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Книга ознайомлює читачів з тим, як влаштоване економічне життя суспільства в цілому. Значну частину матеріалу присвячено таким макроекономічним проблемам, як динаміка національного виробництва, безробіття, інфляція, досягнення загальної рівноваги. Розглянуто економічну роль держави, дію фіскальних, кредитно-грошових та інших інструментів державного регулювання економіки. За своєю структурою і змістом книга в основному відповідає нормативній дисципліни «Макроекономіка», що вивчається студентами економічних спеціальностей.

Для студентів економічних спеціальностей. Може бути корисна всім тим, хто цікавиться проблемами економіки.

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This textbook acquaints readers with the economic life of the society as a whole. The major part of the text is dedicated to such macroeconomic problem, as dynamic of national production, unemployment, inflation, and achievement of the general equilibrium. Economic role of the state, action of fiscal, monetary and credit, and other instruments of the government regulation of the economy are considered. In its structure and contents this textbook basically corresponds to the normative course of «Macroeconomics», studied by the students of the economic specialties.

The textbook is intended for students of economic specialties, teachers, and all those, who are interested in problems of economics.

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INTRODUCTION

Majority of us live in the block of flats. The apartment is our house, and we have a certain freedom while forming its interior – a structure of family relations, determination of the rooms' function, placement of furniture, maintenance of its tidiness and etc. Thereby, we feel ourselves autonomous and independent on the inhabitants of the other apartments. But are we really independent? What is the degree of our autonomy? Do we have common problems? Do we need some common regulation or not?

As it seems to us, it isn't difficult to answer these questions. Thus, for instance, appearance of the crack in any wall of the building is dangerous for inhabitants of all apartments. And tidiness, light of the yard and entrance, security from undesirable visitors, heating of radiators in winter and level of the water pressure in the taps in summer, and a lot of other things, are our «common», joint or «great» (macro-) problems, which differ from internal apartment, local (micro-) problems. We create community committees or other «subjects of co-ordination» for their coordinated decisions.

The national economy is the block flats. Inhabitants are households (the families, individuals) and industrial enterprises. They interact here intensively, they are interconnected and interdependent very much, besides, they have a variety of important common problems.

What is interdependence of the economic subjects expressed in? What common economic problems do they have and why? What and how does the state (as «the subject of co-ordination») do to solve them? These and other problems are the subjects of interest for macroeconomics. This textbook is dedicated to consider those problems.

Macroeconomic problems are not some distant for all of us. Is it possible to consider, for instance, «distant» such problems, as the level of prices in economy, formation of the tax rates and distribution of the budget funds, condition of the exchange rates, amounts of the interest rates on deposits and credits? Certainly, not, – those are «close» questions, important questions for all of us and for those industrial enterprises, organizations, and institutions, we control or work at.

We tried to write this book in clear and easy language. Our experience of work with students, schoolchildren, and adults, requires exactly that way of writing the textbook. We do not promise an easy voyage along the pages of this book – the study of any subject is always the work, and efforts. But we would like to help the reader achieve greater productivity in the study of macroeconomics through the use of the «simple» language.

We sincerely wish you economic success!

Our special thanks those, who helped us prepare this textbook.

Unit 1. THE NATIONAL ECONOMY AS THE MACROECONOMIC SYSTEM

It is enough logically that any subject studying, as a rule, begins with clarifications of the object of the study. What are its bounds, characteristic features, particularities, the main evolution trends? Which indicators can its structured elements, blocks stand out by?

We shall not break traditions and follow the accustomed way: the first unit of the book is just dedicated to consideration of the above mentioned questions, – of course, in macroeconomics context. Here we shall present the object of the study as a whole: shall clarify, what is macroeconomic system itself, what are its main features, what is the role of the government as the main acting person on the macro level in their solution.

1.1. NATIONAL ECONOMY: ESSENCE AND FEATURES

Essence of national economy

When we study the microeconomic processes, we get to know the reasons and conditions of the success of any product in the market, mechanism of getting a profit, order of the prices formation for separate goods, motives to form and liquidate the job vacancies well as some other important features of the enterprise activity and households. Macroeconomics has other areas of the interests and problems. It concerns clarification of the total economic growing or decline reasons, trends of the prices change in general, the general features of the labor market and other «general» questions.

Microeconomics looks at the individual unit: the household, the firm, the industry. It sees and examines the «trees». Macroeconomics looks at the whole, the aggregate. It sees and analyzes the «forest».

So we can say that ***macroeconomics is an area of the economic science, specializing in the study of the phenomena and processes typical for economy as a whole***.

But what do we understand under «economy as a whole»? «Micro-» is something local, «small»; «macro-» is «big». But what does this «big» really mean? Is it possible to confirm that, for instance, Donetsk or Dnipropetrovs’k regions are small social-economic formations, if in the number of population and territory they can be equal to some European countries? On the other hand, is it correct to consider «economy as a whole» such influential interstate association as European Union?

We think it is motivated to link the macroeconomic space (macroeconomic system) with national economy – economy of the country in its specified condition. ***The national economy can be determined as complex of economic subjects and relationships between them, which is characterized by economic integrity, the common character in the specific temporal and spatial limits***.

As it is well known, each managing subject daily enters in economic relations with a lot of the similar subjects. Division of labor lies in the base of these relations. So far as the goods’ type of production organization is identical to the modern level of the development, then the majority of economic relations in national economy gain the goods nature. Producing goods for others, each subject of the national economy becomes dependent on contractor, which in its turn is dependent on him. But in these conditions the success of one can turn out a loss for other, an increase of profit for one can turn the loss for others, an increase of the share of one product in the market can be accompanied with reduction for others. So trends of development of the national economy are formed as a result of the complex interaction of a great number of the resultant macroeconomic processes.

Features of the national economy

Now we must reveal the features of the national economy and, explain what is understood under «economy of the country in its specified condition» in details. So, the following is necessary to refer to the features of the national economy:

1. Presence of the close economic relationships between managing subjects of the country on the base of the labor division. In definition of the national economy given above this feature is marked by the word «integrity». The national economy is formed not simply by the economic subjects, functioning in one or another country; it is not simple sum of them, but it is a certain unity.

Presence of the economic relationships is condition for the pass of economic pulses from one subject to others. For instance, someone has decided to perfect living conditions for his family and to move into a new private house. To do this he must buy it. Buying of the building by one subject will bring the income for the other. A seller of the building will spend the received money on buying of some goods that will bring the income to their sellers and etc. So the initial buying gives the push, the pulse for the series of the new deals, generating, hereunder, a certain economic wave, of the events following one by one.

Thereby, modern economy is the mass, intensive contacts and signals, which appear between economic subjects. This way it differs, say, from the period of the Middle ages, when economy of the country consisted of separate isolated manors, estates and other feudal facilities, practically not bound between themselves. Herewith economic successes or problems of anyone of them did not cause serious consequences for others. Today we have the other economy: enterprises, households in modern world are exceedingly powerfully interconnected and interdependent agents.

The condition of economic integrity appears in the process of national market formation, which is connected with transition to the goods type of the public facilities organization. Purity of the economy operation of the country as «national economy» In modern conditions is broken by the series of circumstance. In particular, reinforcement of the foreign economic ties washes away the borders of the typical economic space. Some part of the subjects of economic activity is orientated not to the internal, but to the foreign market. As a result, first of all, they feel the pulses of the other economic system, and, secondly, the power of the domestic waves weakens. The reinforcement of the role of the foreign economic ties in dynamics of the internal processes in the majority of countries brings about delegation of some functions of the macroeconomic regulation to international organizations that also contributes some specifics into operation of the national economies. Thereby, development of the foreign economic relations is a factor of the certain reduction of the degree of integrity of the managing subjects within the frameworks of national economy and application to form some new configuration of the macroeconomic space.

2. The common economic environment, in which the managing subjects act. First of all, it is formed with the common economic legislation and financial system.

The common economic legislation is general «rules of the economic play». These «rules» form certain conditions and the space of economic activity. Special economic centre – a state, acts within the frameworks of this space, and realizes not only formation of the «rules», but also controls their observance, as well as certain management by economic processes in the given space. The power of a state is determined, in particular, by its financial possibility, financial resources, their reasonable using. Presence of the national tax-budgetary (financial) system is one of the uniting outlines, factor of integrity.

It is necessary to say about monetary system specially. Presence of national currency is a factor, which certainly intensifies the degree of solidarity, degree of generalities. Conducting analogy between national economy and living organism, it is possible to compare the money with that role, which blood plays in the organism. Exactly through as well the money flows mainly the pulses from one subject to the other are transferred; the money, as well as blood, carries in itself nutrients for corresponding elements of the economic system. And presence of the national money is, certainly, a factor for association. Together with that, the world develops, and we can observe transition to use of the total currency (for instance, Euro in countries ES) in some countries. This brings about some blurring of the frames of the typical economic space, but such transition, even so, is not critical in the plan of the loss of the national economic sovereignty.

3. Presence of the general economic centre, influencing the activity of the managing subjects. This centre, as it was already noted, is the government. Its activity is condition to achieve the necessary level for co-ordination in economy. The degree of interference of government into economic life can be different. But achievement of integrity in importance of «national economy» expects that this centre undertakes, at least, functions of the normative regulation of the economic subjects' behavior, financial policy, and rendering social support to specific categories of population.

4. Presence of the common system of economic protection. There are economic borders in the manner of export-import duties, quotas etc. If such borders are absent, such macroeconomic problem, as achievements of the balance of the aggregative demand and aggregative supply, becomes hard-to-solve within the framework of national economic regulation.

As a whole, it is necessary to point out to the fact, that economy of the countries is not static system. They change, different length of time with miscellaneous by the degree of intensities, under the influence of many factors, including non-economic, for instance, political, demographic, social, history. Besides, in macroeconomic policy it is necessary to take into account not only worldwide trends of the economic development, but also internal national particularities of the certain country. So, the process of macroeconomics studies of one or another country must expect: 1) cognition of the general trends and principles of the national economy operating; 2) finding of the modifying (national-special) factors of the macro level and cognition of their action mechanism; 3) discovery of the specifics of the manifestation of the general trends with provision for national and historic particularities of the given country.

1.2. THE STRUCTURE OF THE NATIONAL ECONOMY. BASIC MACROECONOMIC PROBLEMS

Subjects and sectors of the national economy

Since national economy is a system of relationships, it may be considered from the side of the subjects, objects, contents and nature of the forming relations.

