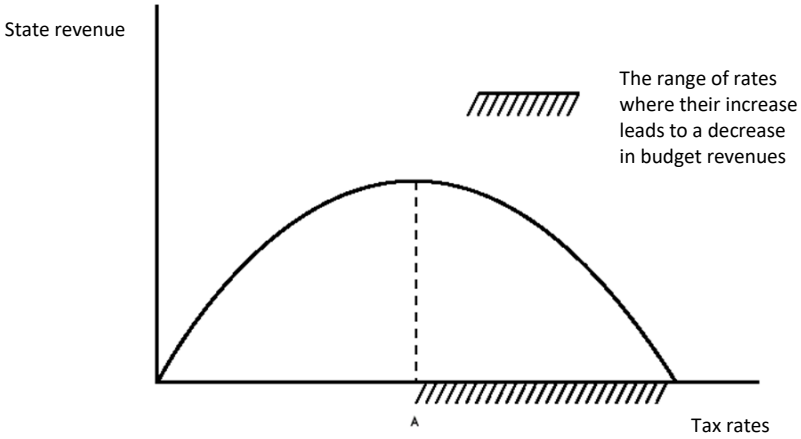


Fig. 9.1. **The relationship between government revenues and tax rates (Laffer's curve)**

Examples of tax evasion and income concealment include the employer paying wages to an employee that are not included in the company's official documents, the work of a car repairman or a television technician who do not show part of the money received from their clients for services in financial documents, the work of a teacher as a tutor, the services of a hairdresser who provides at home, etc. These

incomes are hidden from taxation and the state loses a certain amount of budget money. If the state intends to make certain expenditures, but the planned tax collections are not enough, and it decides to increase tax rates, then "law-abiding" taxpayers will have to take on the additional burden of deductions for the benefit of the state.

The shadow economy exists in the economy of any country. For example, American economists believe that in the United States the shadow economy accounts for 5 to 15% of the gross national product. The scale of the shadow economy in Ukraine has not yet received more or less accurate quantitative estimates. From the statements of economists and state figures that appear periodically, we can conclude that they are noticeably larger than in the USA, reaching 30-40% of GDP. It should be noted that these scales are changing. Thus, in conditions of economic crisis, the sphere of the shadow economy is obviously expanding: on the one hand, people are more actively looking for additional income, and on the other hand, the state is less effective in controlling the legality of economic activity, corruption and bribery are increasing in the very structure of the state. In a prosperous economy, the state feels more confident, and business entities see a prospect before them, which reduces interest in finding deals whose income can be hidden from taxation.

9.3. FUNCTIONS OF THE FISCAL AND BUDGETARY SYSTEM

In the introduction to this chapter, we drew attention to the comprehensive nature of the impact of financial instruments on the economic life of society. This can be confirmed by analyzing the functions of the tax and budgetary system.

Formation of budgets for the purchase of goods and services

The state, as we know, bears the costs of maintaining educational institutions, science, medicine, culture, the army, law enforcement agencies, national television and radio, construction of houses, roads, enterprises, etc. The main source of covering these costs is tax revenues from households and enterprises. The state may have other sources of income (sale of state property, receipt of income on capital, dividends on shares, placement of government bonds, etc.), but their importance in the total state revenues is much smaller compared to tax sources.

Regulation of production and investment activities of enterprises

Using tax incentives, and perhaps (to some extent) sectoral differentiation of tax rates, the state can make the production of certain goods and services more economically attractive for enterprises or, conversely, difficult. For example, in Ukraine, the state, using liberal tax conditions, usually tries to stimulate the growth of agricultural production.

The state cannot force a private enterprise to decide how to use the profit it receives. But, at the same time, society is interested in enterprises using a significant part of their profits for investment purposes, i.e. returning them back to production to expand production, update the range, improve the quality characteristics of goods, and improve technology. After all, the capabilities of the economy tomorrow are largely determined by what we save and invest today.

Therefore, the state can establish tax incentives for the taxation of that part of the profit that is returned to production, stimulating technological innovations, reconstruction, etc.

By acting as a customer for certain products, paying for them, the state, thereby, influences the volumes and structure of manufactured products. By making changes to the tax system, it can influence the level of business activity of enterprises.

The tax system is often used to regulate competition. If the state establishes tax benefits for new small enterprises, then to some extent it contributes to the emergence of new competitors.

Inflation regulation

Price instability, as we know, is one of the main macroeconomic problems. The state must be able to control inflation, strive to ensure its low level. The tax and budgetary system is an important factor in achieving price stability. On the one hand, budgetary problems can cause inflation, on the other hand, tax instruments can be used for state regulation of inflation. In Chapter 6, it was noted that one of the causes of inflation is the growth of aggregate costs, not supported by corresponding changes in the productivity of social labor. Through the financial system, the state can, in particular, influence aggregate demand – by changing tax rates and the volume of budget expenditures. The fight against inflation requires taking measures to limit aggregate spending, which, for example, can be achieved by strengthening the system of tax deductions and pursuing a more restrained budget spending policy.

Income redistribution

The cash income received by households comes from various sources. Let us recall, in particular, that income can be provided by the supply of labor, land, capital, money. At the same time, there are always people in society who receive income due to a special social status: pensioners, disabled people, unemployed, students, etc. They receive

cash income from the state, which, in turn, forms its budget at the expense of taxpayers' money. State social security payments, as noted, are called transfer payments.

Households, selling economic resources in different markets, receive different incomes. The tax system makes adjustments to the distribution of income in society. With progressive tax rates, the rich give more of their income through taxes than the poor. As a result of such taxation, income inequality decreases. We will return to the problem of income distribution in Chapter 12.

Discretionary fiscal policy and automatic stabilizers

Thus, the state, regulating tax rates and budget expenditures, uses the financial system as a tool for macroeconomic stabilization. Achieving stability in production volumes, employment, and inflation is the most important function of the fiscal and budgetary system. By general definition, the fiscal policy of the state is the manipulation of state budget revenues and expenditures to achieve certain economic and social goals. The instruments for implementing this policy are ***tax rates, tax benefits, state procurement of goods and services, state investment policy, social programs***, etc.

There are two types of fiscal policy: ***discretionary and non-discretionary*** (or the policy of built-in stabilizers). ***Financial policy, which involves a deliberate change in tax rates, the structure of taxes, and budget expenditures in order to provide stability to the development of the national economy, is called discretionary policy***. Examples of such a policy may include making a decision to increase tax rates during an upswing in order to curb economic growth and provide certain tax benefits to economic entities to overcome the economic crisis less vulnerable.

Under certain conditions, such actions can be quite effective. However, discretionary fiscal policy encounters a number of obstacles

in its implementation. One of them is the principle of stability of the tax system. Tax rates are an extremely important element of the "rules of the game" by which economic entities operate. And these rules can only be changed in advance (in most countries there are restrictions adopted at the legislative level: changes to the taxation system can be made no later than 6 months before the start of the new fiscal year). Such restrictions deprive discretionary policy of efficiency and create threats of obtaining opposite results compared to expected ones (when, during the period from the decision to change tax rates to their implementation, the situation in the economy radically changes to the opposite trend).

Therefore, today in developed countries, non-discretionary fiscal policy is most often used. ***Non-discretionary fiscal policy is an automatic, built-in system of measures that increases state budget revenues during periods of growth and increases its expenditures during periods of decline.*** The financial system has a certain stabilizing potential as such, i.e. it can, under certain conditions, play the role of a stabilizer even when no special changes are made to it. It itself is a shock absorber of economic fluctuations. ***Automatic stabilizers are such tax and budgetary mechanisms, the actions of which are characterized by a constant focus on mitigating economic fluctuations***.

How do automatic stabilizers work?

If, for example, the economy is in recession, this usually leads to a reduction in the total income of households and enterprises. As a result, tax revenues generated from these revenues (income tax, profit tax, etc.) decrease. And when using progressive scales, the reduction in tax deductions will outpace the reduction in revenues. Under these conditions, the state must increase some of its expenses: for example, for unemployment benefits, since the general economic recession reduces jobs and increases the number of unemployed. The increased

state expenses in this regard play a stabilizing role: they compensate for the decrease in private spending. In the case when the economy is on the rise and there is a danger of overheating, accelerating inflation, the progressive tax system "takes away" an increasingly large part of income as it grows, thereby reducing the pressure on aggregate demand. The growth of consumer spending becomes less than it could have been. Thus, automatic stabilizers reduce fluctuations in the volume of national production in both directions.

Many economists attribute a significant role to automatic stabilizers in smoothing the cyclical nature of economic development. In particular, they are believed to be able to prevent a significant multiplier effect of a reduction in aggregate demand on the volume of national production. However, the importance of automatic stabilizers should not be exaggerated – they alone are not enough to achieve complete stability. Built-in stabilizers should be supplemented by discretionary policy measures.

State budget problems

The state budget includes revenue and expenditure parts. There must be a certain correspondence between them. It is difficult to expect that the expenditure part will correspond absolutely exactly to the income part. As a rule, expenses exceed income – ***a certain state budget deficit arises as an excess of state expenditures over received income.***

Economists tend to believe that the danger to the economy is not the deficit itself, but a certain level of it. ***The level of the budget deficit is defined by the ratio of the deficit to the gross domestic product, expressed as a percentage.*** An acceptable or relatively safe level of the budget deficit is its value within approximately 3%.

The main danger to the economy arising from the state budget deficit is associated with the problem of inflation. The fact is that the budget deficit can be covered both at the expense of non-inflationary

sources and with the involvement of inflationary sources of financing. One of the options for non-inflationary financing of the deficit is the issue of government bonds. The buyers of these bonds act as creditors of the state. Regarding the limited possibilities of non-inflationary loans, they seem quite obvious - a large state budget deficit cannot be covered by loans that are not related to an increase in the means of payment circulating in the economy.

Another way to cover the government's lack of monetary resources is to use credit issuance, as a result of which there is an increase in means of payment, money supply, which leads to an acceleration of inflation.

The problem of the state budget deficit was and remains one of the most acute in Ukraine. The deficit is covered mainly by money issuance carried out by the National Bank of Ukraine. Emission financing of state expenditures, repayment of the deficit increases aggregate demand, which, under conditions of a reduction in production volumes, causes an acceleration of inflation. If borrowing is used to cover the deficit, this leads to the emergence of public debt, which also poses a significant threat to the country's economy.

The presence of a budget deficit usually means that the state has to borrow. ***This is how the state debt is formed – funds borrowed by the state.*** It can be internal, when it comes to loans made by the state within the country, and external - in cases where the state borrows money abroad.

In a civilized society, debts must be repaid, and in particular, the state is obliged to return borrowed funds. This means that, having borrowed today, tomorrow the state budget must provide, among other things, for the state's expenses for debt repayment. Moreover, money is usually borrowed at interest, so the state must not only repay the debt, but also fulfill certain obligations regarding the payment of interest. The presence of these expenditure items in the state budget means that some areas of budget financing are underfunded, and the growing debt

increasingly indicates that its payment is being shifted to the future generation of taxpayers.

Today, Ukraine's debt obligations are quite significant. Typically, their threats are assessed by comparing the size of the state and state-guaranteed debt to the country's GDP. For countries with a transformation economy (which includes Ukraine), it is believed that the "red line" beyond which debt problems may arise is an indicator of 60% of debt to GDP. Ukraine has crossed this limit quite often, which gave grounds even to talk about the threat of sovereign default (declaration of the country bankrupt).

Budget programs are implemented in Ukraine at ***the national (state budget) and local levels (local budgets)***. The sum of the state and local budgets is called ***the consolidated budget***. The distribution of budget funds between the specified levels is another problem. The distribution should be based on the functions assigned to the relevant government and management structures. In Ukraine, as in almost all countries of the world, the majority of tax revenues are mobilized by the central government, and a smaller part is at the disposal of local authorities. At the same time, in Ukraine it is still difficult to talk about any trends related to changes in the ratio of funds directed to different levels of the budget system, since the system itself is not yet sufficiently stable. In general, in a number of developed countries of the world there is an increase in the share of state revenues directed to local authorities.

The distribution of budget funds by expenditure item can tell a lot about the state's policy and priorities: what are the specific expenditures on education, culture, medicine, science, the army, the economy, social security, ecology, etc.? The Verkhovna Rada and the government have to share the national budget "pie", and local authorities have to share the local budget "pie".

Assessment of the stabilization capabilities of financial policy

So, by changing its expenses, tax rates, the state can influence macroeconomic parameters – the volume of national production, employment, inflation. But how significant is the potential of financial policy in ensuring macroeconomic stability, achieving general equilibrium of the economic system? Economists of the Keynesian and monetarist directions answer this question differently.

Keynesians consider financial instruments to be the strongest and most reliable means of influencing the state on the economy. They are confident in the fairly high stabilization capabilities of financial policy. By regulating expenses, tax rates, the state can achieve macroeconomic stability through changes in the volume of aggregate expenditures. Thus, representatives of the Keynesian direction believe that under certain conditions – with a decline in business activity – the state can deliberately resort to a certain budget deficit to stimulate the economy. By increasing its expenses, the state will cause an increase in aggregate demand, which, in turn, will have a positive effect on aggregate supply, and unemployment will decrease. Such activities of the state are called ***stimulating fiscal policy***. At the same time, in a high economic situation, during the rise of business activity, one should beware of the state budget deficit – it is necessary to reduce spending, increase taxes in order to counteract inflation. These measures are called ***containment policy***.

Monetarists, who, as is known, rely on classical traditions in economic science, generally consider financial regulation to be a weak means of macroeconomic stabilization and assign a decisive role to monetary policy. They believe that the state, creating a budget deficit, is forced to resort to borrowing funds from enterprises and households. Thus, it enters into competition with financial and credit institutions, enterprises for money. Not only does the state "pull" some part of

potential investments onto itself, it can also cause an increase in interest rates on loans by its actions. As a result, the demand for money by enterprises decreases, and the volume of investment spending in the structure of aggregate demand decreases. The latter are one of the factors of business activity. If the state budget deficit is financed without attracting non-issue loans by increasing credit money, then the expansion will occur not at the expense of the deficit, but at the expense of the money supply.

Keynesians confirm that indeed some amount of investment can be displaced, but they consider it insignificant, the increase in interest rates cannot be significant. They also note that the stimulating effect of financing the deficit by increasing the money supply, that is, by issuing credit activities, is stronger than when using non-issue loans.

Brief conclusions

1. Taxes are mandatory payments by households and enterprises to the state budget. Sources of taxes can be various forms of income: wages, profits, dividends, interest, pensions, scholarships, etc. The object of taxation can be income, property, the cost (part thereof) of certain purchased goods, services, etc.

2. National taxes operate throughout the country. They are established by the country's parliament. Local taxes are collected by local authorities in a certain territory and are fully paid into local budgets. National and, as a rule, local taxes are established by the highest legislative body of the country.

3. Tax rate is the amount of tax per unit of the taxable object. With proportional taxation, the tax rate is constant for any value of the taxable object, with progressive taxation, it increases with the growth of this value, and with regressive taxation, it decreases.

4. Direct taxes are taxes whose object is the income or property of the payer (profit tax, income tax, taxes on movable and immovable

property, social payments, etc.). Indirect taxes are taxes whose object is the turnover and consumption of certain goods and services (value added tax, excise duty, etc.).

5. Tax collections should be moderate. High tax rates can reduce the economic activity of households and enterprises, cause a decrease in state revenues, and stimulate the development of the shadow economy.

Basic terms and concepts

Taxes
Sources of taxes
Objects of taxation
Tax rate
Ad valorem and specific tax rate
Progressive, proportional and regressive taxation
Direct and indirect taxes
Non-cash and declarative method of tax withholding
State and local taxes
Profit tax
Profit tax
Value added tax
Excise duty
Social welfare payments
Functions of the financial system
Discretionary fiscal policy
Laffer curve
Non-discretionary fiscal policy
Automatic stabilizers
Shadow economy
State budget deficit
Level of state budget deficit
Public debt

Questions for reflection and discussion

1. Analyze the structural changes in the revenues of the state budget of Ukraine over the past 5 years. What do the changes in the ratio of revenue sources indicate? How would you assess these changes?

2. Analyze the changes in the tax legislation of Ukraine over the past two years. Have there been any facts of violation of the principle of stability of the tax system.

3. Analyze the dynamics of the state debt of Ukraine over the past 10 years. Is the size of the state debt a threat to national security? What are the possible negative consequences of the current situation?

4. Analyze the level of the budget deficit of Ukraine over the past 5 years. Is this level a threat? What sources, in your opinion, are used in Ukraine to cover the budget deficit?

5. Some believe that the real decrease in production volumes in Ukraine during the economic crisis is much less than official statistics show. This is due to the fact that part of the production simply moved to the "shadow economy" and is not included in official reporting. Do you agree with this position? Why does the “shadow economy” exist at all and who represents it? Can some of the reasons for the existence of the shadow economy be explained using the Laffer curve?

6. Today, most developed countries in the world prefer built-in stabilizers in the stabilization policy system. How do these stabilizers work? How are they used in Ukraine and in other countries of the world? What are the limitations of discretionary fiscal policy?