If for the subjects of microeconomics the resource insufficiency, as a rule, is of relative nature and is overcome by payment of the greater amounts for additional resource attraction, then, society faces often enough with absolute insufficiency resource at the macro level: area of the agricultural land can not be more then the territory, which is suitable to these purposes; the labor resources are limited by the number of population and etc. The attempt to overcome this absolute insufficiency resource stimulates the international economic relations that bring about internationalization of economic activity.

The objects of macroeconomic relations differ from the objects of micro level. For instance, many states declare the air space over territory of the country a national heritage of the corresponding people. And it has sense. One of the most important macroeconomic problems is protection of environment from contamination, forming of the system of ecological safety. If microanalysis is oriented to clarification of the conditions of the appearing of employment in the relation «worker – employer», then macroeconomics concentrates its attention on the factor of the population employment in general, on the demographic processes in country since they render the more essential influence upon aggregate demand and aggregate supply.

The government, enterprises and households are the subjects of the relationship in national economy. They are formed both vertical, and horizontal relations. Each managing subject, being isolated to one or another degree, has certain economic interest. His activity is subordinated to realization of this interest. These interests are different, occasionally opposite, and inconsistent. The contradiction of the interests exists both in horizontal, and in vertical relationship.

The difference and contradiction between interests can reach such quips that activity of one subject in realization of his own interests will cause damage to other subjects. So, the main problem of the economic centre of the national economy is concluded in ensuring of the economic ambience, allowing to solve the contradictions. This is possible in the way of the collateral ***subordination*** of the interests, when «senior» and «younger» interests stand out, their deference to rank, or in the way of the ***combinations***, when all interests are considered as equal, and we have the economic mechanism, allowing the realization of one's interests and realization of the others subjects' interest. Modern market system is built on this principle.

Specifics of vital activity, interests and role in the macroeconomic process chosen above the allow subjects to consider the sectors of the national economy as special parts, differing in forming of the relations of management, the forms of relationships and other moments.

In Ukraine, as in any modern economic system, it is possible to select private and state (public) sectors. Households and private enterprises present the private sector. Institutions, producing goods and rendering facilities (the state enterprises, organizations) and adjusting structures (the government, central bank, local organ of power) form the composition of the state sector.

The correlation of the named sector can be different. If some sector dominates in economy of the country obviously, it conditionally can be named monosector. However, an absence of the critical mass of some sector is typical for the modern stage of the mankind development. The economy presents entanglement of the private and state sector. If at the end of the XIXth – beginning XXth century the private sector dominated absolutely, then presently, the share of the state sector is, as a rule, from 30 to 60% of production of the national product. Traditionally, the public sector dominates in the sphere of the national defense, public health, formation, energy, sciences etc.

As a whole, the following features are typical for modern economy:

– a variety of the management forms without suppressing prevalence of one of them;

– contest between different of management forms as equivalent in social-economic plan structure;

– expansion of one or another form of management (state or private) is determined, first of all, with the criteria of cost-performance of their operation and social need.

Why is, combination of these sectors present in identical modern stage of the economic development? First of all, because it saved objective premises for the business sector operating: public division of labor, isolation of producers, action of individual motivation factor, three-tier system of the machines, use of which is effective at the average and small enterprise etc. Together with that, there are prerequisites for existence of the state sector in economy: inability of the market mechanism to provide the crisis-free development; the high level of interdependences of the managing subjects creates the spheres, regulation of which is necessary at a rate of economy as a whole; the change of the place and role of the person in economy requires the decision of the problems reproducing the labor in the scale of the whole public facilities for their normal operating and others.

National economy as a mixed economic system

Any economic system must have several coordination mechanisms. Interaction of the economic subjects requires sequencing, regulations for the efficiency increasing of economic activity. Without achievement of the high degree consensus between million of participants of economic life is impossible to obtain the acceptable level of the satisfaction of requirements in the economic goods. A chaos, which never brings the positive result, is the alternative to consensus. And we, regrettably, had a possibility to make sure in this truth at the beginning of the 90-s years, when coordination mechanism of the site planning was liquidated under the slogan of the national economy reform, but in nothing was created instead.

The model of the mixed economy is dominant in the modern world. The mixed economy is such economic system, in which the market and state management play the role of regulator, without conclusive prevalence of one of them (fig. 1.1).

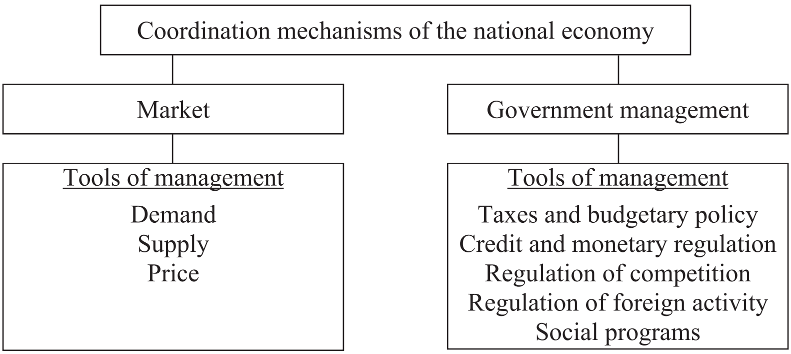


Fig. 1.1. Coordination mechanisms of the national economy

The market is the self-regulating economic relationship. It is interaction of the natural powers, which is based on the demand, supply and prices. Operation of the market, execution of its co-coordinating role is considered mainly in economics and in microanalysis too.

Together with that, it is obviously that the life of modern economic society can not be without interference of the state. Within the frameworks of the macro analysis we are interested in the need, approaches and tools, used in government regulation of the economy and some other aspects of the state economic activity.

As a result, the system of the mixed economy is formed, market and government regulation is mixed up, the action of the representatives of two sectors of the economy – private and state – intertwines. Such model is dominant in the world, its formation and development is typical for Ukraine is economy in the period of the end of the past century – beginning of the present.

The basic macroeconomic problems

Ideally, national economy is a system providing full use of resources and stable development. Since modern national economy has a market nature, then the problem of proportions and balances is expressed through correspondence of the supply and demand. The main types of equilibrium, the break of which generates the majority of the macroeconomic problems, include:

1. The equilibrium of the aggregate demand and aggregate supply. The periodic break of this equilibrium bring about the cyclic character of the national economy development – an interleaving in the state of the ascent and decline, i.e. indicators of the economic growth rate can be both with the sign «plus», and «minus». Obviously, that absence of the economic growth influences the level of society's requirements satisfaction negatively.

The achievement of the economic growth will mean the increase in the flow of the goods and services from enterprises to households and simultaneous increase of the income, other things being equal, got by the enterprises. One of the key macroeconomic problems is to know the mechanism of the economic cycle, its reasons, to reveal the factors, determining the economic growth, in the most complete way.

2. The equilibrium of the supply and demand of the money. It is known that the break of this equilibrium causes inflation or deflation. Macroeconomics must explain, what are the reasons of inflation (to that or other conditions) and how to provide the stability of the money unit, what are peculiarities of the influence of the inflation processes on the total economic dynamics.

3. The equilibrium in the labor market. One of the problems, painfully outlived by majority of the countries, is unemployment. Macroeconomics studies the reasons, generating excess of the labor forces supply on demand, as well as the forms and economic consequences of the compelled unemployment.

4. The equilibrium of budget receipts and on-budget expenditures. Since state is the influential economic subject, the questions of formation and use of the state budget belong to the main macroeconomic problems. Macroeconomics also concerns the analysis of the possible consequences of acceptance of some government's decisions in the national economy regulation.

So the main roles in economy belong to the producer and consumer of the product. The market is that mechanism, by means of which they adjust the relations. Together with that, «outside party» interferes into their cooperation – a government, which influences economy on behalf of society, and is a solving power in finding of the ways of the decision of the above mentioned problems.

RESUME

1. Macroeconomics is an area of the economic science, specializing in the study of the phenomena and processes which are typical for the economy as a whole.

2. Macroeconomic system is considered as national economy, which can be determined as complex of the economic subjects and relationships between them, characterized by the economic integrity, the common character in specific temporal and spatial limits.

3. The main features of the national economy are: a) presence of the close economic relationships between the managing subjects of the country on the base of the labor division; b) the common economic environment, in which the managing subjects act. First of all, the common economic legislation and financial system are presented; c) presence of the general economic centre, influencing the activity of the managing subject; d) presence of the common system of economic protection.

4. In Ukraine, as in any modern economic system, it is possible to select private and government (public) sectors. Households and private enterprises present the private sector. Institutions, producing goods and rendering facilities (the state enterprises, organizations) and adjusting structures (the government, central bank, local organ of power) form the composition of the state sector.

5. A system, providing full use resource and stable development, is in ideal national economy. Since modern national economy has a market nature, that problem to proportions, balances is expressed through correspondence of the supply and demand. The main types of equilibri-

um, the support of which is one of the most important problems of macroeconomic policy include the following: a) the equilibrium of the aggregate demand and aggregate supply; b) the equilibrium of the money supply and demand; c) the equilibrium in the labor market: d) the equilibrium of the budget receipts and on-budget expenditures.

6. Modern economy is mixed economy, where regulation of the economic processes is carried out both by the market and government without the decisive prevalence of one of them.

Main terms and notions

Macroeconomics
National economy
Features of national economy
Private sector
State sector
Mixed economy
Macroeconomic equilibrium

Exercises

Exercise 1. For each statement listed below find the right term or concept.

1. The set of economic subjects and relations between them, which is characterized by economic integrity, and common ideas in certain temporal and spatial measures.
2. Households, enterprises and government are considered at the macroeconomic level.
3. The set of households and private enterprises.
4. Section of economic science, in which the economy is considered as a whole and the activities of its subjects – through the use of aggregate economic indicators.
5. Presence of the close economic ties, general economic environment and system of economic protection as well as general economic center.
6. The set of state-owned enterprises that produce goods and provide services, and regulatory structures of the state.
7. The system of tasks which sets the state in the economic sphere.

8. Correspondence of the aggregate demand and aggregate supply at the level of national economy.

9. The economic system that combines mechanisms of market and government regulation.

Terms and concepts:

a) macroeconomic equilibrium;
b) private sector;
c) features of the national economy;
d) mixed economy;
e) the subjects of macroeconomics;
f) economic functions of the state;
g) state sector;
h) national economy;
i) macroeconomics.