CHAPTER 10. MONETARY AND CREDIT REGULATION MECHANISM

Another important element of macroeconomic regulation is monetary instruments. By regulating the money supply, influencing the processes occurring in the money market, the state is able to influence the level of business activity of economic entities, the general price level, and the employment situation in the national economy.

This chapter examines the structure of monetary circulation, the functioning of the main institutions of the monetary system – banks, and the use of monetary levers by the state in the process of regulating the national economy. The latter circumstance is an important factor in ensuring macroeconomic stability and achieving equilibrium between aggregate demand and aggregate supply.

10.1. MONEY: FUNCTIONS AND STRUCTURE

Money and its functions

It is obvious that money is an integral element of modern economic life. Economic cooperation between people would be extremely complicated and less effective if money were not used in society.

Money is a generally accepted means of payment for any goods and services.

Money performs the following ***functions***:

1) acts as a means of exchange for goods and services;

2) is a measure of the value of exchanged goods and services;

3) is one of the means of preserving exchange value (purchasing power), because it can be used to purchase necessary goods and services.

Money has a long and very interesting history. Initially, various goods acted as money. At a certain stage of the development of society, precious metals stood out among them. Gold and silver were used as money for a long historical period. In modern conditions, money has changed, its structure has become significantly more complicated.

Money supply is the amount of generally accepted means of payment in the country's economy. In a first approximation, the money supply can be divided into two parts: 1) cash; 2) credit money.

Cash and credit money

Cash is represented by paper money and coins. Gold and silver are usually not used in minting coins. Cash is a state obligation. This, in particular, means that the state guarantees the widespread acceptance of these items as payment for purchased goods and services. Cash makes up a much smaller amount in the total money supply (usually from 5 to 30% in different countries).

Credit money is the payment obligations of certain business entities. The latter should be considered primarily such financial and credit institutions as banks. Enterprises, for example, do not settle with each other using cash. Each enterprise has an account (accounts) in a commercial bank, which reflects the amount of money that this enterprise has, and settlements with other enterprises are carried out by reducing this amount or replenishing it. In this case, the account is one of the forms of the bank's obligation to pay for exchange transactions of a business entity - an enterprise within the amount of money available to it.

Monetary aggregates

Having divided money into cash and credit, we have taken only the first step in studying the composition of the money supply,

determining its elements. The next step is related to establishing the structure of credit money, i.e. it is necessary to determine and group the credit payment instruments used. It should be emphasized right away that this matter is very difficult. Even in those countries where this work has been carried out for a long time, disagreements have not yet been eliminated regarding what to include in the money supply and what not. And this issue, as we have had to note, is of great importance: it is possible to effectively control the money supply when the object of regulation itself is precisely defined.

Table 10.1

Monetary aggregates

Aggregate symbol	Composition of the aggregate
M0	Currency in circulation
M1	M0 + transferable deposits in national currency
M2	M1 + transferable deposits in foreign currency, other deposits
M3	M2 + securities other than shares

Analyzing the established practice of developed countries of the world, it can be established that it is customary to distinguish the following financial aggregates: M0, M1, M2, M3. The filling of these aggregates, taking into account the forms of payment obligations adopted in Ukraine, may look like this (Table 10.1).

The formation of financial aggregates is carried out according to the degree of liquidity of payment instruments. ***The degree of liquidity of means of payment is determined by how quickly and at what cost these means can be exchanged for goods and services***. Cash is the most liquid means. In fairness, it should be noted that recently the liquidity of cash as a means of payment has been somewhat decreasing.

This is, in particular, due to the introduction of restrictions on cash payments, which have been introduced in Ukraine as well.

Transferable deposits are essentially current accounts. The latter can be characterized as highly liquid means of payment, since banks are obliged to make payments to other persons for purchased goods and services at the first request of customers, for example, enterprises. Other deposits are characterized by a lower degree of liquidity, compared to cash and current accounts. For example, time deposits are deposits placed for a certain period. Early withdrawal by the owners of the placed funds is usually associated with certain losses - financial and time. The composition of the M3 aggregate securities primarily includes government bonds. That is, the movement from M0 to M3 is a movement from highly liquid components to low-liquid components of the money supply. To analyze macroeconomic conditions, the concept of the level of monetarization of the economy, which is perceived as the ratio of the money supply to GDP, is often used. This indicator characterizes the level of filling the economy with money.

10.2. INSTITUTIONS OF THE CREDIT AND MONETARY SYSTEM

Essence and origin

Banks are the main institutions of the credit and monetary system. It is they who organize the circulation of a significant part of credit money, which, as we already know, occupies a dominant position in the total volume of money supply. Moreover, banks have the ability to create such money and, thereby, increase its supply.

A commercial bank is a financial institution that accepts deposits and issues commercial loans. In other words, a bank is an enterprise that buys and sells money.

As we can see in Fig. 10.1, the purchase (mobilization) of money is associated with expenses for the bank (% '), and the sale (issuance of loans) brings income (%"). The bank manages to achieve its commercial goal, that is, to make a profit only if the margin – the difference between %'' and %' is positive. And the greater this difference, the better financial results a commercial bank will have. Thus, the bank as one of the institutions of the market infrastructure acts as an intermediary between the owners of temporarily free funds and those who need them.

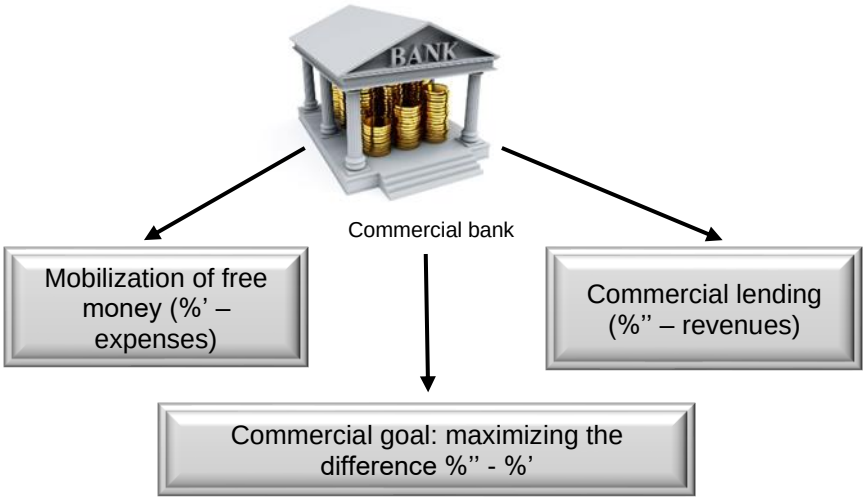


Fig. 10.1. **The main functions and purpose of a commercial bank**

The credit business originated a very long time ago. At a certain stage of its development, commercial banks emerged, which concentrated the implementation of a whole range of credit and monetary operations. However, the question of when and where the first commercial bank was created remains insufficiently clarified. Thus, according to some sources, the first private bank arose in Venice in 1157, other researchers believe that the first bank as a special credit and settlement institution arose in Genoa in 1407. Be that as it may, the mass

spread of commercial banking institutions occurs in the 17th-18th centuries.

The early stages of banking are associated with the work of jewelers. Jewelers first began to provide special services for storing gold, and then introduced new means of payment - ***promissory notes***. These letters turned out to be a much more convenient way of making payments than directly using the gold they represented.

Commercial bank reserves

Were jewelers supposed to fully cover their debt instruments with gold when issuing them? If so, this means that they must strictly correlate their obligations with the amount of gold they have in their custody. And at first, jewelers did just that, which meant that their obligations were 100% covered by reserves, i.e. by the amount of gold that could be issued to immediately satisfy the demands of depositors. However, over time, jewelers discovered that customers never come all at once, like elementary schoolchildren on a museum excursion, with demands to return the gold, and if so, then there is no need to keep 100% reserves. Thus, the fractional reserve system used by modern commercial banks was born.

The actual reserves of a commercial bank are the total amount of deposits attracted by the bank and its own free cash.

The required reserves of a commercial bank are the part of the attracted deposits that a commercial bank is required to keep as a reserve to cover current liabilities.

The reserve requirement ratio (reserve ratio) is the ratio of the amount of reserves to the amount of deposits accepted by the bank.

Excess reserves of commercial banks are the excess of actual reserves over the required ones. The bank has the right to lend only within the limits of excess reserves.

The use of a fractional reserve system in banking means that commercial banks at any given time have only a part of the funds necessary to cover all their issued liabilities. Banks retain (reserve) only a part of the money received from depositors, and lend the rest of the money. The role of reserve assets is performed by: cash held by the bank; funds that are mandatorily reserved on correspondent accounts with the National Bank of Ukraine; loans issued to enterprises, households, other banks; securities (stocks, bonds); bank property, etc.

The liquidity of a bank's assets is of great importance. The degree of liquidity of assets is determined by how quickly and at what cost these assets can be sold. For example, cash has almost absolute liquidity. High liquidity can be shares of leading enterprises. At the same time, shares of enterprises that reduce the efficiency and profitability of their activities, as a rule, have low liquidity.

The use of the partial reserve system by banks gives the banking system a number of important properties (Fig. 10.2): first, banks have the opportunity to increase the money supply and, secondly, there is a potential threat to the stability of the monetary system in the event of simultaneous mass claims by customers to banks for the return of money.

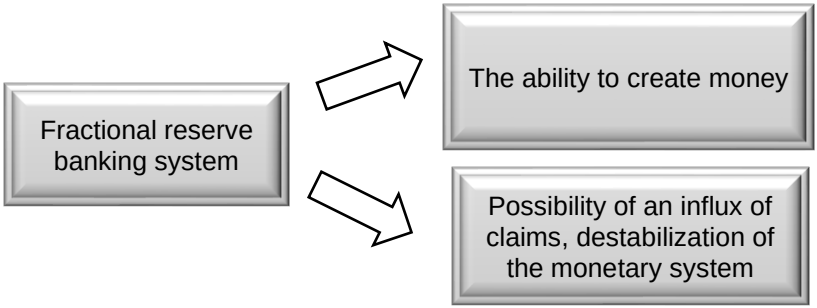


Fig. 10.2. **Phenomena inherent in a fractional reserve banking system**

We will consider the issue of money creation by banks in the next paragraph when analyzing their functions. If we analyze the possibility of a "bank panic", it should be noted that there are indeed examples of banking disasters. However, the probability of such events occurring on a large scale in modern conditions is considered by economists to be very small. In many ways, this is due to the strict state control over the activities of the banking system.

Levels of the banking system

The modern banking system has a two-tier structure. Its basis – the lower tier – is made up of commercial banks, and the top – the upper tier – is the central bank.

The central bank occupies a special place in the banking system of any country. In Ukraine, the role of the central bank is played by the National Bank of Ukraine. This is a state structure that performs very important functions of regulating the national economy. In section 10.4, we will learn in detail about the influence of the central bank on the economy.

10.3. FUNCTIONS OF COMMERCIAL BANKS

Raising money

The starting point of a commercial bank's activity is the formation of a monetary amount that can be used to issue loans. To do this, the bank must attract temporarily free funds that are at the disposal of various economic entities. Suppliers of money can be households, enterprises, other banks. ***Measures taken by a bank to attract temporarily free funds are usually called the bank's deposit policy***.

Deposits can be placed in a bank under different conditions and perform different functions. In this regard, the following types of deposits are distinguished:

1) ***demand deposits*** (on demand) – in this case, they do not stipulate the term for which money is placed in the bank. The role of such deposits is performed, for example, by the balances of funds on the current accounts of enterprises. The smallest interest is paid on such deposits or they are not paid at all, since here the bank has difficulties in planning the use of these funds, since the client has the right to demand them immediately;

2) ***term deposits*** are deposits with a specified term of their placement in the bank. The term itself can be set from one month to a year or more. For these deposits, the bank pays higher interest, such deposits are better for it, because they allow for better use of these financial resources.

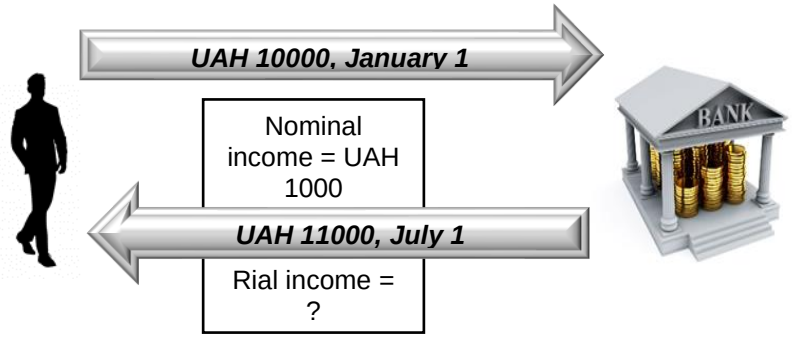
There are also other types of deposits: ***target, personal pension accounts***, etc.

The main goals of depositors are as follows:

1. ***Making payment transactions***. Enterprises open accounts in commercial banks and use them to make settlements on transactions. When choosing a bank, an enterprise pays serious attention to the bank's ability to quickly and reliably make settlement transactions. The speed of payment processing is an important indicator of the efficiency of the banking organization. The business activities of enterprises, including its efficiency, also depend on the clarity of the work of banking institutions. Households can also have deposits in banks that provide some opportunities for making payments. This can be, for example, an account to which the employer transfers wages. In particular, the practice of using plastic cards by individuals has become widespread, including for making payments when purchasing many goods and services.

2. ***Obtaining income***. Holders of temporarily free funds usually think about how to use them profitably. One of the results of such reflections is the decision to send money to a commercial bank. Transferring money to a bank for temporary use brings the depositor income in the form of interest. Interest is the income received from transferring money for temporary use.

Like any income, interest can be divided into nominal and real. ***Nominal interest is the amount of money received as payment for the opportunity to temporarily use money***. Thus, the depositor places one amount of money in the bank (for example, UAH 10,000), and takes back another – a large one (UAH 11,000). The increase in money (UAH 1,000) is the nominal income of the depositor, which is shown in Fig. 10.3. Can the depositor be satisfied with his actions that ensured the increase in money? Not yet; it is still necessary to pay attention to how the purchasing power of money has changed during this period. After all, money is valuable not by its own strength, its strength lies in the ability to exchange for other goods and services. Therefore, the level of inflation should be taken into account.



Condition for receiving real income: inflation index below 110%

Fig. 10.3. **Depositor's incomes**

Real interest can be defined as the difference between the nominal interest index and the inflation index. If, for example, after 6 months the depositor took out from the bank an amount of money that was 110% of the invested amount, and the inflation index for this period was 105%, then the real income for this period was, according to a somewhat simplified calculation system, 5% of the invested amount. If the inflation index is higher than the nominal income index, this will mean that the depositor did not receive any real income – the depositor was returned an amount of money with less purchasing power.

3. ***Saving money***. It is easy to see that the amount of money we receive per month is clearly insufficient to purchase a number of goods or services. Most people cannot buy a car, an apartment, a good music center, celebrate a wedding, have a comfortable vacation on the Black Sea coast, etc. with their monthly income. Therefore, the purchase of these goods and services becomes possible either as a result of saving money, regularly saving part of their income from consumption, or by taking out an appropriate loan. On the other hand, people usually want to have some kind of reserve in case of unforeseen expenses. One way to save money can be to open and replenish a deposit in a commercial bank. In this case, it is necessary to again take into account the vulnerability of deposits to the inflation factor.

Issuance of loans

The deposit activity of a commercial bank forms the conditions for its functioning. The formation of the bank's credit resources is its result. The placement of the attracted funds is another aspect of the bank's activities. ***Credit policy is the measures taken by the bank to place borrowed funds and receive the corresponding income***. The placement of these funds is carried out in the form of issuing loans. ***Credit is the provision of funds for temporary use and for a certain fee***. ***The lender*** is the one who issues the loan, ***the borrower*** is the recipient of the loan.

The principles of lending are: a) repayment; b) certain terms of use; c) payment; d) material security or other guarantee coverage.

Obviously, a loan ceases to be a loan if it does not have to be returned. This simple truth has to be said again, since in domestic practice there are many cases of non-repayment of loans, there are many problems associated with the creditor receiving proper compensation if the debtor fails to fulfill his obligations.

By the terms of use, loans are usually divided into short-, medium- and long-term. The terms are determined by the purpose of using the loan funds. So, if a loan is taken for the reconstruction of an enterprise, then its return can occur only after a more or less long period. If money is borrowed to pay wages or purchase raw materials, then the parties agree on short terms of using the loan.

The terms of a loan agreement usually contain an indication of what will serve as cover for the loan in the event of its non-repayment. The material collateral for the loan can be capital, securities, land, real estate and other property of the borrower.

Money has its own price. ***Interest is the price that the borrower must pay for using the loan***. The amount of interest is determined in monetary units. The interest rate is the price of the loan as a percentage of its amount. In monetary transactions, the concept of interest rate is usually used.

The amount of interest rate in the money market depends on the ratio of demand and supply of money. Demand and supply themselves are determined, in turn, by a number of factors. Among them, in particular, the current inflation rate, expected changes in the inflation rate, the stage of the economic cycle, the policy of the central bank, etc. On the other hand, the interest rate determines the magnitude of demand and supply. With a lower price of money, according to the law of demand, there is an increase in the magnitude of demand, i.e. borrowers are ready to use loans more, with an increase in the price of money - on

the contrary, less. An increase in the interest rate leads to an increase in the magnitude of the supply of loans, its decrease - a decrease.

How does credit affect economic processes?

Firstly, credit expands the investment resources of enterprises. As is known, the latter also include the depreciation fund, retained earnings, funds received from the sale of own shares, etc. Credit occupies one of the leading places in the structure of investment sources.

Secondly, credit contributes to the concentration of investment resources. Banks and other financial and credit institutions can be compared to lakes that collect mountain runoff from a certain territory. Rivers and streams of money reserved by banks can create quite large funds necessary for large investors to implement broad economic projects.

Thirdly, credit relations contribute to the effective distribution and use of monetary resources. Agree, it is one thing to get money from parents, another to borrow from friends or acquaintances. In the first case, it is often not necessary to return the money, in the second – it must be done. And this means that, having taken money on credit, using it, you need to worry about how to earn it so that after the term expires, you can return it to the lender. Banks do not issue loans to all clients in a row. They provide them only to those entities in favor of whose reliability there are appropriate documentary arguments. And reliability, the degree of trust are determined mainly by the results of economic activity. The more efficient the enterprise is, the more trust it has in creditors. This means that the bank conducts a selection, a kind of competition for the right to receive money. And this right goes, if the listed conditions are met, to those who are able to use it effectively and return it on time. And having borrowed money, the borrower will actively act to receive income, to pay off the loan agreement.

Fourthly, credit accelerates the circulation of enterprise funds, contributes to the expansion of exchange operations. Enterprise funds –

their material and financial resources – are in different forms: productive (capital, material stocks), commodity (finished products), financial (money in accounts). The economic activity of enterprises is associated with the change of these forms – raw materials are transformed into a finished product, its sale brings money, money is used to purchase resources, etc. If, for example, a gap is formed between the income from the sale of finished products and the need to pay for raw materials, then the enterprise can, in principle, stop. In this and other cases, the problem is solved by credit, which helps to accelerate the turnover, and thereby more efficient operation of the enterprise - in a certain period it can produce and sell more products, get more profit. In the above example, you can see the role of credit in expanding or accelerating trade.

All of the above gives us convincing grounds for the following conclusion: credit is an integral element of the modern economy; its use increases the level of efficiency of economic cooperation of people.

How banks create money

As noted, the modern banking system is built on the principle of fractional reserves. One of the consequences of such a banking structure is that banks have the ability to expand the money supply or create new money. Let us now consider how banks manage to do this. For example, the National Bank of Ukraine sells credit resources in the amount of 1 million UAH to one of the commercial banks. The commercial bank issued this money as a loan to a metallurgical enterprise, which used it to pay for coal. The coal enterprise, of course, has its own account in one of the commercial banks. This means that the money will go to this account, its value will increase by 1 million UAH. This money will replenish the credit resources of this commercial bank. Minus the required reserve ratio, which is, for example, 10%, the new credit resource will be 900 thousand UAH. The bank uses it by issuing a loan

to another enterprise – for example, a construction organization for the purchase of cement. After purchasing cement, an additional 900 thousand UAH will appear on the account of the cement plant, the third commercial bank. These funds will replenish the bank's credit resources: it can additionally use 810 thousand UAH for lending.

The process of multiplying credit money will continue. If there were no restrictions – the reserve requirement rate established by the National Bank of Ukraine, it would be infinite. But let's stop and draw some conclusions. As a result of the issuance of a loan of 1 million UAH by the National Bank of Ukraine (a transaction carried out by another bank can be taken as a starting point), 900 thousand and 810 thousand UAH were added to the money circulation (we interrupted our calculations here). The total amount of additional credit money can be calculated by knowing the size of the multiplier***. The money multiplier (multiplication factor) is determined by dividing 100 by the reserve requirement rate.*** So, if the reserve requirement is 10%, then the money multiplier will be 10. This means that an initial loan of UAH 1 million in our example could increase the money supply by UAH 10 million (1,000,000 x 10). The higher the reserve requirement, the less ability the banking system has to multiply credit money, and vice versa. It is obvious that borrowers must repay loans, and then the supply of credit money will decrease to its previous volume.

Other operations of commercial banks

In addition to attracting deposits, making payments, and issuing loans, commercial banks provide a fairly wide range of other banking services.

1. ***Currency exchange***. Commercial banks can buy and sell foreign currency in order to receive intermediary income. Enterprises and households pursue a wide variety of interests by buying and selling foreign currencies. For example, an importing enterprise needs foreign

currency to purchase goods abroad, while an exporting enterprise transfers proceeds in foreign currency into national currency.

2. ***Securities brokerage***. A bank can act as an intermediary when placing, for example, shares of an enterprise, or fulfill orders from its clients to buy or sell bonds, stocks, etc.

3. ***Accounting for bills of exchange***. A bill of exchange is a security that certifies the unconditional monetary obligation of the drawer to pay a certain amount to the owner of the bill of exchange (the holder) upon maturity. Accounting for a bill of exchange means its purchase by the bank, minus a certain percentage of the amount of the monetary obligation contained in the bill of exchange.

4. ***Factoring.*** This is the assignment to the bank by the client-supplier of unpaid payment claims for delivered goods or rendered services and, accordingly, the right to receive payment for them. The client experiences a shortage of his own payment instruments and, in order to accelerate cash receipts, addresses the bank with a proposal to conduct a factoring transaction. Its implementation involves the bank paying the recipient's payment obligations, taking care of obtaining the necessary funds from him in the future. For this transaction, the bank charges a certain percentage of the cost of the delivered products. Thus, factoring appears as the bank's agreement for a certain fee to repay (pay) the supplier the cost of the products and take on further settlements with the recipient. The factoring transaction is often used in foreign economic transactions.

5. ***Trust transactions***. A trust transaction is a voluntary transfer by the owner of any property, securities or funds to the bank of the right to manage these objects for the purpose of their most profitable use. The bank, performing this function, has a part of the income from the proceeds received.

6. ***Consulting***. This is the provision of banking consultations on various financial and economic issues. It should be noted that a reputable bank has extensive information resources, its specialists can

quite successfully assess various economic situations, the capabilities of enterprises, and make forecast estimates.

The above list of banking services presents only their main types, the general set of banking operations looks much wider.

10.4. CENTRAL BANK AND MONETARY REGULATION

Credit system

The credit system includes banking and non-bank financial and credit institutions (Fig. 10.4). The banking structure is represented by the central bank and commercial banks. Non-bank financial and credit institutions include: insurance companies, financial funds, credit unions, pawnshops and some other structures. These institutions perform, in particular, certain functions related to the monetary sphere. For example, credit unions can provide loans to their members, pawnshops - loans secured by certain items.

The National Bank of Ukraine is not engaged in direct lending to enterprises and households. In the credit system, the economy as a whole, it has other functions. It is a "bank of banks", the main link in the monetary regulation of the economy.

The central bank, as a rule, belongs to the state**.** ***What are the main functions assigned to the central bank?***

1. ***Monetary regulation***. By regulating the money supply in the national economy, the central bank has the opportunity to influence the level of business activity of enterprises, employment and inflation. We will specifically dwell on this aspect of the central bank's activities below. Here we note that the central bank is the only issuing center of cash. As for the supply of credit money, its expansion may be associated not only with the activities of the central bank, but, as we know, also with the work of commercial banks that are able to create (multiply)

credit money. The central bank can only limit or expand this ability of commercial banks.

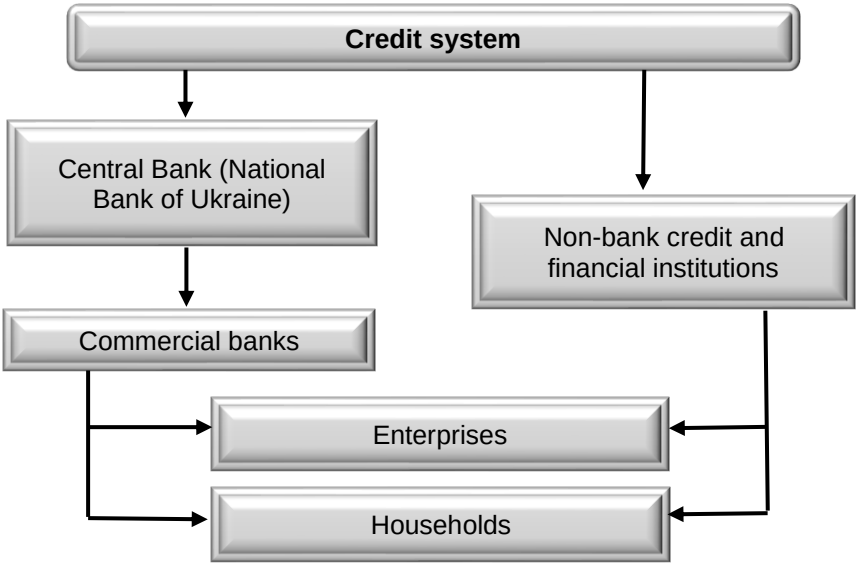


Fig. 10.4. **Structure of the credit system**

2. ***Control over the activities of commercial credit institutions***. The fractional reserve system used in banking creates a potential danger of an influx of claims and the emergence of a banking panic, as we noted earlier. The "falling domino effect", when the collapse of one financial structure causes a series of further collapses (bankruptcies), can have devastating consequences for the economy. Therefore, banking requires fairly strict "rules of the game", the development of which should be carried out by the central bank. This activity should ensure the reliability, efficiency, and security of monetary and credit settlements.

3. ***Credit and settlement services for the government***. The National Bank of Ukraine functions as a bank that serves the financial operations of the country's government.

4. ***Formation and storage of the country's official gold and foreign exchange reserves***. Any state seeks to have such reserves. They are, in particular, necessary for regulating exchange rates, ensuring certain foreign economic operations, etc.

Monetary regulation instruments

The Central Bank has a number of instruments at its disposal that it uses for macroeconomic stabilization of the economy. Their action, the entire monetary policy in general, is based on regulating the volume and structure of the money supply.

1. ***Changing the discount rate***. Fig. 10.4 shows that the central bank can lend to commercial banks. These loans, like any other, are issued for a fee. ***The discount rate is the interest rate on loans provided by the central bank to commercial banks***. By changing the discount rate, the central bank influences the processes taking place in the economy. Let's consider this with an example. Let's say the National Bank of Ukraine decided to increase the discount rate from 7 to 9%. In the money market, as in any other, the law of demand applies: the quantity of goods purchased decreases when the price per unit increases and increases when it decreases. The discount rate is the price of credit money sold by the National Bank of Ukraine. Its increase will stimulate a reduction in loans, resulting in a restriction of the money supply. The latter should be a deterrent to inflation. Conversely, a decrease in the discount rate makes the credit money of the central bank more accessible to commercial banks, which ultimately leads to an increase in the money supply, which, in turn, can become an incentive for increased business activity, increased production, and the creation of new jobs.

2. ***Changing the reserve requirement***. We have already noted that commercial banks must reserve some part of the funds from accepted deposits. These payment funds cannot be used by commercial banks for

lending. ***The reserve requirement is a mandatory reserve of payment funds that a commercial bank must have in relation to the number of accepted deposits***.

The reserve requirement of commercial banks of Ukraine is set by the National Bank. It can be differentiated by type of deposits. As a result of applying the reserve requirement, the credit capabilities of commercial banks are limited: actual credit resources become less than potential.

By changing the reserve requirement, the central bank affects the amount of money supply. An increase in the reserve requirement will mean a restriction of the money supply, a decrease in the ability of commercial banks to create money through lending, and a decrease will mean an expansion of the money supply, an increase in the specified ability. We have already considered the consequences caused by changes in the money supply above.

3. ***Conducting operations on the open market***. The state in the economy also acts as a seller and buyer of securities. Open market operations are called operations of the state to buy and sell its securities, which are carried out with households and enterprises. The main subject of purchase and sale for these operations are government bonds. When the state buys securities from commercial banks, enterprises and the population, it makes cash payments and thereby increases the money supply. In commercial banks, in particular, credit resources increase and lending potential increases. If the state sells securities, this leads to a decrease in the money supply, since the lending potential of commercial banks decreases.

In foreign economies, this instrument of monetary policy plays a significant role. The possibilities of its application in a particular national economy largely depend on the authority of the state and the degree of trust in it by business entities and the population, the conditions of securities circulation, and the financial condition of the state. In Ukraine, this instrument is actually used: in different years with

different degrees of activity, it is an element of the state's monetary and financial policy.

Two options for monetary policy

Depending on the goals that monetary policy is aimed at, as well as the procedure for applying regulatory instruments, it is customary to distinguish between restrictive and expansionary monetary policy (Table 10.2).

Table 10.2

Content and objectives of restrictive and expansionary monetary policy

Regulatory instruments and objectives	Restrictive policy	Expansionist policy
Instruments		
Discount rate	Increases	Decreasing
Reserve rate	Increases	Decreasing
Open market operations	Sales of government securities	Purchasing government securities
Objectives	Decrease in inflation	Expanding production, reducing unemployment

Restrictive monetary policy ("***expensive money policy***") is carried out by limiting the money supply and is aimed at curbing inflation. It involves raising interest rates on loans, making credit resources less available, and reducing investment spending. As a result of this policy, aggregate demand decreases and the growth of the general price level in the economy is restrained. Thus, the goal of expensive money policy is to restrain inflationary pressure. At the same time, restrictive policy carries the risk of increasing unemployment, which is associated with a decrease in investment spending and the level of business activity.

Expansionary monetary policy ("***cheap money*** policy") is carried out by expanding the money supply and is aimed at stimulating growth in production and employment. Its implementation is associated with a decrease in interest rates on loans, expanding the availability of loans. The result of the corresponding actions (they are indicated in Table 10.2) is an increase in investment spending (according to monetarists, also other elements of aggregate spending), an increase in aggregate demand, and as a result – an increase in production volumes, an expansion of the number of jobs. At the same time, expansionary policy poses a threat of accelerating inflation.

Monetary policy assessments

The issue of the effectiveness of monetary policy remains a subject of serious controversy. Keynesian economists consider it a less reliable and effective means of stabilizing the economy compared to fiscal policy. In particular, they point to the very complex transmission mechanism of monetary policy, the existence of many dangers of failures in it. Monetarists, on the other hand, consider monetary policy to be a key factor in determining the level of economic activity and achieving macroeconomic stabilization.

We have already covered various aspects of this dispute on several occasions. For example, in Chapter 5, when considering the causes of inflation, we drew attention to the fundamental difference between Keynesians and monetarists in the issue of the velocity of money: the former consider it unstable and unpredictable, the latter - on the contrary. This contradiction also gives rise to inconsistent assessments of the possibilities of monetary policy.

However, despite the differences in approaches and assessments, most economists agree that monetary policy is an integral part of national stabilization policy. Monetary regulators are perceived as effective instruments of macroeconomic stabilization. Together with

fiscal and budgetary ones, they form the basis of modern macroeconomic regulation.

Brief conclusions

1. Money is a generally accepted means of payment for any goods and services. Money supply is the amount of generally accepted means of payment in the country's economy. It consists of cash and credit money. Credit money is the payment obligations of certain business entities.

2. A commercial bank is a financial institution that accepts deposits and issues commercial loans. The modern banking system operates on the principle of fractional reserves. The reserves of a commercial bank are its assets that can be used to meet the demands of depositors. The degree of liquidity of assets is determined by how quickly and at what cost these assets can be sold. The fractional reserve banking system allows commercial banks to create credit money, and also carries the potential threat of a massive influx of demands for withdrawal of deposits.

3. Taking money for deposit, the bank pays interest – a fee for the right to use money. Interest can be nominal (the amount of money received) and real (which is ahead of losses from inflation). Depositors place money for the purpose of making payment transactions, receiving income, and accumulating.

4. Credit is the provision of funds for temporary use and for a certain fee. In addition to banks, credit services are provided by insurance companies, financial funds, and other non-bank financial and credit institutions. Credit contributes to the effective distribution of investments, expands the investment resources of enterprises, helps them concentrate, accelerates the circulation of enterprise funds, and expands exchange operations.

5. In addition to mobilizing temporarily free funds and issuing loans, commercial banks carry out a number of other operations: currency exchange; brokerage operations with securities; accounting for bills of exchange; factoring; trust operations; consulting, etc.

6. The Central Bank performs the functions of monetary regulation, control over the activities of commercial banks, monetary services to the government, formation and storage of the country's official gold and foreign exchange reserves.

7. The instruments of the stabilization monetary policy of the central bank are: changing the discount rate, changing the reserve requirement, conducting open market operations. Restrictive monetary policy is carried out by limiting the money supply and is aimed at curbing inflation. Expansionary monetary policy is carried out by expanding the money supply and is aimed at stimulating the growth of production and employment.