Exercise 2. Find the only one true answer.

1. The concept «macroeconomics» characterizes:

a) conditions of the local ties and the way of economic subjects' interaction;

b) conditions and processes which characterize the national economy as a whole;

c) conditions of the national economy regulation;

d) features of the state's economic policy in certain period of time;

e) the way of economic subjects' interaction in the base of which the price system, competition and economic regulation of the state are laid.

2. National economy is:

a) the set of economic subjects and their ties, which are characterized by the economic integrity, common character in certain time and space frameworks;

b) the set of economic subjects, which are united with the general national class;

c) the area of the peoples' activity which is connected with industry, distribution and consumption of the goods and services, defined with some space frameworks;

d) interaction of economic subjects on the certain territory under the general coordinating economic subject.

3. Features of the national economy include:

a) presence of the planned state regulation of economy;

b) presence of the mixed economy system with market domination;

c) economic resources are in private property mostly;

d) presence of the general «rules of economic game»;

e) there is no right answer.

4. The necessary elements of the general «rules of economic game» include:

a) united economic legislation, national monetary system, national financial system, low level of unemployment;

b) united economic legislation, stable national currency, national financial system;

c) stable economic legislation, general system of foreign economic boundaries, presence of the general economic centre, low level of inflation;

d) united economic legislation, general monetary system, general system of foreign economic boundaries, presence of a single point of view about the effective economic policy of the state;

e) there is no right answer.

5. May the «national economy» be considered as the economy of any state:

a) yes, because any state acts in certain time and space frameworks;

b) no, because economic subjects are not always closely related with each other in boundaries of the state;

c) no, because the state can differentiate its relation to economic subjects based on the property forms;

d) yes, because the state always carries out the general policy related to economic subjects which are situated on its territory;

e) no, because the state can carry out the anti-people policy and act not according the nation's interests?

6. The general system of economic protection as a feature of the national economy suggests:

a) presence of the national monetary unit;

b) presence of the general centre which carries out regulation of the foreign economic ties;

c) formation of progressive taxation system of enterprises related to the private sector of economy;

d) domination of the state property over the private one;

e) there is no right answer.

7. Economic system in which the state carries out macroeconomic regulation:

a) centrally-planned economy;

b) mixed economy;

c) regional economy;

d) the right answers are a, b, c;

e) the right answers are a, b.

8. Macroeconomic proportions do not include relation between:

a) aggregate demand and aggregate supply;

b) aggregate consumption and aggregate savings;

c) savings and investments;

d) prime cost and profit;

e) there is no right answer.

9. The general economic environment as a feature of the national economy supposes:

a) presence of the united economic legislation;

b) domination of the state sector over the private one;

c) signing only the trade contracts with other countries;

d) the right answer is in a, c;

e) there is no right answer.

10. Imagine that all resources in mixed economy are used in such a way that it is possible to increase production of one good without technological change only by reducing production of another good. Economist will identify this as a sign of:

a) effectiveness;

b) ineffectiveness;

c) imperfection of market regulation;

d) lack of government intervention into economy.

11. The characteristic feature of the modern market system is:

a) a significant number of buyers and sellers in all markets;

b) completely free access to any economic information;

c) the decreasing state's role in the economy;

d) the lack of further development of the processes of labor division;

e) there is no right answer.

12. The main principle of the mixed economy system can be considered as:

a) prevalence of the private ownership for economic resources;

b) large-scale use of modern information technologies;

a) delegation of the traditional functions of social security to the market institutions;

c) globalization of economic life;

d) there is no right answer.

13. Instruments of government regulation do not include:

a) competition regulation;

b) monetary regulation;

c) taxes setting;

d) formation of the management structures at the enterprises of different forms of ownership;

e) there is no right answer.

14. Ukraine's economy:

a) during the last 30 years it has been developing as mixed economic system;

b) is still centrally-planned economic system mainly;

c) is almost independent from the economies of other countries;

d) the right answer is in a, c;

e) there is no right answer.

Exercise 3. Define which statements are true and which are false.

1. The main purpose of macroeconomics studying is to learn out the way of choice of the corresponding statistic data.

2. Macroeconomic analysis studies such notions as national income, price level and level of employment, aggregate demand, and aggregate supply.

3. The borders of the national economy coincide with the territorial boundaries of the country.

4. Government at the macroeconomic level is considered only as a producer of the certain goods and services.

5. Mechanism of economic system functioning as a whole is the object of the macroeconomic studying.

6. Mixed economy is formed by the government sector up to 50%, and the private one – up to 50% as well.

7. It is impossible to form the mixed economy system without the national monetary unit presence.

8. The significant amount of private enterprises presence is the important feature of the national economy.

9. Macroeconomic analysis covers production volume, price level, demand and supply, levels of the branch rates of the wage.

10. Macroeconomics is based on the actual condition of the economic system, so has the normative character in its nature.

11. Macroeconomics as a branch of economic theory studies the national economic problems, besides the state's economic activity.

12. Macroeconomic knowledge is important for owners and managers of the enterprises first of all to define in the right way which production should the enterprise produce.

13. Macroeconomic knowledge is valuable mainly for accountants, planners, statistics, but not for marketers and financiers.

14. Economy of any country in any period can be characterized as «national economy».

15. The objects of microeconomics and macroeconomics are almost the same.

16. Macroeconomic knowledge is not necessary for development of the enterprise's strategy.

Unit 2. GOVERNMENT AS THE SUBJECT OF MACROECONOMIC REGULATIONS

Thus, government is considered as a key subject of economic system in macroeconomic analysis.

The reasons, stipulating the need of government interference into economy, the main economic functions of the modern state, methods and tools of the government regulation, as well as such important question, as reflection of the public preferences in the state economic policy are analyzed in this unit.

2.1. GOVERNMENT IN THE STRUCTURE OF THE ECONOMIC RELATIONS

The need of government regulation of the economy

The need of government interference into society's economic life is caused, first of all, by the following:

1. The need of maintenance of the economy self-regulation conditions, efficient operation of the market. The government protects the market from its «enemies», monopolism is the most dangerous amongst them, the desire of the economic subjects to limit or even eliminate competition. If competition becomes weak, efficiency of business activity, as a rule, falls. Protecting competition, government protects efficiency.

2. The defects of self-regulation and the need to overcome them. Firstly, production of some goods and services is not beneficial for business sector (the reasons of this will be analyzed below). That is why, government organizes rendering the educational services, realizes construction of roads and bridges, creation and launching of space satellites, public service of the houses, sanitary checking, illumination of streets; it establishes and maintains organizations, called to provide safety of the people, etc. Secondly, market self-regulation does not provide full enough use of the available resources in society. First of all, this problem refers to the labor resource. The government can not provide full employment, however, it can and must influence situation in the labor market to stabilize it, support unemployed. Thirdly, market relations themselves do not provide efficient interaction of the economy and ecology.

3. The need of the certain income redistribution, an increase of accessibility to some goods and services. The mechanism of the income redistribution expects payments of pensions, scholarships, and different allowances from the state budget and off-budget funds. As to creation of more favorable circumstances for reception of separate goods and services for population, it is possible to name education, and medical facilities, functioning of the libraries, museums, and etc., as an example. Financing, in particular, educational programs, government creates the premises for mastering general and special education by the broad masses of population that raises the society's potential. The budgetary system of financing of the creation of the named goods and services have economic and social motivation that, however, does not exclude parallel use of the direct, or market, mechanism of their payment, as exists in Ukraine and many other countries of the world.

Circulations in economy with participation of the government

The economy is, first of all, interaction of the enterprises and households. This is movement of the goods (the services) and money. Alongside with that, government takes part in circulation too (fig. 2.1). So we shall consider, as enterprises and households interact with government.

Households – government. The part of resources, which are delivered by the households to the corresponding markets, is bought by government. For instance, government buys the services of the teachers, military personals, medical workers, managers, miners, drivers, and etc. All of these get jobs in the government structures. These structures create goods and facilities, which are bought or got by the households. The first circle, thereby, is closed. We shall analyze the second circle: government levies taxes for the households, then some part of these bankrolls is paid for the acquired resources that forms one of the sources of the households' income. The households can get from government bankrolls on the programs of the social security (for instance, pensions), as well as facilities (for instance, education), which are not directly paid by them.

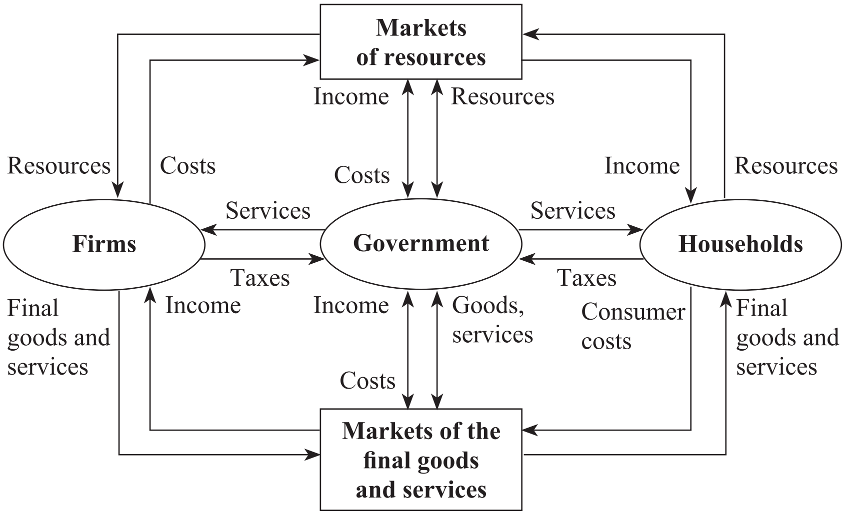


Fig. 2.1. Commodities and money circulations in national economy

Enterprises – government. The government can play the role of the buyer of the goods and services, created by the enterprises. For instance, the Ukrainian government annually buys grain for the state funds from agricultural producers. The government also buys all necessities for maintaining of the army, police, schools, hospitals and etc. On the other hand, government gives a row of the goods and services for the enterprises: selects the land, provides water, many services, for instance, judicial protection, and etc. To buy necessary goods and services, as well as, to organize production of some types of them, government needs money, which it gets using the tax system.