Basic terms and concepts

Money
Functions of money
Cash money
Credit money
Money supply
Monetary aggregates
Liquidity of means of payment
Commercial bank
Deposit policy of a commercial bank
Types of deposits
Main goals of depositors
Current deposits
Credit
Creditor and borrower

Commercial bank reserves
Interest
Credit policy
Reserve ratio
Degree of asset liquidity
Monetary multiplier
Role of credit
Promissory note
Consulting
Trust
Factoring
Functions of the central bank
Open market operations
Restrictive monetary policy
Expansionist monetary policy

Questions for reflection and discussion

1. Is Bitcoin a currency? Analyze the arguments for and against.

2. As is known, only the central bank can issue money. Can the activities of commercial banks increase or decrease the amount of money in circulation? What monetary aggregate can this affect?

3. Analyze the dynamics of the reserve requirement ratio, which has been in effect in Ukraine over the past 10 years. Why did the NBU change this ratio, what caused these changes, and what consequences did they have for the economy?

4. In recent years, the National Bank of Ukraine has changed the discount rate several times (in different directions). What caused such changes? How did this affect the cost of attracting deposits from the population to banks? Did the change in the discount rate affect interest rates on loans? Find factual confirmation of your thoughts.

CHAPTER 11. FOREIGN ECONOMIC POLICY MECHANISM

The economy of Ukraine, like any country, is not a closed system. This is easy to see. Look at where the things you use every day are made. You will probably find many goods of foreign origin among them. At the same time, many Ukrainian goods are used by households and enterprises in other countries. Our life would be worse, the degree of satisfaction of needs would be lower, if our country did not carry out economic cooperation with other countries of the world. And how this cooperation is established is of great importance.

In the analysis of phenomena at the micro and macro levels, we usually abstract from the external factor. However, in reality its role is so great that we can talk about another aspect of economic theory – megaeconomics. ***Megaeconomics is a branch of economic science that studies the functioning of the world economy, which is formed as a result of the interaction of national economies***. This chapter is devoted to the study of the principles of international economic cooperation and the foreign economic policy of the state.

11.1. UKRAINE IN THE GLOBAL ECONOMY

The essence of the world economy

Today, no country can ensure the normal economic development of its economy without cooperation with other countries. The closeness of ties, the level of dependence of one country on others allow us to conclude that there is a special economic formation – the world economy. ***The world economy is a set of national economies that are***

interconnected and interact on the basis of the international division of labor.

The emergence of the world economy was a consequence of ***the internationalization of economic life, which is understood as the process of establishing and deepening stable ties between enterprises of different countries and countries in general***. On the one hand, internationalization rationalizes and optimizes production conditions, allows, through specialization and cooperation, to reduce the costs of obtaining a unit of output, improve the satisfaction of consumer needs in various goods, increase labor productivity and increase total production volumes. On the other hand, the dependence of the national economy on the world economy is increasing. After all, the conditions of sales are now determined both by internal circumstances and by the state of demand for products of national production in other countries. In addition, national economic entities purchase a significant number of resources and consumer goods on foreign markets. Such dependence is constantly manifested in Ukraine: the dynamics of its national economy largely depends on the state of prices on the world market. Schematically, the contradictory consequences of the internationalization of the economy are presented in Fig. 11.1.

The basis of the internationalization of economic life is the international division of labor, i.e. the specialization of individual countries within the world economy in the production of certain types of goods and services with the aim of selling them on foreign markets.

The factors of specialization of a country are:

1. *Geographical location and natural and climatic conditions* – access to the sea, proximity, remoteness, accessibility to individual markets, features of the climate, quality and relief of the land, etc.

2. *Resource capabilities* – availability of mineral, labor and other types of resources.

3. *Historical and cultural features* – the presence of historical monuments, the originality of culture that attracts tourists.

4. *Historical traditions, experience* – original types of production, unique technologies, etc.

Fig. 11.1. **The contradictions of the consequences of the internationalization of production**

In modern conditions, the process of international division of labor continues to develop. It reveals the following trends:

a) *increasing shortage of national natural resources or worsening mining and geological conditions for their extraction*. Countries that find themselves in such a situation seek to solve their problems by increasing imports of raw materials and energy resources;

b) *intensifying competition in the national market, which stimulates the search for new sales markets, primarily abroad*;

c) *the emergence of the opportunity to reduce production costs by attracting cheaper labor or using foreign capital, technology and management experience*;

d) *the search for ways to increase the competitiveness of their goods by organizing their production abroad in order to save on transportation costs and avoid paying customs duties*.

Globalization

The most important concept characterizing the processes taking place in the modern world is ***globalization***. The frequency of use of this word in scientific publications and political speeches suggests that there are no people left who are indifferent to the processes of increasing interdependence taking place in the world economy.

Globalization should be considered primarily as a modern stage in the development of the world economy. In the history of the development of the world economy, we distinguish the following stages:

1. ***The stage of world trade***. It begins during the period of geographical discoveries of the 15th–16th centuries, when the emergence of the world economy as a social phenomenon and the formation of economic relations between countries are observed. It is characterized by:

- the absolute predominance of foreign trade in international economic relations;
- the inequality of relations and the non-equivalence of exchange;
- the absence of stable relations and a legal basis for regulating international economic relations;
- the frequent use of violence in international relations.

As a result of the development of trade, an international division of labor begins to form. Specialization arises, which is based primarily on the uneven distribution of natural resources and the specifics of climatic conditions.

2***. The stage of foreign investment*** begins in the second half of the 19th century. The distinctive features of the second stage are:

- active development of such a form of international relations as foreign investment. They indicate a higher level of close ties between countries, an orientation towards the stability of relations, which implies trust of states in each other;

- improvement of forms of world trade. New objects of purchase and sale are intellectual property (patents, licenses), know-how, information, etc.;

- emergence of new forms of foreign economic relations – international labor migration, scientific and technical cooperation, etc.

The increasing closeness of ties and interdependence of national economies prepares the prerequisites for the transition to the third stage.

3. ***The stage of economic integration***. It begins in the middle of the 20th century**. *Economic integration is the mutual intertwining of production processes of different countries, which requires the implementation of a coordinated policy***. Among its signs are:

- active development of production activities abroad on the basis of vertical and horizontal integration;

- creation of international economic organizations that coordinate the activities of entities of different countries to achieve common goals;

- emergence of deeply integrated regional associations of countries.

4. ***The stage of globalization***. Its beginning falls on the second half of the 80s of the 20th century. If economic integration was most clearly realized only at the level of individual regions (Western Europe, Latin America, countries of Southeast Asia, etc.), then globalization becomes a planetary phenomenon. This is manifested primarily in the standardization of all aspects of the life of the world community. Globalization goes beyond the traditional economic phenomenon. There is a universalization of the economic, social, political, and spiritual spheres of activity of countries. The influence of different aspects of human life on each other is growing sharply. This phenomenon has been called ***universalization***.

The main features of globalization are:

- achieving a high level of dependence of national economies. No country can effectively develop outside the world community. On the

other hand, the normal course of events within the world community is disrupted if a separate country drops out of it for some reason;

- convergence of national price levels for the most important goods (especially energy and raw materials);

- formation of world markets for investment resources;

- creation of a global infrastructure of financial markets. This creates the possibility of rapid flow of financial resources from one country to another, creating the threat of exporting financial shocks. Evidence of this is the financial crises of 1997-1999, 2008-2009;

- recognition by the absolute majority of countries of the same human values as priority (human rights, the right of nations to self-determination, etc.).

The objective basis of globalization is the internationalization of production, the logic of the development of productive forces. However, its immediate prerequisites were:

- the information revolution, which provided the technical basis for the creation of global information networks;

- the internationalization of capital and increased competition in world markets;

- the shortage of natural resources and the intensification of the struggle for control over them;

- the demographic explosion;

- the increase in the technogenic load on nature and the spread of weapons of mass destruction, which increases the risk of a general catastrophe.

Globalization is associated with homogenization, i.e. the invasion of everyday life and corporate governance by uniform rules (standards). The establishment of international standards such as GAAP or ISO is the prerogative of national and supranational economic and financial institutions, participants in various agreements, professional organizations in accounting and auditing, securities, and intellectual property.

Consequences of globalization

There is no unity among scientists and politicians around the world in assessing the consequences of globalization for individual countries and for humanity as a whole. There is an opinion that globalization opens up unprecedented opportunities for the spread of advanced technologies throughout the world, the elimination of economic and social contradictions, and therefore it is necessary to force the introduction of a new economic order, primarily through financial markets, loans and investments, global firms, and information technologies. Another position is based on highlighting the potential negative consequences that globalization entails. Its supporters (anti-globalists) call for every possible restraint of this process, the search for ways to protect against it.

It should be recognized that globalization is an objective process, and neither a single country nor even a union of states can cancel it. At the same time, one cannot help but see that the consequences of globalization for different countries differ significantly. And therefore, the degree of their interest in promoting or counteracting globalization is different.

Most often, developed countries from the so-called Center are interested in promoting globalization. Underdeveloped countries (periphery countries), as a rule, are restrained in their attitude towards globalization or try to actively resist it. World practice provides examples of achieving economic development successes both as a result of playing along with globalization ("new industrial countries") and as a result of active opposition to it (China).

To develop an optimal policy on globalization, it is necessary to assess the possible gains and losses from it for a particular country. Table 11.1 presents the arguments "for" and "against" globalization in relation to Ukraine.

Table 11.1

Assessment of the possible consequences of globalization for Ukraine

Arguments for	Arguments against
1. Opportunities to more fully use the advantages of the international division of labor 2. Obtaining assistance from international financial organizations to solve internal problems 3. Access to world markets for competitive knowledge-intensive industries 4. Using the experience of economic transformations in other countries for the market transformation of the Ukrainian economy	1. Narrowing of the "corridor of freedom of choice" of economic and political actions 2. Recognition of one's peripheral place in the world, preservation of the peripheral position 3. Degradation of uncompetitive industries, growth of unemployment 4. Loss of national identity and color, loss of part of the national culture 5. Loss of the right to search, error, and possibly even success

As can be seen from it, the complexity of the situation lies in the fact that, on the one hand, Ukraine can gain from globalization the benefits that the developed countries of the Center are focused on (for example, access to world markets with competitive products), and on the other hand, the threats inherent in underdeveloped countries are real for it. The difficulty of identifying the Ukrainian economy lies in the fact that elements of all technical and economic systems have been mixed here. Individual industries are able to compete quite effectively with the best world producers. However, for example, ferrous metallurgy and mining are typical industries of the industrial system. In general, in terms of GDP per capita and general standard of living, Ukraine is classified as a developing country. There is still a long way to go to reach the level of the group of developed countries of the world.

Ukraine's policy on globalization

All this determines a certain specificity of the choice of Ukraine's policy on globalization for a more complete realization of national interests. The main directions of state policy in the aspect of globalization are as follows:

1. ***In the economic sphere***:

- state support of those industries that can compete on equal terms with the world's leading producers to conquer a part of the world market and benefit from absolute economic advantages;
- protection of the domestic market of those goods whose producers in the domestic market of the country are unable to effectively compete with foreign firms while simultaneously stimulating the increase of their competitiveness;
- transition to an innovative type of economic growth based on the use of the country's existing scientific, technical and educational potential;
- creation of equal investment conditions for domestic and foreign investors; encouragement of foreign investments in cash to achieve an internal multiplier effect;
- expansion of the possibilities of using internal sources for investment activities and state borrowing; use of external state loans only for such innovative projects that are able to bring the economy closer to the Center of the world community.

2. ***In the political sphere:***

- consistent strengthening of the country's political independence, its statehood. This is possible, since it has been noted that the processes of globalization in the economic, informational, and cultural spheres are closely related to the processes of national identification. This phenomenon has been called the "paradox of J. Naisbitt";
- convergence of domestic legislation with the norms generally accepted in developed countries.

3. ***In the sphere of international initiatives***:

- cooperation with the world community in solving the most acute problems of the monetary and financial sphere, ecology, health care, and the fight against crime and terrorism;

- use of regionalization trends inherent in the modern world to realize national interests, strengthen bilateral relations with neighbors; in the future - accession to the European Union.

Thus, the optimal policy for Ukraine can be considered one that allows it to make the most of the new opportunities opened up by globalization and minimize its negative consequences. The implementation of this policy is possible only with the active, balanced participation of the state.

11.2. INTERNATIONAL ECONOMIC RELATIONS

International trade

Just as the division of labor between enterprises within a country leads to the emergence and development of commodity production, the international division of labor gives rise to international trade. This is the oldest form of international economic relations. Typically, the volume of world trade grows faster than the volume of world production, although in recent years there has been a tendency for their rates to converge. The largest world traders today are China, the USA, Germany, and Japan. The top ten largest traders include France, the UK, Italy, Canada, the Netherlands, and Hong Kong.

Every time a country enters into international trade relations, it must decide on the choice of goods for export and import. The problem is easily solved when the country has ***absolute advantages*** in the production of any product. For example, the countries of the Middle East have the lowest costs of oil production in the world.

But specialization is not always based on the principle of absolute advantage. The participation of countries in the international division of labor can be based on the ***comparative advantages*** of a particular country in the production of a certain commodity. This fact was noted by D. Ricardo back in 1817. The benefit from foreign trade in this case will consist in obtaining as a result of specialization and exchange a larger number of goods of better quality compared to the possibilities of their production within the country at the same costs.

The state of foreign trade activity of a country is most often characterized by comparing the value of exports and imports, or the ***trade balance***. The sum of exports and imports is called ***foreign trade turnover***, and the difference, or the balance of trade balance, is called ***net exports***. A positive balance of trade balance means an excess of exports over imports, a negative balance means an excess of imports over exports. Which state is better for a country?

There is no unambiguous answer to this question. A significant positive trade balance indicates that part of the GDP generated in the country is consumed abroad, and imports do not compensate for the reduction in domestic consumption. In addition, the money thus obtained from exports and not used to pay for imports can be one of the factors strengthening inflationary processes, since the money supply increases without the corresponding commodity coverage.

If imports exceed exports for a long time – a negative balance, the problem of paying for imports arises. Quite often, the source of payment for imports in such cases is loans. Therefore, a negative trade balance can lead to an increase in the country's external debt and negatively affect its development. However, since the export of goods is not the only source of receiving foreign exchange, and imports are not the only direction of their use, the trade balance can be considered as a component of the overall balance of payments.

State foreign trade policy

The state of a country's foreign trade relations is largely determined by the type of foreign trade policy pursued by the state. Since the times of mercantilism (15th–18th centuries), two types have been known: protectionism and liberalism. ***Protectionism is an economic policy of the state aimed at promoting the development of the national economy by protecting it from foreign competition***. Most often, the state uses the following tools in its implementation:

- ***the establishment of duties***. *A duty is a special state tax on goods imported into or exported from the country*. As a rule, duties are used to generate revenue for the state budget, protect national producers from foreign competition, regulate the supply of goods on the domestic market, carry out anti-dumping measures, and regulate the country's balance of payments;

- ***the introduction of special quotas***. *These are quantitative restrictions on the import or export of certain goods that are introduced for a certain period of time*. In world practice, the so-called voluntary quotas are becoming widespread. For example, Japan "voluntarily" limits the number of its cars delivered to the United States, and the latter does not apply increased duties to their imports;

- ***licensing of exports and imports***. This means issuing special permits for foreign trade operations with certain goods.

Liberalism, or free trade, provides for free trade and limited state intervention in foreign economic activity. At the same time, duties that restrict exports or imports are minimized, and a free procedure for importing and exporting goods is established. Liberalization of foreign trade can be considered one of the trends of the modern world economy. There are associations of countries (for example, the European Union) in which duty-free trade is conducted.

Protectionism is also undergoing changes. In this policy, the main emphasis today is not on restricting imports, but on encouraging the export of national goods in every possible way.

The choice of a particular country of a particular foreign trade policy is determined primarily by the degree of competitiveness of its national products and the state of the foreign trade balance. The underdevelopment of the national economy and the negative balance of trade contribute to the implementation of protectionist policies. Confidence in the ability of national producers to compete on equal terms with foreign ones encourages free trade.

International resource movement

Each national economy has a certain set of resources: capital, land, labor, entrepreneurial skills. To some extent, these can also include monetary capital, the presence of which is a prerequisite for the real attraction of production resources. The modern stage of world economic relations has given dynamism to resources, has led to their acquisition of the ability to move from one country to another on a significant scale. This has caused ***foreign investment and labor migration***.

The ultimate goal of investment is to make a profit. Therefore, entrepreneurs are constantly looking for a sphere of application of their capital with a higher return. The development of foreign economic relations gradually expands the boundaries of the search, takes it beyond the boundaries of the national economy. Since there are stable interstate differences in resource prices, taxes, levels of development of individual industries, the state of competition, etc., a natural difference in the profitability of investment also arises. Complemented by sufficient development of international trade and political stability, the above encourages the movement of capital from one country to another

in order to obtain greater profits, which is the content of foreign investment.

Foreign investments can be carried out in various forms (Fig. 11.2). Depending on the subject of investment, they can be divided into ***private and public investments***. The latter, as a rule, do not aim at maximizing profits and are carried out not because they are not sufficiently effectively used within the country. The motive for public foreign investments is most often political goals and national interests.

Private investments are divided into direct and portfolio investments. ***Direct investments give the investor the right to exercise control over the activities of a foreign enterprise; portfolio investments do not provide such a right***. Based on the ratio of direct and portfolio investments, conclusions can be drawn about the role of foreign capital in the country's economy.

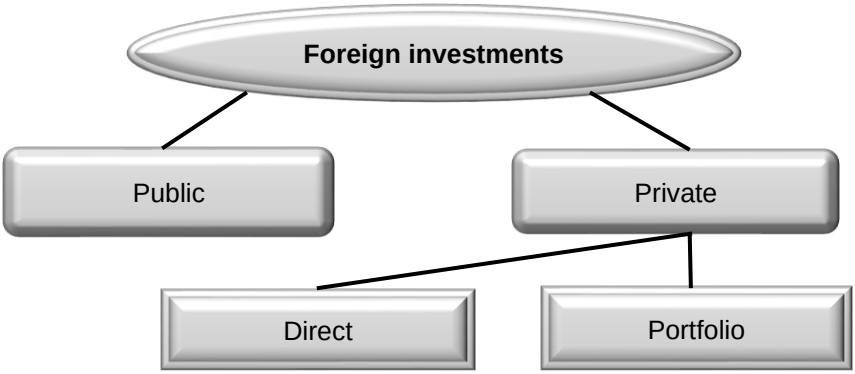


*Fig. 11.2***. Forms of foreign investment**

Foreign investment has different effects on the economy of the exporting and receiving countries. ***For exporting countries***, this effect is manifested in the following:

1. Higher average profitability of investments is achieved due to their outflow from the least profitable industries in the country and placement in more profitable areas abroad.

2. Favorable conditions are created for increasing exports of a number of goods. Construction of enterprises by firms also encourages them to export equipment from the exporting country.

3. The pace of economic growth slows down. The movement of capital to other countries restrains the growth of the potential production capabilities of the exporting country, which negatively affects economic development.

The receiving country, as a rule, feels the impact of foreign investment in the following areas:

1. Along with foreign investment, modern equipment and technologies enter the country. However, it is necessary to realize that this, as a rule, is not new, but something that has been used in the exporting country for a long time. Therefore, it is very difficult to become a world leader, focusing only on the import of foreign capital.

2. Initially, the pace of economic growth accelerates with the subsequent threat of their slowdown. Foreign investment is doping for the national economy. It begins to develop faster. But over time, part of the GDP created in the country, in the form of foreign investor profits, will go abroad, which will negatively affect the pace of economic growth.

3. Internal competition intensifies, which, on the one hand, pushes national producers to work more efficiently, and on the other hand, can lead to their destruction in the event of insufficient competitiveness.

Therefore, the host country should be very careful about developing a state policy in the field of foreign investment. It is especially important to realize the contradictory impact of foreign investment on Ukraine, which is a recipient country.

In addition to the movement of capital, in modern conditions there is ***a significant movement of such a resource as labor from country to country***. Modern labor migration is a consequence of a fairly high degree of development of the processes of internationalization of

economic activity, when world labor markets appear alongside world commodity markets.

The reasons for labor migration can be:

- ***national differences in wages***. Significant differences between countries in terms of development level, social guarantees provided, historical traditions, etc. lead to the fact that the same work in different countries is paid differently. It is known that an employee who performs unskilled work in the USA receives several times more than many people in Latin American countries;

- ***national characteristics in the level of unemployment and employment structure***. In many underdeveloped countries, unemployment reaches 30-40%, while in developed countries it usually amounts to 6%. In addition, in developed countries there is a significant number of unfilled jobs, which is associated with their lack of prestige. Immigrants most often apply for such work;

- ***the preferential attitude of employers towards foreign workers***. The fact is that immigrants, as a rule, cannot take advantage of the labor rights and social guarantees provided to national workers. Therefore, hiring a foreigner is cheaper for the employer.

Coordination of international economic relations

The scale of foreign economic relations, their closeness, diversity and significance for national economies require the formation of an appropriate international legal regime. Just as within each country the state develops the "rules of the game" for economic entities, so in the world economy various interstate agreements determine the regime of activity of entities of world economic relations. In this case, it is necessary to highlight the main functions of regulating world economic relations:

- ***protection of the market and competition***. Threats come primarily from transnational corporations that become world

monopolists and suppress competition. In addition, unfair competition often manifests itself, one of the forms of which is ***dumping***. ***Dumping is the sale of goods in the markets of other countries at prices significantly lower than the level normal for these countries***. In this case, the country importing the goods has the right to impose on it above the usual rate also the so-called ***anti-dumping duty***.

The most difficult thing in proving the fact of dumping, as a rule, is to determine the normal price level. Most often, the alleged dumping prices are compared with the prices for a given or similar product prevailing during a certain previous period in the country where dumping is carried out, or in the markets of third countries. A significant argument in confirmation of dumping is the fact of sale at prices below production costs;

- ***coordination of efforts to solve common problems***. Common problems for countries participating in international relations are, for example, the stability of the international monetary system, solving global environmental problems, etc.;

- ***interstate guarantees of private entrepreneurship***. This, in particular, applies to the adoption of measures to protect foreign investments, the elimination of double taxation, etc.

The most important role in regulating world economic relations is assigned to ***international economic organizations***. At the beginning of the 21st century, there were about 400 of them. The most influential among them are:

- ***International Monetary Fund*** (IMF). Created in 1944 to promote the development of international trade and monetary cooperation by establishing norms for regulating exchange rates and monitoring their observance, a multilateral payment system and eliminating currency restrictions, as well as to provide credit resources to its members during currency difficulties;

- ***International Bank for Reconstruction and Development*** (IBRD, World Bank). Created in 1945 to stimulate the economic

development of member countries, promote the development of international trade, and support balances of payments;

- ***European Union*** (EU). Its prototype was created in 1957 by six European states (Belgium, France, Germany, Italy, Luxembourg, the Netherlands). Later, they were joined by Denmark, Ireland, the UK, Greece, Portugal, Spain and other European countries. Today, 27 European countries are members of the EU. In the economic sphere, the EU is developing towards the creation of a single internal market and a single banking system using a common currency.

11.3. EXCHANGE RATE

Exchange rate and foreign trade

A distinctive feature of international economic transactions is the participation of currencies of at least two countries in them. The buying party, for example, Ukraine, is ready to pay for the delivered goods in its national currency, but the selling party, for example, Poland, expects to ultimately receive the currency of its country. Therefore, the transaction will take place either when the buyer of the goods first purchases the seller's currency, and then pays for the delivery, or when the seller agrees to receive the buyer's national currency in payment for the delivery of the goods with its subsequent sale. It is possible that countries will generally use the currency of a third country in their settlements (as is most often the case). In any case, there is a need for another market – ***the currency market***. Usually, the concept of "currency" is used to denote the monetary unit of a certain country or group of countries. The currency is the US dollar, the euro, the Japanese yen, etc.

The first problems of the proportion of the exchange of one currency for another in international calculations arose in connection with foreign trade. In the gold-based monetary system, exchange took

place according to the weight of the coins. Later, when the scope of exchange of national currencies expanded significantly, and their connection with gold became indirect, currency markets began to form, where different currencies were the objects of purchase and sale. Their specific prices – exchange rates – were formed. ***The exchange rate is the value of the national currency expressed in the monetary units of another country, or the value of a foreign currency expressed in national monetary units***.

This or that ratio of national and foreign currencies has a very strong impact on the foreign economic activity of the country, primarily on foreign trade. Let's consider this with an example. Suppose that in some base period one Polish monetary unit (zloty, PLN) corresponded to 10 Ukrainian monetary units (hryvnia, UAN), or 1 PLN = 10 UAN. Let's analyze how the increase in the hryvnia exchange rate will affect the export of Ukrainian and import of Polish products: 1 PLN = 9 UAN. This will mean that if in the base period a sugar refinery, having earned 2 million zlotys for its products on the Polish market, could receive 20 million UAH for them, now the same amount is converted into only 18 million UAH. In order to maintain the previous revenue in hryvnias, the exporter will be forced to raise prices, which may adversely affect the competitiveness of its products on the other market. On the contrary, in this situation, imports from Poland become more profitable. Polish exporters, when converting the same revenue received in hryvnias into Polish currency, will receive 1.11 times more. This makes them interested in supplying products to the markets of Ukraine, and even allows them to slightly reduce prices, thereby increasing the competitiveness of their products. The opposite situation will be observed when the hryvnia exchange rate against the Polish national currency decreases.

Thus, an increase in the national currency makes exports less profitable and encourages imports; a decrease - interests exporters and limits imports into the country.

State regulation of exchange rates

The influence of many factors on the exchange rate makes its dynamics difficult to predict. With an unstable exchange rate, foreign partners face an increased degree of risk when concluding contracts and may prefer domestic trade. An unpredictably changing exchange rate deters foreign investment. This has had a particularly pronounced effect on the dynamics of foreign investment in the economy of Ukraine in the last decade. After all, even having received the planned amount of profit in the national currency, when converting them into dollars, the desired level of profitability may not be ensured. Therefore, an unstable exchange rate (and free exchange rates do not guarantee such stability) deters the development of trade relations. In addition, rapidly changing exchange rates can have a destabilizing effect on the national economy, causing inflationary or deflationary processes. This is especially true for countries with a significant share of foreign trade turnover in GDP. Therefore, many states seek to influence the exchange rate, using the available levers of influence on the demand and supply of foreign currency.

State regulation of exchange rates brings a number of advantages: it ensures the stability of the conditions of foreign economic activity, reduces currency risks, and increases the chances of accurately predicting the results of trade and investment operations. In general, the problem of maintaining a certain exchange rate can be reduced to the problem of maintaining the ratio of demand and supply of foreign currency at a constant level.

If, due to the active balance of payments, the demand for foreign currency turns out to be lower than the supply, threatening an increase in the national currency exchange rate, the state acts as a buyer, thereby increasing its official reserves. If conditions are created for a decrease in the national currency exchange rate, the state conducts currency

intervention: it begins to sell foreign currency, thereby increasing the supply and reducing official reserves.

Manipulation of official reserves is the main method of state support for the national currency exchange rate. However, its use assumes the availability of sufficient official reserves. They can be formed mainly with the help of the active balance of payments in previous years. But if a passive balance of payments is observed for a long time, even the most significant official reserves are exhausted.

Another common method of state support for the exchange rate is trade policy. Encouraging or restraining export or import activity, the state can increase or decrease demand and supply in the foreign currency market, seeking to preserve the previous coordinates of the intersection point of their graphs.

To regulate exchange rates, the state can resort to strict administrative measures. Among them, the method of rationing the use of foreign currency stands out, one of the options of which has been used in Ukraine for a long time. According to it, all subjects of foreign economic activity are obliged to sell a fixed part of their foreign currency revenue to the state, which distributes it itself, determining the most important import items in its opinion. In such a situation, imports are limited to actual export revenue. Part of the demand for foreign currency remains unsatisfied.

However, as experience shows, strict currency control has a number of ***negative consequences***. In particular, the role of the subjective factor in determining import needs is increasing. The market mechanism is practically disabled, and the determination of economic entities (who should be given the opportunity to import products) becomes the prerogative of state structures. This gives rise to discrimination and voluntarism. In addition, many entrepreneurs who really need currency are ready to pay more for it than is established by the fixed rate. A "shadow" currency market arises, not controlled by the state.

The state can regulate the exchange rate by implementing an ***appropriate domestic macroeconomic policy***. For example, in the event of a threat of a depreciation of the Ukrainian national currency due to a faster growth in national income than in other countries and a corresponding increase in demand for foreign currency, the state can increase taxes and thereby restrain the increase in the purchasing power of the population.

One of the most important aspects of the state's regulation of currency transactions is the regime it has chosen and the scope of application of the national currency. Depending on this, the currency is divided into *non-convertible, partially convertible and freely convertible*.

If the currency is used only to service internal economic processes and is not exchanged for foreign currencies, it can be called non-convertible or closed. In this case, the state introduces bans on the export and import of foreign and national currencies, their purchase and sale. This regime is used, as a rule, in underdeveloped countries.

Many countries in the world use the so-called partially convertible currencies. In this regime, bans on the use of foreign currency are maintained either for individual transactions or for individual entities. For example, you can provide freedom to pay in foreign currency for current transactions (export-import transactions, private money transfers abroad, etc.), but prohibit the import of foreign currency for investment.

Partial convertibility is considered internal when the state restricts foreign currency transactions for residents, i.e. individuals permanently residing and legal entities registered in this country, but does not prohibit currency transactions for non-residents, i.e. all other entities. Partial convertibility will be external if the right to carry out foreign currency transactions is not granted to non-residents, but they are not prohibited for residents.

A freely convertible currency is freely exchanged for other foreign currencies in all types of transactions: current – related to everyday foreign economic activity, credit and foreign investments. Such currencies include the US dollar, Canadian dollar, national currencies of the European Union, Switzerland, Sweden, Japan, etc. It is freely convertible currencies that form the basis of the modern international monetary system.

Brief conclusions

1. The modern world economy is developing under the influence of globalization processes, characterized by the general economic dependence of the national economies of the world, the convergence of national price levels for the most important goods, the creation of a global infrastructure of financial markets, the recognition by the absolute majority of countries of the same human values as a priority. When developing a state foreign economic policy, it is necessary to strive to maximize the benefits of globalization and neutralize its possible negative consequences.

2. The oldest form of international economic relations is foreign trade, based on the international division of labor. The international division of labor is based on both the absolute and comparative advantages of a country in the production of any goods. The benefit for a country from foreign trade consists in obtaining, through specialization, a greater number of goods of better quality than could be produced domestically at the same cost.

3. Protectionism is an economic policy of the state that promotes the development of the national economy by protecting it from foreign competition. Liberalism provides for free trade and limited state intervention in foreign economic activity.

4. Modern forms of movement of resources and money from one country to another are foreign investment and labor migration. Foreign

investment as an investment in the economy of other countries can be carried out in the form of public and private investment. The latter are divided into direct or portfolio.

5. The reasons for labor migration are national differences in wages; national features in the level of unemployment and the structure of employment; advantages that foreign workers can receive when employed.

6. In the world economy, the "rules of the game" are formed by various interstate agreements. The main areas of regulation of international relations are: protection of the market and competition, coordination of efforts to solve common problems, interstate guarantees of private entrepreneurship.

7. Exchange rate is the value of the national currency expressed in the monetary units of other countries, or the value of a foreign currency expressed in national monetary units. An increase in the exchange rate of the national currency makes exports less profitable and encourages imports. A decrease in the exchange rate of the national currency attracts exporters and limits import operations.

8. State influence on exchange rates can be exercised by manipulating official reserves, by conducting an appropriate foreign trade policy, by rationing the use of foreign currency, and by implementing domestic macroeconomic policy.

Basic terms and concepts

World economy
Internationalization of economic activity
International division of labor
Stages of development of the world economy
Economic integration
Globalization
International trade

Absolute advantages
Comparative advantages
Foreign trade turnover
Trade balance
Protectionism
Tariffs
Dumping
Liberalism
Foreign investment
Direct and portfolio investment
Labor migration
International economic organizations
Currency
Exchange rate
State regulation of exchange rates
Currency convertibility

Questions for reflection and discussion

1. Analyze the changes in Ukrainian exports (volumes and structures) over the past five years. What are the reasons for them and what are their consequences?

2. Analyze the changes in Ukrainian imports (volumes and structures) over the past five years. What are the reasons for them and what are their consequences?

3. Many people say that the dollar is significantly overvalued in Ukraine today. What facts can testify to this? Compare the market exchange rate of the dollar with its exchange rate calculated at purchasing power parity. How can this ratio affect the country's foreign economic activity?

4. Analyze the scale and dynamics of Ukraine's foreign trade balance over the past 10 years. What impact does this indicator have on

the country's economy? How, in your opinion, can the situation be improved?

5. The countries of the Far East and Southeast Asia widely use a policy of undervaluing their own currency against the US dollar. What reasons, in your opinion, explain this? Could this cause problems in the economies of these countries? How can we explain the fact that Chinese goods, despite significant transportation costs, are sold in Ukraine cheaper than domestic goods?

CHAPTER 12. SOCIAL GUARANTEES

Participants in economic life must rely primarily on their own strength. This requirement is dictated by the conditions of economic activity.

The possibilities and achievements of households and enterprises are revealed during economic cooperation. The market order of interaction appears as a mechanism that objectively and in conditions of a stable economy quite accurately determines the results and position of economic entities. The market assumes the presence of competition, as a result of which it becomes clear who and what will have monetary income, perform certain works, etc.

Does this mean that society should fully agree with the economic position of households, which is determined by the market? Does this mean that people are thrown to the arbitrariness of economic fate? No, society, represented by the state, makes adjustments to the market "rankings table". After all, in any society there are millions of people who, for objective reasons, cannot compete on an equal footing with others. The state cannot allow the incomes of any part of the people to fall below a certain threshold, so that those willing and able to work lose their chances of finding a job at any time, so that people in old age or in case of illness are left without income. The state provides members of society with certain guarantees in the field of income, employment, medical care, education, etc.

This chapter examines the social policy of the state, analyzes those social guarantees that are applied in Ukraine.