2.2. GOVERNMENT ECONOMIC FUNCTIONS

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

«The rules of the game»

It is possible to consider formation of the legal base of economic activity as one of the key functions of the state. By means of laws and other normative acts, government sets «how it is possible and impossible» to act for the subjects of management. The government defines and protects the rights of ownership, status of the enterprises, the rights of producers and users, conditions and forms of intermediary activity, the rules of the goods realization, conditions of the foreign investments distribution and a great deal of the other things. The legal rules have importance only when they are effective. That's why government must organize a control for observance of the «rules of the game» by the participants of economic life, execute the functions of the sovereign judge and punish violators. The violations of economic legislation may be connected with non-observance of the terms of the goods delivery, restriction of competition, unfair advertisement, spreading of false information about quality, characteristic features of goods and other circumstances.

Government activity in the sphere of economic legislation creates one of the important premises for normal functioning of the separate economic subjects and national economy as a whole. It is condition for calm and certain operation of the households and enterprises. Certainly, this system can bring inconveniences and economic losses for the separate subjects, but as a whole it is undoubtedly profitable for society. It is a barrier for the spontaneities, characteristic feature for any civilized co-operation of the people.

Support of competition

Presence of competition forms one of the main conditions of the market efficient operation. The potential of the free entrepreneurship is the best advantage realized in interest of the consumers at presence of the competitive fight only. The factor of producers' competitions creates the possibility of the free choice for consumers, and it provides their influence upon the goods sellers. Alongside with that, the desires and actions, directed to restrict or even remove economic competition, is revealed amongst participants of the market relations. Any economic agent is both seller and buyer simultaneously. The enterprise, for instance, is the buyer of the resources required for the goods production, and rendering of the services. As buyer, the economic agent is interested in economic competition in the markets, where he buys the necessary products. From this competition he can get the advantage in the price, quality, and conditions of the after sale service and etc. But as seller, the economic agent is not interested in competition in the markets, where he sells his products. He «suffers» from competition: it can negatively influence his incomes, future possibilities and etc. So there is always an interest to reduce or even remove competition in the market. We can see that the conquest of the monopoly position in the market by some seller changes the state of affairs in «seller-buyer» relations: seller gets the possibility to dictate his own conditions, he falls the interest to reduction of the costs, scientific and technical renovation production, and marketing activity. Thereby, a degree of efficiency of the use of economic resources falls. The market itself does not possess necessary immunity against monopolism, it needs the external help. The government renders such help, conducting actions in protection and development of competition, which are quite often named «the antimonopoly policy» as well.

Production of the goods

The organization of some goods and services production forms one more government economic function. The business sector does not show the interest to creation of some goods and services necessary for society. The businessmen either do not undertake production of some goods (the services) at all, or do not provide their sufficient offer. To the earlier given examples it is possible to add the fundamental scientific research, goods production with the long pay-back period of the costs and some others. Such goods are quite often named as «public» goods and services: the government is dealt with, their creation since they are not produced or are produced in insufficient amount within the frameworks of the market system. Besides, government «withdraws» purposefully production of some goods and services from the market (for instance, – partially, education, medical service, culture), supposing that the government needs to deal with them from the point of view of the national interest. The reasons, why the market refuses to pay attention to some goods and services, are dealt with the following: a) by impossibility to take the payment per goods or services from all, who use them. At the dark time of the day it is preferable to be in the streets, if there is illumination. As it is well known, the government undertakes this care, more exactly, – authorities. If that was done by the private company, would it be able to get payment from all, who benefit from street illumination? Obviously, it would not;

b) by the long pay-back period of the costs. Practically the governments in every country give appropriate funds to fight with such exceedingly dangerous disease, as AIDS. The physicians and scientists search for the ways of its curing. Today nobody can say even approximately, when they will be found. But who will define more or less exactly the possible pay-back periods of the invested funds? Private investments participate in realization of the programs, alongside with the state ones, but, as a rule, – their participation is enough limited. The private capital goes into the economic projects with the remote pay-back period rather conservatively.

Redistribution of the incomes

The essence of the economic function of the government consists in the fact that it takes away the part of the incomes of population and businesses, using the tax system and sends the money to the certain category of people. This transmission can be realized in different ways. The transfer payments are one of them, they directly form the money incomes of retirees, invalids, unemployed, temporarily workless because of disease and etc. The other way is reducing of the price of some goods and services of the expense of the state additional charges (the grants) to their producer. It means that consumers, getting some goods and services, do not pay their cost completely. The government pays some part of the cost instead of consumers. For example, in Ukraine it is possible to name the journey in the public transport, granting of the public utilities to population, realization of some types of medicine and others as such costs.

The government can completely eliminate payment of some goods and services for some categories of population (for instance, retirees, invalids). Getting goods and services with partial personal payment or without it, these people enlarge their own real incomes, i.e. that amount of goods and services, which they can use.

Taking into account the external effects

The producer and consumer are two sides in any economic deal. They pay the costs and have benefits, connected with creation and consumption of the object of their relations – the goods or services. However very often these costs and benefits are distributed not only between direct participants, but they «are got» by the third party too – as a result we can see the external effect. External effect is a displacement of some costs or benefits, connected with production or consumption of some goods, to the subjects, which are not their sellers or buyers.

The external effect can be both negative and positive for the third party. Movement of the negative costs is possible to present the most graphically in the examples connected with contamination of environment. Let's assume that Dnipropetrovs'k metallurgical enterprise (fig. 2.2) sells the metal to Kharkov machine-building enterprise, getting some income for this. Herewith the metallurgical plant does not provide complete utilization of the wastes in atmosphere: as a result Dnipropetrovs'k inhabitants suffer the costs, connected with that they breathe the polluted air, and it adversely affects their health. And nobody will compensate these compelled costs unless efficient interference of government takes place, which by means of legal and economic instrument can force the metallurgical enterprise to undertake expenses on the use of the more efficient systems of environment protection, technological improvement and, hereunder, really undertake all costs, connected with production of the given goods. Their sale has to cover all incurred costs, if the market situation is correctly accounted.

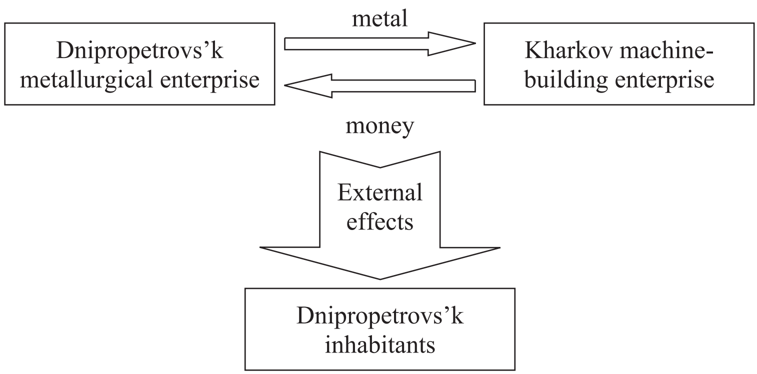


Fig. 2.2. External effects

The external effect can have the positive nature, too. For instance, having built a cultural centre, having built a garden with fountains, benches, and baby seesaws around it, metallurgical enterprise will give the beautiful possibilities for the rest not only of workers of its enterprise; workers from other enterprises, and the other inhabitants of the city will come here and get the positive external effect. Granting such effects must be encouraged by government.

Implementation of macroeconomic stability

None economic system has the absolute stability. Fluctuations in the volumes of national production, the prices, and employment are typical for any economy. The government economic policy has the aim to smooth the economic fluctuations and promote: a) economic growing; b) the prices stability; c) achievement of full employment. These problems are rather important in macroeconomic analysis, and we will consider on them in details in the following unit.

2.3. METHODS AND INSTRUMENTS OF GOVERNMENT REGULATION. ECONOMIC POLICY

How can government influence the households and enterprises behavior? It may use methods, rather known in practice of control at any level (including the families): enforcement (direct regulation) and motivation (indirect regulation).

Direct regulation

The government direct regulation of economic relations (the enforcement) expects direct establishment of some obligatory norms in economic subjects' relations. The forms of such regulation include: determination of the minimum salary, order of engagement of some expenses into the accounting costs, insurance deductions, minimal of the statutory capitals of different enterprises, direct determination of the prices and etc. The enforcement limits freedom of activities by the economic subjects; it is unpopular, it quite often causes painful reaction from business and households. But objective, and realistic sight on the problems requires to confess the inevitabilities of the enforcement use. It is impossible to organize economic cooperation without it. The problem is not in the enforcement itself, but in the scale of its using. It is important to find the reasonable measure, and use the enforcement in the reasonable doses. The physicians know that it is exactly the dose that defines difference between the medicine and poison.

Indirect regulation

The government indirect regulation of economic relations (motivation) expects the influence on the economic subjects' activity through the change of the conditions in which it is realized. It is an indirect influence; it is not built on factor of the «knout», punishments, and fear. There motive of utility, rationality that or other action is used here. The tiger jumps through the burning ring in circus not because he is afraid of trainer, but because he expects to get the remuneration exactly for such action. The government does not limit the freedom of the economic subject choice, but tries to persuade, and interest it to take certain decisions. It uses such tools, as tax, budgetary expenses, credit-money regulation, and foreign economic policy to do that.

Economic policy of the government. Public choice

Government economic policy is measures taken by the state, directed on decision of the economic problems of society. How are these measures defined? Whose interests do they reflect? What is the people's influence on the government economic policy? How can they declare about their own preferences?

These and other similar questions attract great attention of economists, and political scientists. The «public choice» theory was formed in economic science (the American economist James Buchanan stands out among its representatives).

The «public choice» theory is a branch of the economic science, studying process decision making by government. The government economic policy has to reflect the public choice, i.e. preferences of the country's citizens. Since all people can not have the alike point of views on the organization the economic life of society, and on government decisions that must be made, the government economic policy has to reflect the interests of the majority. The way of formation and expression of the public choice is very difficult. There are very important questions: how to create the necessary conditions for revealing the public preferences and how to organize the public preferences implementation practically.

We shall begin with the first question. How can each of us declare about his own preferences? In democratic country it is possible to define the following ways:

– firstly, at election of the people on government posts. Usually, the candidates bring forth their own political programs, in which economy occupies the most important place. Voters get acquainted with them and support or do not support them, voting «pro» or «contra»;

– secondly, through political party activity. Each party develops the program concepts of activity, has economic purposes and projects. Participating in activity of one or another party, voting for some party, person hereunder voices its attitude to certain economic problems;

– thirdly, through trade union activity. The range of economic problems, which are considered by the trade unions, is rather broad. The economic positions of trade union usually reflect the economic moods of very big groups of people;

– fourthly, through the mass media functioning (television, radio, and periodicals);

– fifthly, by holding referendum on the most important questions.