12.1. SOCIAL GUARANTEES: FUNCTIONS AND METHODS OF IMPLEMENTATION

Functions of social guarantees

Social guarantees are obligations of the state to members of society regarding the formation of their incomes, conditions for obtaining certain goods and services, and jobs. The state acts as a guarantor, and households act as a receiver, a recipient of social guarantees. Of course, the "security" of households with social guarantees varies. And such differentiation looks quite logical, it is designed to take into account objectively different opportunities of people. For example, people of retirement age have fewer opportunities, while 30-40-year-old workers have more. Therefore, in principle, without taking into account other aspects of the problem, pensioners should be more active "consumers" of social benefits, objects of social protection, than people who are in their prime. The income of a pensioner should be provided mainly from state sources, the income of an active worker – by selling labor services on the labor market or by entrepreneurial activity. Although the state can apply certain guarantees to the income of active subjects – for example, setting a minimum wage.

Social guarantees are usually the state's response to those economic problems that arise as a result of market self-regulation. By solving them, the state thereby helps the market and the economy as a whole to reproduce and develop.

The main functions of social guarantees include:

1**.** ***Material support for people*** deprived (for objective reasons) of the opportunity to do this independently (pensioners, disabled people, etc.).

2. ***Creating conditions for the reproduction of labor resources*** at the proper socio-economic level. This is a matter of general educational and vocational training, culture, in particular environmental and others. The quality of labor resources is a problem not only for individuals, but

also for society as a whole. Therefore, social guarantees should be aimed at obtaining certain standards of education, medical care, etc.

3. ***Income support and implementation of other forms of social protection*** for people who are forcibly unemployed.

Ways to implement social guarantees

How the state implements social guarantees – under what conditions, using what mechanisms, depends on many circumstances. Among them, we can distinguish:

a) the features of the socio-economic system that has developed in the country;

b) the stage of the economic cycle, which affects such macroeconomic indicators as the volume of national production, the level of inflation, the level of unemployment;

c) worldview, party affiliation of citizens who are members of parliament and the state, local authorities;

d) historical traditions.

These factors are characterized by varying degrees of mobility. Changes in the actions of some (for example, the principles of organizing social life, historical traditions) usually occur slowly, although "revolutionary turns" are not excluded, and in the actions of others (cyclicality of development, party representation in government bodies) – more intensively. Principled approaches to social guarantees are generally more stable than the attitude to their specific elements, scales, and conditions of implementation.

The main methods of implementing social guarantees can be as follows:

1. Compulsory social insurance and the implementation of certain transfer payments.

2. State financing of the social sphere (education, medicine, culture and some other areas).

3. Determination of poverty standards and minimum income levels.

4. Regulation of employment relations.

Detailed explanations of these methods of implementing social guarantees, analysis of specific social programs are contained in the following subsections.

12.2. SOCIAL PROGRAMS

Pension program

This program is intended for the elderly and is aimed at generating their income. Its scale can be evidenced by the fact that there are over 10 million pensioners in Ukraine. Pension payments in Ukraine are made at the expense of the State Pension Fund, which is formed from mandatory contributions from employers.

Of course, people can take care of their old age themselves. To do this, they, in particular, must make some savings during the economically active period of their lives. However, there are many reasons (lack of foresight, unforeseen circumstances, economic crises, etc.) that prevent many people from properly preparing economically for old age. And that is why the state is forcibly forming a special fund.

Special deductions made by employers are not accumulated in special personal accounts. They are depersonalized and are used to pay pensions to those who have already acquired the status of pensioners.

However, the solidarity pension system, which continues to operate in Ukraine, is no longer coping with its tasks. It should be noted that today the number of workers and pensioners has practically equalized. Therefore, objectively, the state pension fund is not enough not only to provide decent pensions for the elderly, but to make at least minimum payments. The annual deficit of the pension fund is about 150 billion UAH, which is covered by the state budget.

This necessitated the reform of the pension system. After its completion, a three-tier pension system should be formed. First, the modernized solidarity system that is currently in effect and guarantees a minimum pension level to every citizen who has reached retirement age will operate. Second, a mandatory state insurance system will be created, which provides for maintaining a personal pension account for each worker. In this case, the pension will depend on the number of accumulated payments and the duration of their payment. And third, a system of voluntary non-state insurance should be formed.

Social security program in case of illness

This program allows people to receive certain income (up to 100% of average earnings) in case of illness. In Ukraine, the income to this fund comes only from employers. The employees themselves do not contribute any funds from their personal income to finance this program. This procedure leads to a certain disinterest among employees in constantly maintaining their physical abilities and leading a healthy lifestyle. Those who are sick more often use this public fund more. Of course, people get sick for various reasons, but the system should make it economically interesting for them to take care of their health, make it economically unprofitable to be on sick leave frequently. If someone abuses alcohol, smokes a lot, does little physical exercise and as a result often gets sick, then why should people who lead a healthy lifestyle pay taxes for their illnesses?

Society should guarantee access to medical care to any person, but at the same time, the applied social security systems should not be completely impersonal and remove any economic responsibility of the employee for his health, shifting it onto the shoulders of other payers.

In many countries, this problem is solved with the help of insurance medicine. On the one hand, the amount of insurance payments depends on the payer's health status, the likelihood of his

getting sick. This increases the interest of both the employee and his employer to take care of their health, engage in disease prevention, which contributes to the improvement of the entire population. On the other hand, by paying insurance, the employee provides himself with a stable and reliable source of financing for paying for medical services in the event of his illness.

Unfortunately, insurance medicine has not yet become widespread in Ukraine. However, based on international experience, we can confidently say that its introduction is inevitable within the next ten years.

Social support for people with disabilities

People with various physical disabilities certainly need financial and other support from the state. Disabled people lose the opportunity to compete on an equal footing with other economic entities. They are assigned state benefits. The state also provides support to disabled people by implementing a number of measures in the field of employment: reserving jobs for disabled people at enterprises; establishing individual tax benefits and benefits for enterprises where the labor of disabled people is massively used; ensuring the possibility of purchasing vehicles at reduced prices, etc.

Society's attitude towards disabled people and the elderly is one of the indicators of its humanity.

Other types of social assistance

In the system of social measures implemented by the state in Ukraine, there are also some other types of social assistance. Various measures are implemented in monetary and other forms to support low-income elderly people, discounts are provided to pensioners for paying for certain goods and services (travel on certain types of transport,

medicines, utilities, etc.). Funds are received by families where mothers are busy caring for young children. Certain monetary compensations are received by people living in territories contaminated as a result of the Chernobyl accident.

A significant social program is represented by state measures in the field of employment. This includes the payment of unemployment benefits, and payment for training and retraining, etc. We will consider these social support measures separately in subsection 12.3.

In addition to channels of state support for certain segments of the population, there are also non-state, private charitable donations that go through charitable organizations, or directly from private individuals and enterprises. Private charity is usually encouraged by the state through tax breaks. Private donations are, of course, important, but their importance should not be exaggerated. The decisive burden for the implementation of social programs is, however, borne by the state, which has better opportunities (financial, organizational, etc.) in this matter. Charitable donations can supplement the system of state support, but not replace it.

Social programs and the problem of incentives

It is difficult to find an economist who would oppose social programs in principle. At the same time, many critical remarks are made about the state's social policy, and it often becomes the subject of heated discussions involving representatives of various political parties, trade unions, and the government. In Ukraine, the topic of social protection has become one of the most relevant in various debates. This is due, on the one hand, to a significant drop in the level of real incomes of tens of millions of people due to a deep and prolonged crisis in the economy, and on the other hand, to the need to make significant changes to the state's social policy in connection with the transformation of the Ukrainian economy.

Among the main problems of social policy, it is usually indicated that its disincentive effects are indicated. The point is that social support measures generally lead to a certain decrease in the efficiency of the economic activity of society. How does this manifest itself?

First, it should be noted that the social support system affects the labor supply in the economy. We have already given examples of how, under certain conditions, workers may have an economic interest in receiving "sick leave," which leads to a decrease in labor supply. The terms and conditions of retirement established by the state also affect the volume of labor supply. In many developed countries of the world, economists also note the problem that many people are getting used to living on social assistance, losing the desire and will to choose a more decent economic standard of living.

Secondly, if a small differentiation is used when paying pensions and various benefits, this can be considered as a disincentive for labor activity, advanced training, and the degree of intensity of labor resource use. People see that their future (in the part in which it is determined by the state support system) depends little on the volume and quality of their current work, and this negatively affects labor motivation.

Thirdly, some economists believe that the social support system objectively reduces the volume of total savings of society. After all, if this system did not exist, then each member of society would have to independently worry about their old age or insure themselves in case of job loss, making appropriate savings. Probably, a significant part of these savings could be mobilized by financial and credit institutions, enterprises for the implementation of investment programs. And here there would be an increase in the production capabilities of society. In the existing social security systems, mobilized money becomes one of the elements of aggregate consumer spending.

Thus, the arguments presented indicate that social support programs in general ***have a certain disincentive effect***, they to a certain

extent reduce incentives to work. However, this does not call into question the necessity of the programs themselves. But, at the same time, society should know what losses it suffers by implementing programs aimed at social support of certain categories of the population, and strive to solve social security problems with the least harm to economic efficiency. Social programs should help people solve some of their economic problems, but not stimulate a decrease in the willpower of many people aimed at effectively solving their economic problems on their own.

12.3. INCOME INEQUALITY AND THEIR MINIMUM STANDARDS

Causes of income inequality

It is quite obvious that people cannot receive the same income. Income differences are a fact of our lives. Such inequality has existed, exists, and there is no good reason to assume that it will disappear in the near future. What are the causes of income inequality?

1. ***Differences in individual abilities***. People are different in their intellectual, physical, creative, and other abilities. These features form different inclinations of people to effectively perform certain types of work.

2. ***Differences in qualifications and experience***. People receive different levels of education, including vocational education, and have different experience in performing certain types of work. More complex work requires, as a rule, a higher level of educational training. Who, for example, would deny the existing difference in the requirements for the level of education of a design engineer or a salesman in a vegetable store, a school teacher or a slinger at an industrial enterprise? More complex work reduces the number of applicants capable of performing

such work. As a result, in a stable society, those who are able to do more difficult work usually receive a higher income.

3. ***Differences in willingness and ability to work in special conditions.*** The work of, for example, miners is associated with great risk, with a high degree of physical intensity of labor. Work at nuclear power plants is associated with high responsibility, very complex technological systems are used here, the consequences of which violation can potentially cause great harm. If we take entrepreneurial activity, it also requires willingness and ability to take risks, work a lot and intensively.

4. ***Differences in ownership***. Since the end of the last century, the number of people who receive income from owning capital and securities has been noticeably expanding in Ukraine. Among them, those who are engaged in entrepreneurial activity stand out first of all. During this period, the market begins to form, a circle of owners of securities, primarily shares, is formed. The distribution of capital, shares and other assets is one of the factors that cause income differentiation. In addition, in our lives there is always a place, and an important one, for such factors as luck, acquaintances, family ties, the ability to sense a change in the situation and direct one's economic activity to where it is possible to receive the greatest income at that time.

Inequality and income redistribution

The degree of income inequality in a society is usually illustrated by the Lorenz curve (Fig.12.1). The bisector represents a situation of absolute equality in the distribution of income, for example, when 25% of families receive 25% of the total personal income of society. In reality, as we have already noted, this never happens. The actual distribution of income is always characterized by a certain degree of inequality, which can be demonstrated by a curve below the bisector.

The greater the actual income inequality, the deeper the deflection of this curve. The closer the Lorenz curve is to the bisector, the more equal the income distribution.

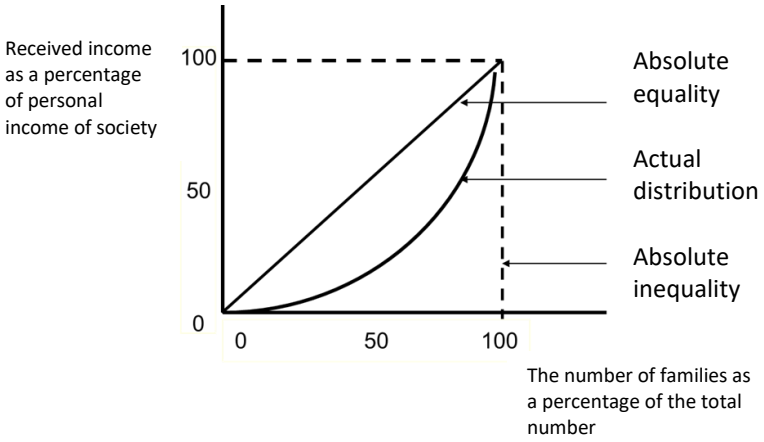


Fig. 12.1. **Lorenz curve**

Absolute equality in income should be considered as an unrealistic and harmful phenomenon for the economy. But should there be any acceptable limits of inequality, how deep can the Lorenz curve be bent?

Economic science has not yet been able to obtain an exact, generally accepted answer to this question. At the same time, as we already know from Chapter 9 (in particular, pay attention again to Fig. 9.2), in any country the state through taxes and transfer payments carries out a redistribution of income aimed at reducing inequality. The majority of social programs are built on the principle of redistribution. Thus, the state actually recognizes the need to control the degree of income inequality.

Let us name the arguments in favor of income redistribution aimed at reducing inequality:

1. *Low primary incomes, and even their absence in some categories of the population, are associated with reasons that largely do not depend on them*. Examples include the low competitive opportunities in the labor market for people with disabilities, the situation of people who have lost their jobs due to the bankruptcy of an enterprise, etc. It is obvious that society should show some humanity towards such people, provide them with social support.

2. ***Low incomes of certain people can negatively affect the quality of labor force reproduction, its general educational and qualification level***. At the same time, quite rapid technical changes are taking place in the economy, which put forward new requirements for the level of training of workers.

3. ***Uncontrolled differentiation in incomes can become one of the factors of instability in society***. Wealth and poverty can coexist relatively peacefully only within certain limits.

Poverty indicators

One of the important aspects of the problem of income inequality is the definition of the parameters of poverty or indigence. Who and by what criteria should be considered poor? What can be the threshold level of poverty? What measures should the state take to regulate the incomes of the least well-off members of society? These and other questions are quite complex and, in many cases, still remain without clear answers not only in Ukraine, where in recent years there has been a lot of polemic about them, but also in other countries.

First of all, it should be noted that the concept of poverty is to some extent relative. Moreover, it changes both in time and in geographical space. For example, a family that does not have a TV, refrigerator, etc. today, we would probably call poor. But back in the middle of the last century, even the royal families did not have these things, which no one would have dared to call poor then. Or let's look

at the problem from a geographical perspective. In the USA, according to official data, approximately 15% of the population (more than 30 million people) is poor. But many of these poor Americans will seem even rich if you compare them with residents of some countries where people die from malnutrition, poor housing conditions, and the inability to receive adequate medical care.

The basis for classifying a person as low-income or poor is the amount of income they receive. The system of indicators of low-income, taking into account world experience and the approaches that have been seen in Ukraine in recent years, can be presented in the form of three elements that reflect a particular level of income (Fig. 12.2). These include:

1. ***The amount of income that reflects the upper limit of low-income.*** This is the level of income that no longer allows its recipients to be classified as middle-income, not to mention high-income categories of citizens. Such an income indicator can be called differently: minimum consumer budget, poverty risk, poverty threshold, etc. Its specific value is usually determined in world practice as a percentage of the average income inherent in a given society. Thus, according to the methodology of the International Labor Organization, the poor include the population whose income level is 2/3 or less of the average for the country. The European Union recommends setting the upper poverty line at 60% of the average income level. It should be taken into account that for different socio-demographic groups of the population, the specific income value that reflects a particular poverty line will be different, which is related to the characteristics of consumption.

2. ***The amount of income that reflects the lower poverty line***. This is the minimum level of income that allows its recipient to satisfy basic needs, primarily food, at the minimum permissible level. This is the level of income that a modern civilized state must provide to every member of society under any circumstances. This indicator is often

called the socio-physiological subsistence minimum. In European Union countries, it is recommended to set the lower poverty line at 40% of the national average income.

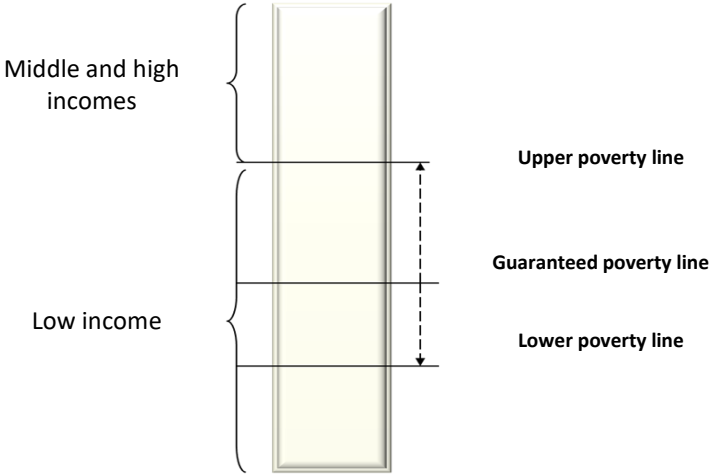


Fig. 12.2. **Poverty indicators**

3. ***The amount of income guaranteed by the state***. This guaranteed subsistence minimum cannot exceed the upper limit of poverty, but at the same time – and fall below the lower limit of poverty, i.e. be less than the physiological minimum. Specific forms of guarantees can be officially defined minimum values of pensions, wages, the use of various cash allowances and other means of assistance. Where exactly the guaranteed minimum is located between the upper and lower limits of poverty depends on a number of factors: the state of the country's economy, the features of the state's social policy, etc. The long and deep crisis of the Ukrainian economy caused enormous difficulties for the state in at least maintaining the guaranteed income at the level of the physiological minimum, not to mention

bringing the guaranteed income closer to the minimum consumer budgets taken for various socio-demographic groups.

12.4. STATE EMPLOYMENT POLICY

Recall that a number of problems related to employment were considered in Chapter 5. In particular, such a problem as unemployment was studied there: its types, causes, consequences, etc. It is obvious that the unemployed experience great difficulties. Society also bears the losses. Now it is time to consider the role played by the state in the processes taking place in the employment sphere, the social assistance that the unemployed can count on.

Basic principles of employment policy

Firstly, the state in Ukraine in modern conditions is aimed primarily at implementing a policy of effective employment. This should be emphasized, since for a long time in our country – until the beginning of the 90s of the twentieth century – the state declared the implementation of a policy of guaranteed employment. If for this it was still possible to find some conditions in a centrally planned economy, then in a mixed economic system such a desire cannot be considered appropriate to the real conditions and capabilities of the state. Striving for full employment is certainly necessary, but not guaranteeing everyone at any moment to get a job.

Secondly, the state adheres to the principle of dominant personal responsibility of a person for the development of their own labor abilities, the level of their competitiveness in the labor market.

Thirdly, providing guarantees of equal access to general and a significant part of special education. The emergence of private educational institutions in recent years, the expansion of tuition fees in state institutions introduces new elements into the education system.

However, the vast majority of secondary education services are not paid for directly by their consumers.

Fourth, the state provides various forms of support to the unemployed and also to those who, for objective reasons, are unable to compete on an equal footing with others in the labor market.

Social guarantees

We have already noted earlier that a person who is able to work, wants to work and is looking for a job is considered unemployed. Unemployment brings significant losses to those who have lost their jobs and to society as a whole. What assistance do the unemployed receive from the state in Ukraine?

1. ***Officially registered unemployed are granted unemployment benefits***. According to current legislation, the minimum amount of assistance in Ukraine was 75% of the officially established minimum wage, and the maximum (severance pay) was 75% of the average wage that the employee had in the period preceding the loss of his job. The duration of unemployment benefits adopted in Ukraine is: up to 6 months for those who are looking for a job for the first time, up to 18 months for people of pre-retirement age, up to 12 months for all others.

2. ***The opportunity to undergo professional training and retraining at the expense of state funds, including with the payment of a scholarship for the period of study***.

3. ***The possibility of participating in paid community work specially organized by the state***.

4. ***Granting the right to early retirement*** (1.5 years before the deadline established by law) to persons of pre-retirement age, dismissed from enterprises due to staff reductions, reorganization, etc.

In addition, the state provides additional guarantees in the field of employment to persons with insufficient competitiveness. These include: women with young children; youth under 21 years of age;

persons of pre-retirement age; persons who have been unemployed for over a year and some other categories of the population. For them, the state specially reserves a certain percentage of jobs at enterprises.

Assistance and other forms of social support do indeed, to one degree or another, alleviate the burden of unemployment for people who find themselves in this situation. The degree of relief depends largely on the conditions of their payment. These assistance parameters are determined by the economic capabilities of the state and its social priorities. The scale of assistance should be such as to relieve people of unbearable material suffering, but not the desire to actively seek work and improve their labor qualifications. Workers in any social protection system should feel deeply, first of all, personal responsibility for their position in the labor market, they should not take their stay in certain jobs for granted. Competition requires daily evidence of the employee's usefulness to enterprises.

Brief conclusions

1. Social guarantees are obligations of the state to members of society regarding the formation of their incomes, conditions for obtaining certain goods and services, and jobs. The main functions of social guarantees include: a) material support for people who are deprived of the opportunity to do this independently; b) creating conditions for the reproduction of labor resources at the proper level; c) maintaining income and implementing other forms of social protection for the unemployed.

2. The pension program is intended for people of retirement age and is one of the largest social programs. Its financial support is provided by mandatory contributions from employers, which are used to pay pensions to those who already have the status of pensioners.

3. The social security program in case of illness is formed using mandatory contributions from employers. The absence of personal

contributions and personal special accounts, which is typical for Ukraine, reduces the interest of employees in constantly maintaining their physical abilities and leading a healthy lifestyle. The program of support for the disabled provides for cash payments, reservation of jobs, application of tax benefits, establishment of discounts on prices for some goods, services and other measures.

4. Social programs, being absolutely necessary, at the same time have some disincentive effect. They can reduce the labor supply, reduce interest in intensive use of labor resources, improving qualifications, and also contribute to reducing the volume of aggregate savings of society.

5. Inequality in incomes is objective in nature. It is caused by differences in individual abilities, qualifications and experience, willingness and ability to work in special conditions and other reasons. Actual income inequality can be illustrated using the Lorenz curve. The state carries out income redistribution aimed at reducing income inequality.

6. The system of indicators of poverty usually consists of income levels reflecting: a) the upper limit of poverty; b) the lower limit of poverty; c) guaranteed level of provision. The latter is achieved by establishing minimum pensions and salaries, special payments and cannot be higher than the upper level of poverty, but at the same time - lower than the lower limit of poverty.

7. When implementing employment policy, the state adheres to certain principles: a) implementing a policy of not guaranteed, but effective employment; b) focusing on the dominant personal responsibility of the employee for his position in the labor market; c) providing guarantees of equal access to general and, to a large extent, special education; d) supporting those who, for objective reasons, cannot compete on an equal footing with others in the labor market.

8. The state provides the following types of assistance to the unemployed: a) payment of unemployment benefits; b) payment for

vocational training and retraining; c) organization of paid community work; d) granting the right to early retirement. The state provides additional support to persons who have the status of insufficient competitiveness in the labor market.

Basic terms and concepts

Social guarantees
Social programs
Pension program
Social security program in case of illness
Social support program for people with disabilities
Disincentive effect of social programs
Causes of income inequality
Lorenz curve
Income redistribution
Indicators of poverty
Basic principles of state employment policy
Types of social assistance to the unemployed

Questions for reflection and discussion

1. In your opinion, should social guarantees increase or decrease in historical terms? What are the positive and negative consequences of a possible increase in social guarantees?

2. Today, practically every country in the world has certain social guarantees provided by the state to its citizens. What determines the state's policy on social guarantees? What are the possible positive and negative consequences of both insufficient and excessive social guarantees?

3. In your opinion, what are the threats to the effective functioning of the national economy posed by an extensive system of social

guarantees? Perhaps we should agree with the opinion of representatives of classical political economy that any state intervention in the market mechanism of self-regulation is evil?

CHAPTER 13. ECONOMIC GROWTH THEORIES

To paraphrase the famous saying that "a championship title is easier to win than to keep," we can say that bringing the economy to equilibrium is one complex problem, and maintaining it in this state over the long term is another, even more complex problem. Earlier, in Chapter 8, we examined how the mechanism for restoring equilibrium works in various markets in the short term. It was assumed that the production potential remains unchanged. In the same chapter, we move on to the analysis of the long-term model, to the consideration of economic patterns under conditions of potential change. Here, we consider indicators of economic growth, the factors that determine it, as well as the main theories of economic growth.

13.1. INDICATORS AND FACTORS OF ECONOMIC GROWTH

Economic growth indicators

Economic growth is manifested primarily in an increase in production volumes. In Chapter 3, we saw those volumes, depending on the objectives of the analysis, can be expressed in various macroeconomic indicators. However, the basis of the system of indicators of national production is gross domestic product (GDP). Therefore, economic growth is measured using GDP. The main indicators of economic growth are as follows:

a) ***the real GDP growth index***. It is calculated as the ratio of real GDP of this period to the corresponding indicator of the base period:

$$I_{GDP} = (GDP)_1/(GDP)_0;$$

b) ***real GDP growth rate***. If the GDP growth index shows how many times GDP changes, then the growth rate indicators determine how many percent this change occurred. It can be calculated as follows:

$$I_{\Delta GDP} = [(GDP)_1 - (GDP)_0] * 100/(GDP)_0;$$

c) ***change in GDP per capita***. The value of this indicator is affected by changes in both the physical volume of GDP and the population:

$$I_{GDP\ per\ capita} = \frac{(GDP/number\ of population)_1}{(GDP/namber\ of\ population)_0}$$

Each of the listed indicators is quite applicable in the analysis of economic growth. The expediency of using a particular indicator depends on the objectives of the analysis. For example, if it is necessary to determine the change in the economic potential of Ukraine, it is better to use the first two indicators. If it is necessary to assess the dynamics of the average standard of living in Ukraine, it is more expedient to use the calculation of the change in GDP per capita.

The rate of economic growth largely determines the dynamics of the remaining economic indicators. First of all, it should be remembered that the movement of production volumes per capita creates a material basis for a more complete satisfaction of people's needs. Obtaining an additional volume of GDP makes it possible to somewhat weaken the sharpness of the contradiction between unlimited needs and limited resources. Only a dynamically developing economy allows a country to take its rightful place in world society. It was the high rates of economic growth in the post-war period that brought Japan and Germany to the leading countries of the world. Thanks to the dynamic development of the countries of Southeast Asia in the 70s-90s (Taiwan, Singapore, South Korea, etc.), the world started talking about new industrial countries. These countries began to be called "East Asian Tigers" for

the remarkable leaps they made in economic development. At the same time, the economic crisis of the 90s in Ukraine threw the country back in the world economic rankings. Thus, the problem of economic growth is a key issue of modern macroeconomics. High rates of economic growth are very important for Ukraine in the post-war period.

Factors of economic growth

Real economic growth depends on changes in the production capabilities of society and the degree of their implementation. Factors of production capabilities are usually defined as "***supply factors***". These include:

- quantity and quality of natural resources;
- quantity and quality of labor resources;
- volume of fixed capital;
- technology.

In a generalized form, the state of these factors can be represented in the form of ***a production possibilities curve*** (Fig. 13.1). It ***reflects the maximum number of variants of various products that can be produced for a given quantity and quality of natural, labor resources and fixed capital based on a given technology.***

Changes in supply factors can shift the basic production possibilities curve (A_0A_0) on the graph both to the left (A_1A_1) and to the right (A_2A_2). For example, the depletion of a number of natural gas fields in North-Eastern Ukraine, or the deterioration of mining and geological conditions for coal mining in the Donbass shifts the curve A_0A_0 to the position A_1A_1. At the same time, the modernization of oil refineries, the introduction of modern equipment and technologies are able to increase the production capabilities of Ukraine and shift the curve to the right to the A_2A_2 position.

However, the actual production volumes do not always correspond to the maximum possible ones. The degree of potential realization is

determined by ***demand and distribution factors***. In order to actually achieve a particular GDP growth, a corresponding increase in aggregate costs, i.e. aggregate demand, is necessary. Otherwise, new potential opportunities for the economy will simply not be needed. The discovery of new oil fields or an increase in the working population may not lead to GDP growth if consumer and investment spending remain at the same level. In this case, the point corresponding to the actual volume of GDP will not be on the production possibilities curve, but inside the plane outlined by this curve. This means that society is underutilizing its production capabilities.

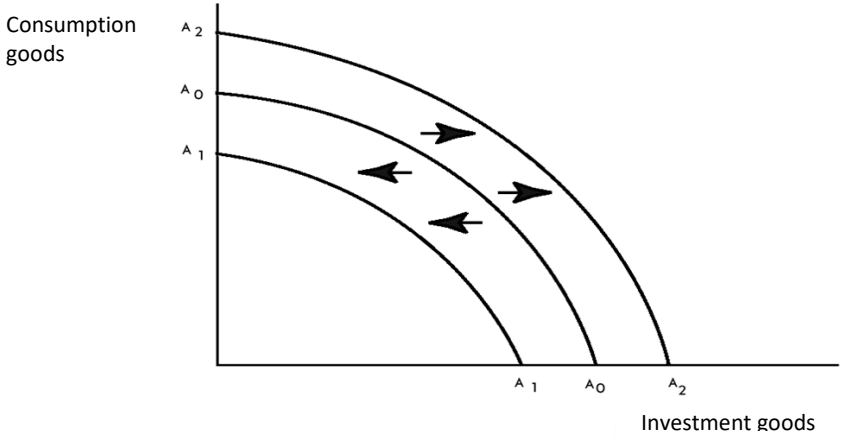


Fig. 13.1. **Production possibilities curve**

We will also obtain the same conclusion by analyzing the action of ***the distribution factor***. The production possibilities curve is constructed based on the assumption of an ideal distribution of resources between industries, ensuring their optimal use. However, such a distribution is practically impossible. Take at least the inevitability of frictional unemployment, associated, for example, with the search for a more suitable job. Thus, the country almost always observes underutilization of such a resource as labor.

The classification of economic growth factors can also be carried out according to other criteria. Thus, GDP growth is determined, on the one hand, by an increase in the number of resources used, and on the other, by the efficiency of their use. ***Factors associated with an increase in the number of resources used are called extensive factors of economic growth, and those that cause growth by increasing the return on resources are called intensive.*** The scheme shown in Fig. 13.2 gives an idea of some extensive and intensive factors of economic growth. Of course, the proposed division is somewhat conditional. After all, for example, technical progress (an intensive factor) is usually accompanied by an increase in the volume of investment (an extensive factor). Therefore, economic growth always occurs with a certain combination of extensive and intensive factors. Characterizing this ratio, we usually speak of predominantly extensive or predominantly intensive economic growth.

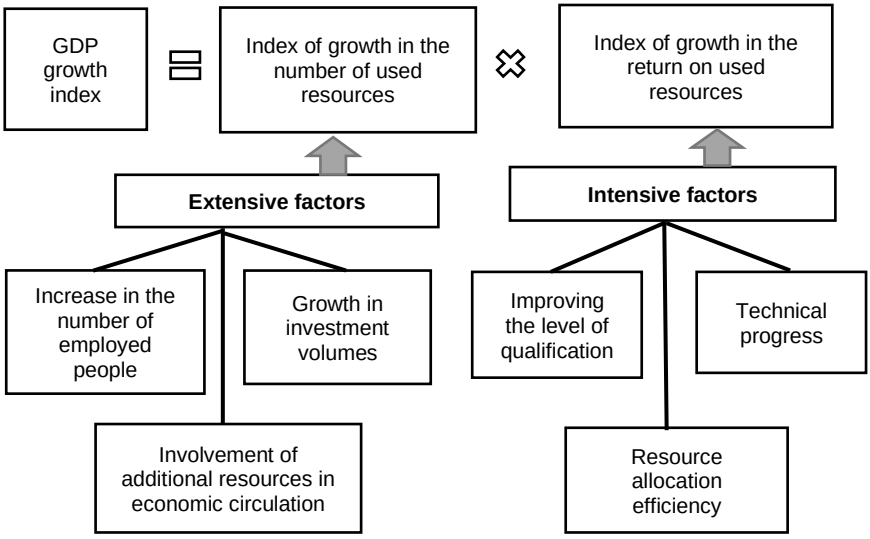


Fig. 13.2. **Extensive and intensive factors of economic growth**

Possible negative consequences of economic growth

The role and consequences of economic growth for human civilization are assessed ambiguously. No matter how strange it may seem, there are quite weighty arguments against economic growth. They boil down, first of all, to the fact that economic growth leads to the destruction of the human environment. After all, new and new natural resources are involved in the production process. Their reserves are limited, and some resources are close to exhaustion. Therefore, a significant group of scientists, united in the 60s and 70s in the "Club of Rome", called for abandoning economic growth, achieving zero growth rates. Today, the problem of global warming is quite relevant. Most consider it a consequence of human economic activity. That is why there are proposals and even agreed decisions of the world community to slow down economic growth somewhat in order to protect humanity from a global catastrophe. In addition, a person not only consumes natural resources, but also then returns them to nature in the form of industrial waste, which pollutes the environment. Supporters of the Club of Rome argue that the problem of high rates of economic growth is losing its relevance, since the resulting GDP growth goes to meet less significant needs. Therefore, it may be wiser for humanity to limit its consumer aspirations, so as not to suddenly find itself in front of an empty and distorted natural pantry.

The reports published by the Club of Rome have attracted wide attention. The problems of transition to an environmentally friendly type of reproduction have begun to be actively developed. In recent years, economic progress has shown that it not only creates a threat to the environment, but also creates conditions and hopes for eliminating this threat. The growth of the scale of production allows society to allocate more funds for the implementation of environmental protection programs. Technical progress in the course of economic growth allows us to switch to waste-free and low-waste technologies. Therefore, today

most scientists are concerned not with achieving zero growth rates, but with solving the problem of sustainable, stable economic growth.