Revealing of the public preferences is necessary to react on them, take into account in the government economic policy. The degree depends on many circumstances: for instance, on organization of government authorities in the country, on what is the strength of the dependence of position on degree of the correspondence of the politician's activity to the interests and preferences of the voters. It also depends on political culture, and political tradition. The political practice gives the examples, when candidates give some promises on the stage of election, but after victory the real actions have, very different nature. As a whole, in democratic society we can see much more chances to realization in political actions of the public preferences. However we should not to idealize the politicians and think that they always follow the public interests. The «public choice» theory advises to analyze their actions in the same way, as making economic decisions by the households and enterprises. But the last ones as it is well known, follow, first of all, satisfaction of their own interests. If this regularity really reveals itself at the political level as well, then political system of the country must reflect the key principle of the market: the personal welfare of the certain subject critically depends on how his own actions and results satisfy the needs of the other people.

RESUME

1. In the mixed economic system the market and government play the role of the national economy regulators. The need of the active government participation in economic life of society is caused: a) by the need to maintain the conditions of the economy self-regulation, of the efficient market operation; b) by defects of self-regulation and the need to overcome them; c) by the need of certain redistribution of the income, an increase of accessibility to some goods and services.

2. In modern economy the government executes the following main functions: a) formation of the legal base of economic activity (the «rules of the game»); b) protection and development of competition; c) organization of production of some goods and services; d) income redistribution; e) taking into account the external effects; i) realization of macroeconomic stabilization.

3. The government uses methods of direct (enforcement) and indirect (motivation) regulation of the economic relations. The first expects the direct establishment of some obligatory norms in relations of the economic subjects, the second – an influence on the activity of the economic subjects through the change of conditions, under which it is realized.

4. The government economic policy is the measures taken by government, directed on solution of the society's economic problems. This policy has to reflect the public preferences. The «public choice» theory is a branch of the economic science, studying process of decision making by government. The problem of the public choice includes two the most important moments: a) creation of the conditions for the public preferences revealing; b) organization of practical realization of the public preferences.

Main terms and notions

The need of the government regulation of the economy
Circulations in economy with government participation
Government economic functions
Goods and services of public consumption
Transfer payments
External effects

Direct government regulation
Indirect government regulation
Government economic policy

Exercises

Exercise 1. For each statement listed below choose the right term or concept.

1. Focused activity of the state related to creation of legal, economic and social preconditions which are necessary for the effective functioning of the market mechanism and minimization of its negative consequences.

2. Providing of the economic growth, price stability and full employment.

3. Direct establishment of the certain obligatory norms in relations of the economic subjects.

4. The system of the state's measures aimed to solve society's economic problems.

5. Government procurement, taxes, transfers, monetary emission and so on.

6. Influence on the economic subjects' activity with the help of the change of conditions in which this activity is carried out.

7. Legal conditions of the economic subjects' activity.

8. Moving of some costs or benefits, connected with production and consumption of the certain goods, to the subjects which are not direct sellers or buyers.

9. Branch of economic science which studies the process of the state's decision-making.

Terms and concepts:

a) instruments of state regulation;
b) «rules of the game» in economy;
c) state regulation of economy;
d) direct state regulation;
e) external effect;
f) theory of the public choice;
g) purposes of macroeconomic stabilization;
h) state's economic policy;
i) indirect sate regulation.

Exercise 2. Find the only one right answer.

1. Factors which cause the necessity of government intervention in economy into modern conditions:

a) market subjects are interested in competition decreasing (elimination) so it is necessary to protect competition;

b) uncontrolled differentiation of incomes threaten the social stability, makes the society's progress complicated;

c) market mechanism can't provide sufficient business interest in production of certain goods and services;

d) right answer is in a, b;

e) right answer is in a, b, c;

f) right answer is in a, c?

2. Necessary condition of the effective government regulation of economy is:

a) domination of the state property over the private one;

b) domination of the state capital in power industry, transport, and banking;

c) absence of any conflict between legal and executive power;

d) stable bases of economic legislation;

e) right answer is in c, d;

f) right answer is in b, c, d.

3. Economic functions of the state in modern public systems do not include:

a) competition protection,

b) social provision of the certain levels of population;

c) economy stabilization;

d) incomes redistribution;

e) elimination of the side (external) effect;

f) guarantee of the definite minimum of income for each employable member of society;

g) there is no right answer.

4. External (side) effects in economy:

a) movements of some benefits or costs related to production or consumption of certain goods to the subjects which are not their direct sellers or buyers;

b) harmful impact of production on environment related to the ineffective system of technological protection;

c) elements of unfair competition in entrepreneurial activity, which harm buyers of certain goods and services;

d) generally positive new normative documents of the state that, due to certain circumstances, bring some negative aspects into the terms of economic activity;

e) right answer is in b, c, d;

f) there is no right answer.

5. The state in a system of mixed economy:

a) uses only methods of indirect (economic) influence on the economic subjects' behavior;

b) uses methods of direct (administrative) and indirect influence on economic subjects' behavior;

c) tends to avoid methods of administrative influence on economic subjects' behavior;

d) can do without the methods of the administrative influence on economic subjects' behavior and it is necessary to tend to this;

e) the right answer is in b, d.

6. Stabilizing macroeconomic function of the state should provide:

a) inflation curbing;

b) national production volume increase;

c) state expenditures decrease;

d) absolute employment;

e) small business development;

f) the right answer is in a, b, c, d, e;

j) the right answer is in a, b, c, d;

h) the right answer is in a, b.

7. What is illogical here:

a) taxes;

b) state expenditures;

c) antimonopoly policy;

d) credit and monetary regulation;

e) licensing;

f) price competition?

8. In the resources, commodities and money circulation model the households are:

a) subjects of the resources market;

b) subjects of the final products market;

c) buyers of resources;

d) the right answer is in a, b.

9. The main economic purposes of society do not include:

a) economic growth;

b) employment provision;

c) social protection of the certain groups of people;

d) stable general price level achievement;

e) small enterprises support.

10. State subsidies are:

a) money given free of charge only to the state producers of the certain goods or services;

b) all expenditures of the state budget;

c) direction of the state money to purchase most important import goods for the state;

d) direct or indirect state financial support of enterprises;

e) there is no right answer.

11. Boundaries and directions of the state regulation in the system of mixed economy are defined with:

a) ambitions of the officials;

b) inability of the market to regulate some economic processes effectively;

c) necessity to coordinate the demand and supply with the purpose to regulate prices;

d) there is no right answer.

12. Economists of Keynesianism in a period of economic recession recommend to:

a) increase indirect taxes;

b) increase direct taxes;

c) increase state expenditures;

d) stimulate import along with the export decrease стимулировать.

13. Any private enterprise in the system of mixed economy is:

a) interested in competition development;

b) not interested in competition development;

c) from one side is interested in competition development and from the other side is not;

d) is interested in competition support;

e) the right answers are in a, d.

14. Direct state regulation does not include:

a) setting of the minimum statute funds of enterprises;

b) setting of the minimal wage level;

c) direct setting of prices for certain goods and services;

d) setting of export duties;

e) setting of requirements to preservation of the enterprise's specialization after its privatization.

15. «An increase of the number of private enterprises in the state is the feature of ____________________». Fill in the gap with the missing words:

a) effectiveness of the state direct regulation;

b) effectiveness of the state indirect regulation;

c) a decrease of the production volumes in the state sector of economy;

d) favorable conditions for the business in the state;

e) the right answers are in c, d.

Exercise 3. Define which statements are true, and which are false.

1. Public goods should be produced by the state only.
2. Side effects in economy are the negative effects of the goods production.
3. In mixed economy the maximum boundaries of the state intervention into economy should be clearly defined.
4. Regulation of the economic relations from the state's side is inevitable in any society.
5. The market has no inside «enemies».
6. Secondary education, the parents should pay for, is the example of the incomes redistribution.

7. Households are not the subjects of supply in the markets of resources.

8. State cant be the buyer of the consumer goods.

9. «Rules of the game», set by the state are applied only at the enterprises of the private sector of economy.

10. Any enterprise is not interested in competition absolutely.

11. Private sector does not show enough interest to create certain goods and services which are necessary for society.

12. The market has proper immune to monopoly.

13. Side effect is the negative effect for the «third» side.

14. Direct state regulation is unfavorable for economy.

15. Identification of the public economic preferences is absolutely impossible in the modern society.

16. Necessity of the state intervention into economy is defined by inability of the market to solve some economic problems.

Unit 3. INDICATORS OF NATIONAL ECONOMY

Let us carry out small experiment before we start studying this topic. Ask your friends: what country is more advanced – France or Laos? When you have the answer, try to find out on the basis of what indicators the one who answered has drawn his conclusion. Here you will notice that a lot of people have difficulties with substantiation of the answer.

In ordinary life very often we divide the countries into developed, middle-developed and underdeveloped, not thinking about the criteria to determine the country's development levels. On the microlevel while characterising the enterprise's position we use such indicators as constant, variable, average and marginal costs, average and marginal revenue, depreciation charges, fixed capital etc. What indices do we use to express results of functioning of national economy as a whole?

We have shown only one problem which solution demands application of indicators of national economy. Actually there are a lot of problems. We will try to find out, in what quantitative indices it is possible to characterize national economy and its dynamics, how to calculate parameters of national economy, what connection is between them. Answers to these questions form the basic contents of this unit.

3.1. INDICATORS OF NATIONAL MANUFACTURE

The role of macroeconomic indices

Macroeconomic indices are set of quantitative characteristics of national economy. The sphere of macroeconomic indicators application is very wide. But it is possible to allocate some of the most important problems which can be solved with the use of the national economy indices.

1. Management of national economy. As soon as the government becomes the active participant of economic life, it aspires to give purposefulness to its actions. One of the management functions is planning. Planning, as is known, assumes the analysis of an actual condition, definition of a desirable condition and revealing of ways of transition from the first condition to the second one. It is possible to do that only using some quantitative macroeconomic indices. The matter is that individual indicators, for example, volumes of production of different kinds of products, can have dynamics with different directions, and therefore some resulting indices formed as equally effective set of individual indices are necessary. The control is the other major function of management. It is necessary to compare actual results with the planned targets to carry out the control over the government actions productivity.