13.2. KEYNESIAN MODELS OF ECONOMIC GROWTH

Domar model

Having considered the indicators and factors of economic growth, we can proceed to the study of the approaches of different schools to the interpretation of the mechanism of the transition of the state of the economy from one to another. The main starting point for the modern theory of economic growth is the model developed by the American scientist ***E. Domar***. In the Keynesian short-run model of general equilibrium known to us from Chapter 8, Domar introduces new elements, namely: he considers the problem of ***dynamic equilibrium***, i.e. maintaining full employment and general equilibrium in the long run, with an increase in production capacity. It is obvious that if we take the equilibrium state of the economic system as the starting point, then in order to maintain it in the event of an increase in the size of the capacity, an increase in aggregate demand must occur. In formal form, this statement can be written as follows:

$$P_{t+1} - P_t = Y_{t+1} - Y_t ;$$

where ***P*** is the production capabilities of society; ***Y*** is aggregate income, which determines aggregate demand.

Under what conditions will this equality be maintained? Both the increase in production possibilities and the increase in total income can be considered as a function of investment. Thus, net investment I_t, increasing capital, leads to a corresponding increase in production possibilities. It is possible to calculate what increase in production potential is provided by each unit of net investment (α):

$$\alpha = (P_{t+1} - P_t) / I_t$$

However, as is known, the distribution factor does not allow for the full use of the potential opportunities created by supply factors. Therefore, the actual return on each unit of investment will be somewhat lower than the coefficient α. Let us denote this new coefficient (which Domar ***calls the potential average social productivity of investment***) by β. Then the left-hand side of our original equation will take the following form:

$$P_{t+1} - P_t = I_t \beta$$

Based on the Keynesian multiplier theory, it is not difficult to see that the right-hand side of the equation can also be expressed in terms of investment and the corresponding coefficients:

$$\Delta Y = M \Delta I = \Delta I / s;$$

where M is the multiplier; s is the marginal propensity to save.

Having slightly transformed the last equation, we obtain the following expression:

$$P_{t+1} - P_t = (I_{t+1} - I_t) / s.$$

After comparing the transformed elements of the original equation, the dynamic equilibrium condition can be expressed as follows:

$$I_t \beta = (I_{t+1} - I_t) / s ; \qquad \beta s = (I_{t+1} - I_t) / I_t .$$

If we assume that β and s are constant, then both the growth rate of production capacity and the growth rate of total income will be equal to the growth rate of investment, or:

$$(P_{t+1} - P_t) / P_t = (Y_{t+1} - Y_t) / Y_t = (I_{t+1} - I_t) / I_t = \beta s.$$

Thus, it can be argued that if we proceed from the conditions of full employment, then its support will be ensured only when the growth rates of production possibilities, aggregate demand and investment are equal to the product of the potential average social productivity of investment and the marginal propensity to save. For example, at β = 0.5, and s = 0.1, the growth rate of the economic system, which ensures the maintenance of equilibrium, should be 5% per year (0.5 * 0.1 = 0.05).

Harrod's model

The English economist R. Harrod was one of the first to become interested in the problems of developing a general theory of economic growth, having published the article "Essay on the Theory of Economic Dynamics" back in 1939.

The Domar model does not explain how the growth rate of investments is set at a level that ensures the maintenance of equilibrium. The Harrod model to some extent provides a solution to this problem. First of all, Harrod analyzes the mechanism of decision-making by producers regarding the formation of aggregate supply. When choosing one or another change in production capabilities, entrepreneurs are guided by an assessment of what happened in the previous period. If the producer's previous forecasts were justified and at the growth rate of production capacities adopted by him, the equilibrium of demand and supply was observed, he does the same; if not, he adjusts his actions.

The initial equation of the Harrod's model looks like this:

$$(P_t - P_{t-1}) / P_{t-1} = b\,[(P_{t-1} - P_{t-2}) / P_{t-2}],$$

where: ***P*** - supply; ***b*** - coefficient, the value of which depends on the ratio of demand and supply in the previous period:

b = 1, if demand and supply in the period (t-1) were equal;
b > 1, if demand in the period (t-1) was greater than supply;
b < 1, if supply in the period (t-1) was greater than demand.

Entrepreneurs determine the size of investments based on the desired increase in production and the specific capital costs for producing a unit of output ($\mathbf{C_r}$):

$$I_t = C_r (P_t - P_{t-1}).$$

Using the multiplier, we can determine the aggregate demand for time t:

$$Y_t = I_t / s = C_r (P_t - P_{t-1}) / s.$$

Then the equilibrium of supply and demand will be achieved by observing the equality:

$$C_r (P_t - P_{t-1}) / s = b [(P_{t-1} - P_{t-2}) / P_{t-2} + 1] P_{t-1}.$$

If in the previous period the economy was in equilibrium and entrepreneurs maintained the same growth rate (b = 1), then by transforming the last equation, we can obtain the following expression:

$$(P_{t-1} - P_{t-2}) / P_{t-2} = (P_t - P_{t-1}) / P_{t-1} = s / (C_r - s).$$

The expression s/(Cr – s) Harrod calls ***the guaranteed growth rate***, since it is at this rate that the expectations of entrepreneurs will be justified and the equilibrium state of the economic system will be maintained. Any other options for growth rates lead to a violation of equilibrium. Moreover, continuing the analysis, Harrod comes to the conclusion that, having deviated once from the equilibrium state, the economic system then constantly reproduces this deviation on an even

larger scale. Therefore, in a dynamic model, equilibrium should be considered unstable.

Harrod also introduces the concept of ***the natural growth rate***. It is defined as the maximum rate allowed by the growth of the economically active population and technical progress.

An important component of Harrod's model is the analysis of the ratio of the guaranteed, natural and actual growth rates. If the guaranteed growth rate exceeds the natural one, i.e. the possibilities of achieving dynamic equilibrium are limited by the growth of the economically active population and the rate of technical progress, then such an economy is characterized by a constant lag of supply from demand, low growth rates, and frequent states of depression. If the guaranteed rate is lower than the natural rate, then favorable conditions are created for the development of the economy, which maintains the balance of aggregate demand and supply. However, the presence of underutilized production capacity will provoke periodic surges of business activity, leading to overproduction. And the equilibrium state of aggregate demand and aggregate supply will be achieved at a certain level of forced unemployment.

The ideal development of the economic system is achieved when the actual rates correspond to the guaranteed growth rate, and it, in turn, is the natural rate. Then the balance of aggregate demand and aggregate supply will be maintained with the full use of additional labor resources. However, according to Keynesians, such a coincidence is unlikely. The most characteristic is the violation of equilibrium.

13.3. NEOCLASSIC MODELS OF ECONOMIC GROWTH

Production function

Harrod's introduction of the distinction between guaranteed and natural growth rates has been actively opposed by economists who

adhere to classical views. Their main argument in criticizing Keynesian models is the possibility of substitutability of factors of production, which allows for long run economic growth when the guaranteed and natural growth rates coincide.

Modern neoclassical models of economic growth are based on the ***production function***, which shows the dependence of the level of production at a given state of technology on the amount of capital (***K***) and labor (***L***):

$$Y = f(K, L).$$

In the neoclassical version of the production function, it is assumed that the same output can be achieved with different combinations of capital and labor. Such a production function is called a ***function with variable coefficients***. It is graphically presented in Fig. 13.3.

The curves Y1 , Y2 , Y3 , called isoquants, reflect the volumes of aggregate output with different combinations of capital and labor.

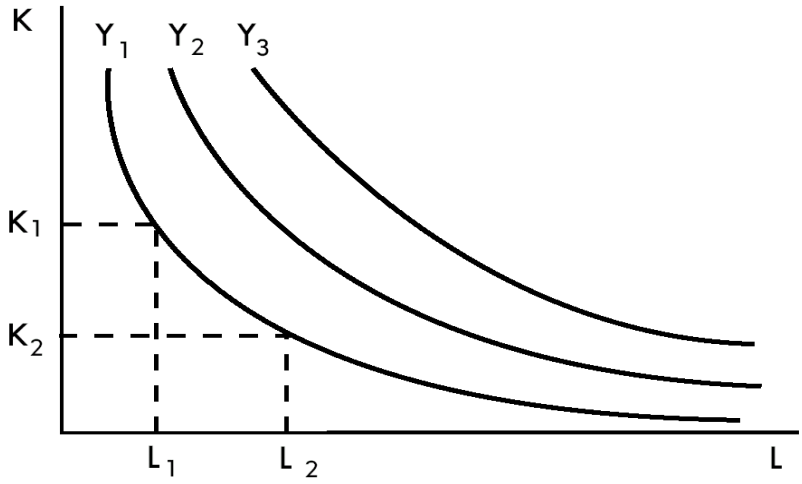


Fig. 13.3. **Isoquants in a production function with variables**

Thus, total income Y_1 can be obtained for K_1 and L_1, as well as for K_2 and L_2. The increase in production volumes associated with the involvement of additional labor resources ΔL is balanced by their reduction due to the reduction of capital by ΔK. In other words, in their impact on the result ΔL and ΔK are interchangeable.

The ratio $\Delta K/\Delta L$ is called the marginal rate of substitution (replacement) of factors of production. If we assume that there is perfect competition in labor and capital markets (and this is the starting point of all classical models), then with a surplus of one of the factors of production, its price decreases compared to marginal efficiency. This leads to a new combination of factors of production, but in this way the full use of both labor and capital is guaranteed.

Solow model

American economist R. Solow in 1956 proposed a simple model of economic growth, which gave rise to numerous studies in the field of so-called ***neoclassical models***, i.e. models that apply the hypothesis of perfect competition and allow for continuous interchangeability between labor and capital.

The Solow model is most fully characterized by the following system of equations:

1. $Y = f(K, L)$ – production function with variable coefficients.
2. $S = sY$ - saving function of income (s = const).
3. $\Delta I = \Delta K$ – net investment is nothing more than capital gain.
4. $I = S$ – there is a mechanism that balances investment and savings.
5. $L = L_0 e^t$ – labor resources are growing at a constant pace.
6. $\Delta Y/\Delta L = W$ – the real wage is equal to the marginal productivity of labor.

Since the Solow model does not take into account technical progress, the increase in the number of labors will act as a natural growth rate. If the labor supply has increased as a result of natural population growth, then under the previous combination of "capital - labor" part of the labor force remains unemployed. However, the existing unemployment reduces wages, and entrepreneurs choose a combination with relatively less use of capital, thereby restoring equilibrium. The combination formed in accordance with the production function determines the level of aggregate income, and it, in turn, determines the amount of savings. Since savings are equal to investments, which are identical to capital growth, the economy will move to a new state, where all the above equalities are confirmed. A new cycle of economic growth will receive an impetus from the natural increase in labor resources.

Thus, Solow argues that not only is there the possibility of equilibrium economic growth, i.e. development at full employment, full use of capital, and the correspondence of aggregate demand and aggregate supply, but also that such a state of the economy is stable. When the system deviates from its equilibrium state, an internal mechanism based on the substitutability of factors and the balancing of their marginal efficiency comes into effect, capable of restoring equilibrium.

Mead Model

However, the Solow model does not explain real fluctuations in economic systems, which are difficult not to notice. In subsequent neoclassical models, there was an attempt to eliminate this shortcoming. The English economist J. Mead supplemented the Solow model with an analysis of economic growth under the conditions of technical progress. First of all, a classification of types of technical progress was given. There are three of them:

- ***neutral technical progress*** – causes equal increases in the marginal productivity of both capital ***(ΔY/ΔK***) and labor ***(ΔY/ΔL***), therefore it keeps the marginal rate of substitution of production factors unchanged;

- ***capital-intensive, or labor-saving, technical progress*** – the marginal productivity of capital grows at a higher rate compared to the marginal productivity of labor;

- ***labor-intensive, or capital-saving, technical progress*** – leads to a faster increase in the marginal productivity of capital.

One or another type of technical progress, which prevails in these conditions, somewhat modifies the process of balancing capital and labor, since the value of the marginal rate of substitution changes. However, regardless of the directions of technical progress, its pace and nature, the mechanism for achieving stable rates of economic growth and achieving full employment, outlined during the consideration of the Solow model, remains. Special attention in the Mead model is paid to the analysis of factors that determine the rates of economic growth under the conditions of technical progress. They can be combined into the following groups:

1. ***The rate of capital accumulation***. It is calculated as the ratio of capital growth to the value of capital in the base period:

$$k = \Delta K/K.$$

If technical progress shifts the production possibilities curve (see Fig. 13.1), then the average return to capital (***Y/K***) increases. Therefore, the growth rate of income ***Y*** will even outpace the growth rate of capital.

2. ***An increase in the propensity to save***. It can occur both as a result of income growth (recall Keynes's basic psychological law) and as a result of the redistribution of income in favor of subjects more inclined to save. For example, if technical progress is capital-intensive, then a faster growth in the marginal productivity of capital increases

profit faster than wages. It is easy to see that, as a rule, the share of savings in profit is greater than in wages. The propensity to save, even at a fixed income, ultimately increases the amount of savings transformed into investment. Since net investment is identical to capital growth, the mechanism of accelerating economic growth discussed in the first paragraph is triggered.

Practical application of macroeconomic models

From a brief presentation of economic growth models in this chapter, we can conclude that this branch of economic theory has come a long and difficult way. From models of a static economic society, researchers gradually moved on to the analysis of dynamics. The models began to include new and new factors: technical progress, income distribution, the proportions of "labor - capital", "capital - product", etc. The first models were single-product. Later, multi-product models were developed based on linear programming. The widespread use of economic and mathematical methods made it possible to set the task of optimizing economic growth.

Since most economic decisions have not only current (nearest) consequences, but sometimes very distant ones, there is a need to create methods for predicting states in future periods. This function can be performed by economic growth models. However, since the mechanisms for transforming the nearest and distant consequences are different, three main groups of models are distinguished among the economic growth models used for forecasting:

long-term studies (from 15 to 25 years);

medium-term forecasting (4-5 years);

studying the short-term period (one year, and sometimes a quarter or a month).

Forecasting based on macroeconomic models has become quite widely used in most developed European countries: the UK, France, the

Netherlands, Norway. Japan and Canada develop forecasts and plans. This allows for a more targeted implementation of state policy for regulating the economy. However, a comparison of forecasts and actually achieved results makes it possible to assert that today none of the developed models can be considered ideal. The search for models that most adequately reflect real economic processes continues.

Brief conclusions

1. Economic growth is manifested in an increase in production volumes. The main indicators of economic growth are the real gross domestic product growth index, the GDP growth rate, and the change in GDP per capita.

2. The factors of economic growth can be divided into supply, demand, and distribution factors. Supply factors include the quantity and quality of natural resources, the volume of fixed capital, and technology. As a result of their action, the production possibilities curve on the graph shifts. The degree of realization of the potential production capabilities of society depends on the presence of the corresponding aggregate demand and on the distribution of resources between industries.

3. Economic growth occurs with a certain combination of extensive and intensive factors. The former include an increase in the number of employees, an increase in investment, and the involvement of additional natural resources in production; the latter include an increase in the level of qualification of workers, technical progress, and the efficient distribution of resources.

4. According to the Domar model of economic growth, the support of full employment achieved in the base period will be ensured only when the growth rates of production possibilities, aggregate demand and investment are equal to the product of the potential average social productivity of investment and the marginal propensity to save.

5. According to Harrod, the ideal development of the economic system is achieved when the actual rates correspond to the guaranteed growth rate, and it, in turn, is natural. Then the balance of aggregate demand and aggregate supply will be maintained with the full use of additional labor resources. However, such a coincidence is unlikely. The most characteristic is the violation of equilibrium.

6. The basis of modern neoclassical models of economic growth is the production function, which shows the dependence of the level of production at a given state of technology on the amount of capital and labor. It assumes that the same volume of production can be achieved with different combinations of capital and labor. Such a production function is called a function with variable coefficients.

7. According to the Solow model, not only is there a possibility of equilibrium economic growth, i.e. development at full employment, full use of capital, compliance of aggregate demand and aggregate supply, but also such a state of the economy is stable. When the system deviates from its equilibrium state, an internal mechanism based on the substitutability of production factors and balancing their marginal efficiency comes into force, capable of restoring equilibrium.

8. Macroeconomic models are widely used in forecasting the consequences of making certain economic decisions in the long term (15-25 years), the medium term (4-5 years) and within the short term (up to one year).

Basic terms and concepts

Economic growth indicators
Real GDP growth index
Real GDP growth rates
Change in GDP per capita
Supply, demand and distribution factors
Production possibilities curve

Extensive and intensive factors of economic growth
Domar's economic growth model
Potential average social productivity of investment
Harrod's model
Guaranteed, natural and actual growth rates
Solow model
Marginal rate of substitution of production factors
Production function with variable coefficients
Neutral, capital-intensive and labor-intensive technical progress
Forecasting

Questions for reflection and discussion

1. How are the concepts of economic growth and economic development related? Do they always change in the same direction?

2. What can be the practical application of long-term models of economic development?

3. Analyze the arguments of supporters of “zero economic growth rates”. Which of them do you agree with, and which ones do you object to?

Recommended literature

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