2. Reception of the information concerning national economy's condition. Solving the problem about capital investments, say, into Ukraine, the foreign investor first of all studies the macroeconomic indices describing the present condition of our country's economy, the tendency of its development, and prospects.

3. Estimation of the country's economic potential. Rather frequently there is a necessity to generalize estimation of the country's economic potential: is this or that country ready to render the serious rivalry in the world market; how much will economic opportunities increase of the international organization when the new country enters it? It is possible to answer convincingly those and similar questions only on the basis of the macroeconomic indices.

4. International comparisons. We have begun to present of this theme stressing the importance of international comparison of macroeconomic indices. We use macroeconomic indicators of every country to determine its place in the world «table of ranks». We will use of these characteristics in the subsequent themes, where the modern world economy is analyzed.

The system of national accounts

The system of macroeconomic indicators carries out the same role, as the accounts at the enterprise. Therefore such indices are called national accounts too. The **United Nations System of National Accounts** (often abbreviated as «SNA» or «UNSNA») is an international standard system of national accounts, the first international standard being published in 1953. Handbooks have been released for 1968 revision, 1993 revision, and 2008 revision.

The aim of SNA is to provide integrated, complete system accounts enabling international comparisons of all significant economic activity. The suggestion is that individual countries use SNA as a guide in constructing their own national accounting systems, to promote international comparability. However, adherence to an international standard is not, and cannot, be rigidly enforced, and the systems used by some countries (for example, France, United States, and introduced to China by Fengbo Zhang) differ significantly from the standard. In itself this is not a major problem, provided that each system provides sufficient data which can be reworked to compile national accounts according to the United Nations standard.

The system of national accounts is the set of indicators of the consecutive and interconnected description of the major processes and the phenomena in economy: manufactures, receptions of the income, consumption, movement of the capital etc.

Since 1994 Ukraine has been using the system of national accounts recommended by the international standards. According to the accepted technique all subjects of national economy (institutional units) are subdivided into five groups (sectors):

1. Not financial corporations. The enterprises which are carrying out market manufacture of the goods and services with the purpose of the profit reception are included into them.

2. Financial corporations. These are the market institutes specializing in financial-intermediary activity (banks, investment funds, trust companies, insurance companies etc.).

3. Sector of the general government management which includes controls of the central and local levels, the noncommercial budgetary organizations and inappropriate means.

4. Sector households, uniting physical persons as consumers, and sometimes – as subjects of not corporate industrial activity.

5. Sector of the noncommercial organizations serving households. It includes the political, religious and other organizations which do not have the task to receive the profit.

Measurement of the national manufacture volumes

The most trustworthy information about volumes of manufacture is given with natural parameters. Is it possible to express in physical units all volume of manufacture in the country, if the most various kinds of production are made? Certainly, it is possible to calculate total amount of goods manufacture in tons (without services). And this parameter will make sense, if we want to calculate total amount of a goods turnover or need for vehicles, and that rather approximately. But it can not carry out in any way a role of generalizing parameter of all economy functioning. Modern manufacture on the nature is commodity overwhelming majority of the created products and services are united the common property – the price. As the common denominator, it makes comparable the most various goods. But, on the one hand, the monetary estimation allows simplifying process of summation and calculation of volumes of manufacture, and on the other hand it derivates many problems about that there will be a speech in the following paragraph. The simplest way of calculation of volumes of national manufacture could be summation of volumes of manufacture the goods and services by each enterprise of the country. But, as you know, the simplest is not always the best. We are going to show it on the following example. We will imagine that some hypothetical national economy consists only of four enterprises: a colliery (mine), coke factory, metallurgical combine and machine-building factory. Results of their activity are submitted in tab. 3.1

Table 3.1

Variants of the total results calculation

Enterprise	Type of product	Total product, MU	Added value, MU
Mine	coal	200	200
Coke factory	coke	500	300
Metallurgical combine	hire	800	300
Machine-building factory	machines	1500	700
Total		**3000**	**1500**

The received indicator – 3000 MU (monetary units) – in the system of national accounts refers to **gross output**, as general total value of the goods and the services, created by residents (citizens and the legal persons registered in territory of the given country) for any period of time. Will it reflect final results of functioning of our conditional national economy? No. The matter is that cost of coal was included into the cost of coke for which manufacturing of coal was used. Further, consumed during manufacture of hire coke has made a part of cost of hardware. Therefore at such method of calculation the repeated account deforming results of activity is supposed. Besides the total sum depends on the manufacture organization too. We will imagine that the metallurgical combine was divided into the domain, steel-smelting and rolling enterprises making, accordingly, 1000 MU of pig-iron, 1100 MU steel and 1200 MU hire. Then our indicator would increase at once up to 4500 MU though any changes have not taken place in natural parameters.

It is possible to exclude the repeated account and to provide the authentic characteristic of final results with the help of the parameter which has the name **a gross domestic product (GDP)**. It can be defined as **the total market value of the final goods and the services produced within a country for a given period.** It differs from total product on size of an intermediate product, in other words on cost of the goods, exposed to the subsequent processing, processing or resale.

Each word in the given definition has the semantic meaning. Students frequently ask me: «I do not remember exact definition. Let me give definition using other words». I answer: «Certainly, if they are correct words». Let's talk about sense of each word in the definition of gross domestic product.

Market means that production which does not pass through the market is not taken into account under the GDP calculation. It is, for example, everything, that was grown on the site and consumed in housekeeping. Therefore than densities of not commodity manufacture more, especially the parameter of gross domestic product is inexact.

Value means that gross domestic product is measured in the monetary form. On the one hand it is good, as all goods are comparable so cost. But on the other hand, the size of gross domestic product depends on a price level. Therefore for reception of the information about the real volume of gross domestic product it is necessary to learn to eliminate the influence of the prices change.

The final goods and services. At calculation of gross domestic product the intermediate product is not taken into account, therefore the gross domestic product is free from lacks of such parameter as a total product.

Produced within a country. At calculation of the gross domestic product the territorial principle is used. At calculation of the gross national product the national principle is used: the product made only by residents is taken into account.

For a given period. As a rule gross domestic product pays off for one year. Other variants are possible.

Ways of GDP measuring

In the beginning let us try to calculate, what sum of money you spent for your residing and training last year. It can be made by two ways: to sum up all incomes for one year and to correct them on size of the accumulation change, or to sum up all payments which should be made to you. In tab. 3.2 the conditional outline of such calculation is submitted.

Table 3.2

Calculation of the cost circuit

Income items	The sum	Items of expenses	The sum
1. The grant	300	1. A feed	400
2. The help of parents	250	2. Habitation	100
3. Extra earnings	70	3. Purchase of clothes	80
4. Other incomes	20	4. The educational literature	10
5. Accumulation by the beginning of one year a minus of accumulation on the end of year	-20	5. Other charges	30
In total	**620**	**In total**	**620**

The same result will be received summarizing both income changes and all charges for this period. Similar reasoning will result for us in detection of GDP calculation ways. So, as it follows from definition, GDP is a total market cost of the final goods and the services. It is possible to calculate, how much it was necessary to pay to all finish consumers for the purchases of this production. But the charges of some individuals are necessarily the incomes of others and consequently, we receive the same result, if we summarize all incomes obtained by sellers from realization of production. Differently:

GDP = Volume of expenditure on the goods purchase made in the given year = The monetary incomes received from production of the given year

Households, enterprises, the state or foreign consumers, who are carrying out charges on the goods purchase, can act as the subjects of national economy. The parameter of the net export as a difference between export and import is usually used to characterize the last element in calculation of the gross domestic product. Owners of any resources (the labor, capital, ground or entrepreneur's abilities) and the state act, first of all, as recipients of incomes. In general we can say about two ways of GDP measuring: ***expenditure approach and income approach*** (fig. 3.1).

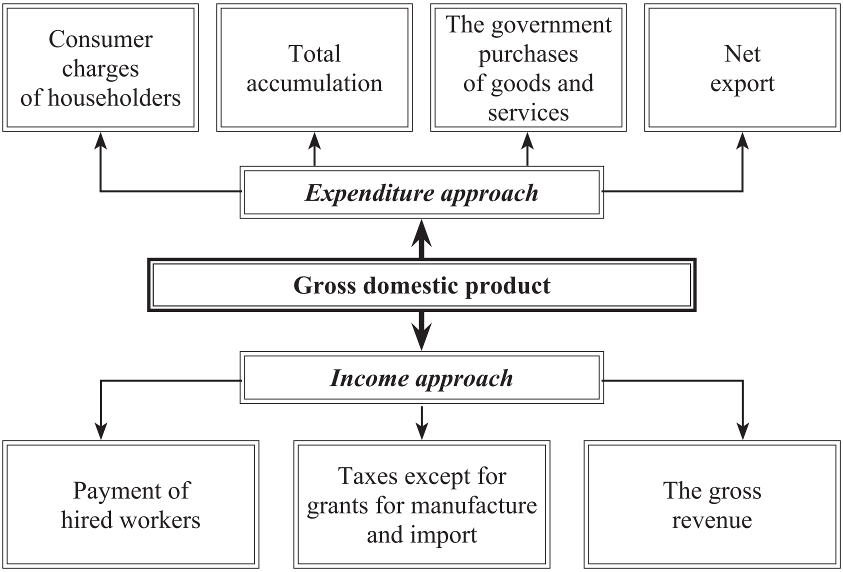


Fig. 3.1. Ways of GDP measuring

For the best understanding of this calculation it is necessary to consider the following:

1. Consumer charges of households, noncommercial organizations and charges of official bodies for satisfaction of individual and collective needs of a society form ***final using of material goods and services***.

2. Total accumulation is a result of investments. The last ones are the use of means to gain a fixed capital and increase the material turnaround means.

3. Net ***exports*** will have a plus when deliveries abroad exceed deliveries in the country of the imported goods. At a return parity this parameter will have a «minus».

4. Taxes to manufacture and import include only those payments to the state, which are directly connected with the volume or cost of the made and sold goods (the value-added tax, the duty), its export from the country (the export duty). Here payments of the enterprises and organizations into the state budget and inappropriate funds are also considered in connection with the use of resources and reception of sanctions for specific kinds of activity (for example, the license for realization of retail trade or operations with securities).

5. The gross revenue is the parameter describing the excess of incomes above the operational expenditure, which enterprises have as a result of manufacture. The net profit is determined by exception of the consumed fixed capital (amortization) from the gross revenue.

6. Grants are a compensation of the enterprises costs from the state budget to manufacture separate kinds of production or to realize some kinds of activity.

3.2. NOMINAL AND REAL GDP

The change of a price level

The system of national accounts is under construction on use of monetary units of measurement. Therefore dynamics of the gross domestic product and other macroeconomic parameters are under the influence of not only the change of the physical volumes of manufacture, but also of the prices dynamics. If gross domestic product has increased in comparison with the last year on 10%, it does not mean that the physical volumes of manufacture have increased by the one tenth parts. Thus, they could even be reduced if the prices grew faster. Therefore for reception of trustworthy information about dynamics of the physical volume of manufacture it is necessary to take into account the price level change.

We have determined the gross domestic product as the total market cost of the final goods and services. It can be calculated as the sum of the cost of the appropriate goods. If we take for calculation the volumes of manufacture for the yeas 2012 and the prices for the same period, we receive the nominal gross domestic product. ***Nominal GDP is the volume of manufacture expressed in the prices, existing at the moment of its reception.***

$$GDP_N^{2012} = \sum_{i=1}^{n} Q_i^{2012} \cdot P_i^{2012}.$$

But this parameter does not reflect the real change of the gross domestic product volumes. Very strong influence on GDP dynamics renders the prices change. So to remove it, it is necessary to calculate the gross domestic product for the year 2012 using the comparable prices of the year 2011. In this case we receive the real gross domestic product. ***Real GDP is the volume of manufacture expressed in the comparable prices (changes depending on a choice of the base period).***

$$GDP_R^{2012} = \sum_{i=1}^{n} Q_i^{2012} \cdot P_i^{2011}.$$

However, it is very difficult to use in practice this variant of calculation of the real gross domestic product. First of all, there is a huge production assortment and it is very difficult to make the appropriate calculation (technically). Secondly, if we take the long-run period there is a set of the goods which were not made in the basic period compared, and therefore there are no comparable prices. It is necessary to search for variants of comparison of the gross domestic product volumes for different years, using a price index.

As a rule, the prices dynamics is expressed as an index. The price index (I_P) is a ratio of the price of the certain products set in the given year to the price of the same set in the base year:

$$I_P = \frac{(\text{The price of products set in the given year})}{(\text{The price of products set in the basic year})} \cdot 100\%.$$

On the basis of a price index value we can judge about the purchasing force of monetary unit. If $I_P > 1$, it is inflation, if $I_P < 1$, it is deflation.

The price index of the gross domestic product (deflator GDP) is widely applied in world practice**.** It is calculated on the certain circle of the goods including, except consumer goods, the investment goods, the raw material, and exported production. With its help effective individual tendencies the prices change for the separate goods may be determined. If, for example, in the year 2012 the price index of GDP has made 110% in comparison with 100% in the year 2011, it means that the general price level for this period has increased on 10%. If thus for the year 2000 the price index is determined in 50%, it is possible to assert that in the year 2000 the prices were lower on the average in 2 times, than in the year 2011.

Updating of the gross domestic product

Calculation deflator gross domestic product allows carrying out comparisons in time of the physical volumes of national manufacture. **Nominal gross domestic product** is the manufacture volume expressed in the prices, existing at the moment of its reception. If for the considered period the price level had changed, the nominal product of the given year by comparison to a nominal product of the base year gives the deformed information about the dynamics of manufacture in the natural expression.

Real gross domestic product is corrected in view of inflation or a deflation volume of manufacture of the goods and services for one year:

$$GDP_R = \frac{GDP_N}{I_P}.$$

3.3. INDICATORS OF THE GROSS DOMESTIC PRODUCT USE

Consumption and the savings

The condition of national economy, its dynamics, the standard of well-being and many other characteristic features depend on proportions in which the GDP shares on various directions of its use. As it has been already marked, the part of the gross domestic product as the depreciation charges has quite certain applicability (restoration of the consumed part of the capital), and the user's freedom of a choice in this sphere is rather limited. The stayed part (a net product) is subdivided into the fund of consumption and the saving.

The fund of consumption is the part of a net product used for satisfaction of the population's personal needs. It is used unproductively, forms a basis for reproduction of people and its development. The total fund of consumption develops from *the funds of individual consumption,* formed due to personal incomes of citizens and transfer payments of the state, and *public funds of consumption*. The last ones provide satisfaction priority for a society and appreciably for each person's of needs and are intended for formation of necessary social conditions of stable economic growth as within the limits of the separate enterprises, and a society as a whole. This part of the goods and services is consumed, as a rule, collectively and provides the certain alignment of real incomes of various members of a society. Due to public funds of consumption the needs for education, public health services, social security etc. are appreciably satisfied.

The share of consumption in GDP may be the important characteristic feature of a level of the country's development and parameter of well-being. Analyzing the fact sheet of the various countries, it is possible to find out that, as a rule, the more a level of the country's development is, the more this parameter is. So, in the USA it reaches almost about 70 %. In Ukraine the share of consumption in GDP is 65%.

However, overwhelming majority of addressees of incomes does not use them for consumption in full. The part of the income due to those or other reasons is postponed, and saved up. **Savings** is the income left after payment of taxes, not spent for the consumer goods purchase. Savings can be caused by a range of various reasons including the following ones:

– refusal of the current consumption with the purpose to improve consumption in the future. The young family, for example, limits the consumer charges now, expecting to increase consumption after the child's birth;

– the savings as insurance fund. Studying political economy we said about the needs such as struggle against the risk, and aspiration to stability. Savings is a form of such struggle. They allow to keep or reduce consumption at disappearance of a source of the income (illness of the worker, loss of work, deterioration of the enterprise's position in the market which caused reduction of wages, dividends etc.);

– smoothing of a consumption level in time. For example, seasonal workers receive the income only for a certain part of the year, and therefore, the part of it is postponed for consumption in the subsequent periods;

– accumulation of the money to purchase the durable goods. The current incomes of the majority of the households do not allow to get all desirable goods at once. Rather frequently they form savings during more or less long period to purchase a house, car etc.;

– reception of the additional income. Aspiration to invest this money to receive the additional income can be direct motive of the savings. Aspiration to receipt the additional income by investment of savings into some establishments of the financial system or securities purchase is the most typical for the households.

Investments

From the point of view of charges, GDP includes the consumer charges and total investments. The means, allocated on consumption in incomes, should be equal to the consumer charges. Hence, it is necessary to analyze a parity of savings and investments for achievement of equilibrium of the total incomes and total charges.

Savings is a potential source of investments. Savings turn into real investments only in the hands of those who use them productively. Concepts of investments from the point of view of a society and individual do not coincide. The person, buying shares of the enterprise, invests money in his representation. From the public point of view it is impossible to recognize as investments in social production. There were no changes: the right for the income reception has passed from one to another.

Investments (capital investments) **are expenses for the purchase of machines, equipment and other means of production, construction and an increase of industrial stocks.**

From the point of view of reproduction the investments are subdivided into two parts:

a) The capital investments going on compensation of the consumed means of production – *simple reproduction*;

b) Investments which provide a gain of industrial potential – *the expanded reproduction*.

The total capital investments have received the name ***of total investments;*** their second part refers to ***as net investments*****.**

For the balanced economy net investments are equal to savings. Therefore in the subsequent units we are going to find out the mechanism of the balance achievement between investments and savings.

During economic activities the part of the capital is consumed, new capital acts on change to the left capital. Dynamics of GDP depends on a parity of the outflow and inflow of the capital. If total investments are more than amortization, we deal with growing economy; if these parameters are equal – the economy is in a static condition; if total investments are less than amortization, it means that there is no even a restoration of the capital, and consequently, the economy can be characterized as reduced.

The government investment policy

On subjects of use total investments can be private or act as the state capital investments. In conditions of mixed economy the state capital investments carry out the following functions:

1. Development of socially significant spheres, but not attractive for private business (education, culture, fundamental science etc.).
2. Development of public sector in industrial sphere.
3. Realization of the state investment policy.

The investment policy is activity of the government to form and use capital investments fund with the purpose to achieve desirable structure of social production. As the basic methods of realization investment policy act:

a) structural changes of the state capital investments;

b) system of privileges for the private investments, creating conditions attractive for some directions of capital investments;

c) system of sanctions and penalties to restrain some capital investments directions;

d) administrative restrictions of some kinds of investments.

The investment policy should be considered as the major constituent part of the general economic policy laid by the government. Depending on the economic situation in the country, directions of an investment policy of the state can change. Today the following preconditions for such investment policy directions are generated in Ukraine:

– encouragement of private capital investments in industrial sphere and reduction of a state investment share;

– stimulation of the investments directed to create resource-saving technologies;

– assistance in moving of the capital to the high technology branches;

– encouragement of the investments connected with creation of additional workplaces;

– attraction of foreign investments.

Some of the listed directions will be considered in details in the subsequent units.

RESUME

1. System of the interconnected factors is used for feature of the condition and dynamic of the national economy. Their consideration is necessary for taking the motivated decisions on national economy management, for estimation of the economic potential of the country, and international comparisons.

2. The gross domestic product forms the base of the system of national accounts. It refers to the market value of all final goods and services produced within a country in a given period. Repeat count is excluded and only final results are taken into account for GDP calculation.

3. Both the physical volume change of production and the prices change influence the dynamic of the national economy factors. The price index is a ratio of the price of the certain products set in the given year to the price of the same set in the base year. Nominal GDP is the volume of manufacture expressed in the prices, existing at the moment of its reception. Real GDP is the volume of manufacture expressed in the comparable prices (changes depending on a choice of the base period).

4. From the point of view of the final consumption GDP is possible to split into a part, restoring consumed capital (the amortization), fund of the consumption and savings. Depreciation charge and savings are a source of investment.

5. Net investments are used to increase the capital and are defined as difference between total investment and amortizations. We can say about growing, static or reducing economy on the base of the correlation between total investment and amortization.

6. The investments are the one of the government regulation object. The investment policy is the government's activity to form and use capital investments fund with the purpose to achieve of desirable structure of social production.

Main terms and notions

System of the national account
Gross domestic product
Price index
Nominal and real GDP
Deflator GDP
The consumption fund
Savings
Total investments
Net investments
Government's investment policy

Exercises

Exercise 1. For each statement listed below choose the right term or concept.

1. Gross investments reduced on amortization costs.
2. The aggregate market value of final goods and services produced within the country for a given period.
3. Indicator of the total output, measured in current prices.
4. Indicator of the total output, measured in comparative prices.
5. Investment of the capital into the objects of the fixed capital to create the new revenue in future with their use in production.
6. The most common price index, which is calculated by dividing nominal GDP on the real one.
7. The aggregate market value of goods and services produced for a year in the country.
8. After-tax income which is not used for the purchase of consumer goods and services.
9. Interconnected system of the general indicators of national economic development.
10. Expenditures of households on the purchase of consumer goods and services to meet personal needs.
11. The product, which is subject to refinement, processing or resale.
12. The product, which is not subject to refinement, processing or resale.

Terms and concepts:

a) intermediate product;
b) system of the national accounts;
c) real GDP;
d) GDP deflator;
e) nominal GDP;
f) gross output;
g) gross domestic product;
h) investments;
i) consumption;
j) final product;
k) net investments;
l) savings.

Exercise 2. Find the only one right answer.

1. Which of the following indicators does not belong to the macroeconomic ones:

a) Gross National Product (GNP);
b) gross domestic product (GDP);
c) national income (NI);
d) profit;
e) there is no right answer?

2. What does not belong to the functions (values) of indicators of national economy:

a) identification of the trends in the economy as a whole;
b) measurement of the total production;
c) information base creation which is necessary to develop and realize economic policy of the state;
d) comparing of the development levels of the different countries' economies;
e) there is no right answer?

3. Which of the indicators listed below doesn't suppose the secondary account:

a) GDP;
b) GNP;
c) national income;

d) output;
e) the final product?

4. Indicators of the national production (GNP, GDP, NI) are:
a) absolutely complete characteristics of the economic situation in the country;
b) the main generalizing indicators of the national economy effectiveness;
c) the main indicators of the quantity and quality of the goods and services which are consumed by society;
d) indicators which show absolutely all economic operations realized in a country in a certain period of time;
e) there is no right answer.

5. To calculate the personal income from the national income it is necessary to reduce it at:
a) indirect taxes on business;
b) undistributed profits of corporations;
c) personal taxes;
d) dividends paid by corporations;
e) the right answers are in a, d.

6. The value of the nominal GDP is known. Which another indicator should we know to calculate the real value of GDP:
a) the total amount of direct and indirect taxes;
b) national income;
c) price index;
d) transfer payments value;
e) the right answers are in a, c?

7. Which is not a motive for the income recipient to make savings:
a) a refuse from current consumption for the sake of improving it in future;
b) insurance fund creation;
c) alignment of consumption over time;
d) accumulation of funds to purchase durable goods;
e) there is no right answer?

8. Gross investments exceed the value of net investments which are directed:

a) for reconstruction of old equipment;
b) to replace the retired fixed capital;
c) into non-production sphere;
d) for capital repairs.

9. Which expression reflects the growing economic system correctly:

a) retirement of funds = funds introduction;
b) retirement of funds < funds introduction;
c) gross investments = net investments;
d) gross investments < net investments?

10. What does not belong to the functions of investments:

a) an increase of society's production potential;
b) creation of the material basis for the social issues solving;
c) equalization of individual groups' incomes;
d) materialization of scientific and technological achievements?

11. Can the amortization in the real business practice be a source of net investments:

a) No, because they are always equal to the value of the retired fixed capital;
b) Yes, because amortization is always greater than the retired fixed capital;
c) No, if net investment is greater than the gross one;
d) Yes, if the actual amortization is more than the retired fixed capital?

12. Which of the following equations is inherent in the equilibrium state of the economy (C – consumption; S – savings; I – investments):

a) $C = S$; b) $C = I$; c) $S = I$; d) $C + S = I$?

13. Which index corresponds to the greatest extent to the name Какой «the marginal efficiency of investments» (I – investments; Y – income of society; S – savings):

a) S/I; b) $\Delta Y/\Delta S$; c) $\Delta Y/\Delta I$; d) $\Delta I/\Delta S$?

14. What does not belong to the methods of the state's investment policy:

a) changes in the structure of the state capital investments;

b) encouraging people to invest money into durable goods;

c) granting concessions to private business entities which carry out investment in certain areas of the economy;

d) establishment of administrative restrictions on certain areas of investment;

e) there is no right answer?

15. Can incomes of citizens increase after tax and exceed the amount of income before taxes:

a) no, because taxes are not related to income redistribution;

b) yes, if transfer payments are greater than individual tax;

c) no, because transfer payments are always lower than individual taxes;

d) yes, if the part of consumption in national income increases?

16. Which mistake is made in the table:

Savings	Investments
a) part of the salary, which is not used in this month's consumption;	d) the purchase of new equipment for the enterprise;
b) purchase of the government bonds;	e) construction of new premises;
c) an increase of deposits in Sberbank;	f) equipment overhaul.

g) there are no mistakes?

Exercise 3. Define which statements are true, and which are false.

1. Real GDP is the cost of goods and services produced per year, calculated at current prices.
2. Household expenditures for construction of the new house are recognized as consumer spending.
3. The value of the net exports is equal to the sum of exports minus imports of the country.
4. GDP volume accurately reflects the net economic welfare of society.
5. GDP, calculated using the method of distribution is equal to the GDP which is calculated by the method of the end-use.

6. The net national product is higher than the national income on the amortization value.

7. The volumes of personal and national income are equal.

8. When calculating GDP by the end use method the net investments are taken into account.

9. Transfer payments are taken into account when calculating the GDP by the distribution method.

10. Services of households related to the maintenance of the family are taken into account when calculating GDP.

Exercise 4. Solve the tasks.

Task 1. Calculate the size of GDP, having the data of the country's economy as a whole:

– salary	100;	– consumer spending	80;
– amortization	15;	– net investments	10;
– state procurement of goods and services	8;	– rent	60;
– profit	80;	– indirect taxes	30;
– interests	40.	– import	8;

Task 2. Using the data below, calculate:

a) GDP on incomes; b) NNP; c) personal income of people.

– consumer costs	245;	– transfer payments	12;
– rent	14;	– amortization	27;
– social security contributions	20;	– percent	13;
– net export	3;	– property income	31;
– salary	221;	– dividends	16;
– undistributed profits of enterprises	21;	– indirect taxes on business	18;
– enterprises' profits	50;	– enterprises' profits tax	19;
– state procurement of goods and services	72;	– net private domestic investments	33.
– private savings	16.		

Task 3. Assume that two products: A and B are produced and consumed in the economy. Using the given as a basic year data, determine the consumer price index in 2009, taking 2000 year.

Year	Good A		Good B	
	Sales volume	Price	Sales volume	Price
2000	200	10	1000	6
2012	150	2	1500	10

Task 4. GDP is 480 billion dollars, gross investments – 80 billion dollars, net investments – 30 billion dollars, consumer costs – 300 billion dollars, state costs – 96 billion dollars, state budget surplus – 3 billion dollars. Define: a) net product; b) net export.

Task 5. Nominal GDP has increased during the reporting period by 1.3 times, and real GDP has decreased by 15%. Calculate the index of price growth over this period.

Task 6. Define the growth rates of real GDP, if nominal GDP has increased by 1.6 times, and the prices for this period have decreased by 15%.

Task 7. During the reporting period the prices have increased by 120%. Real GDP for the period has decreased by 20%. What were the rates of change of nominal GDP?

Task 8. On the basis of these data, calculate:

a) Growth index of the nominal GDP;

b) Growth index of the real GDP

Goods	2000		2012	
	Volume of goods	Price	Volume of goods	Price
A	10	25	8	25
B	15	6	20	5
C	8	15	11	18
D	20	4	16	6

Unit 4. DYNAMICS OF NATIONAL MANUFACTURE

The society is aimed at constant increase of consumption level, maintenance of the increasing quantity of the goods and services. However, the received results appear far from being always adequate to these aspirations: achievable levels of volumes of national manufacture, the prices, and employment are instable; their changes have both positive and negative characteristic fetures. Positive characteristic features reflect improvements in economic cooperation, and its results; negative – deterioration. Such instability of the basic macroeconomic parameters leads to serious problem in national economy. It has an effect on activity of all economic subjects; penetrates into all spheres of economic life of a society. In this unit we are speaking about the essence and the reasons of macroeconomic instability, the problem of cyclic character with reference to the national manufacture volumes, bases of the business cycle regulation which are carried out by the government.

4.1. INDICATORS OF THE NATIONAL ECONOMY DYNAMICS. CYCLIC CHARACTER OF ECONOMIC DEVELOPMENT

Desirable and valid

Dynamics of national economy is a change of the basic macroeconomic parameters. The volumes of national manufacture, rates of inflation and unemployment are the basic macroeconomic parameters. The state of national economy health is defined by their value and changes. These are the main economic indicators. Dynamics of the volumes of national manufacture is expressed through the changes of GDP parameter more often. Dynamics can be both positive – the certificate of economic growth, and negative – the indication of slump in production.

The rates of economic growth is the ratio of volume of real gross domestic product expressed in percentage on the end of the certain period of time (*GDP*^{a}) to its value in the beginning of the same period of time (*GDP*^{b}). Month, quarter, half-year, year usually undertakes as the period of time for which the rates of growth of gross domestic product change.

$$I_{GDP} = \frac{GDP^a}{GDP^b}.$$

We can use the rate of nominal GDP growth. But its parameter is not very good indicator of the real economic process. We said about it before. That's why the rate of real GDP growth is used more often.

The rates of GDP growth are measured in times. For example, for three years GDP of Ukraine has grown in 1.3 times. In the short-run period it is more convenient to use a parameter rate of a gain of gross domestic product. It is calculated as the ratio of a gain of GDP to its base level.

$$T_{\Delta GDP} = \frac{\Delta GDP}{GDP^b} \cdot 100\% = \frac{GDP^a - GDP^b}{GDP^b} \cdot 100\%.$$

Inflation is determined as an increase of the average price level. The return inflations process refers to deflation. The deflation is the phenomenon rare enough. The problem of instability in relation to the prices is a problem of their growth. The change of the prices transfers a price index – **the ratio of cost of the goods set and services expressed in percentage to the end of the certain period of time to its value by the beginning of the same period.** The period of time, for which inflation is measured, can be year, half-year, quarter, month and even a week.

$$I_P = \frac{(\text{The price of products set in the given year})}{(\text{The price of products set in the basic year})} \cdot 100\%.$$

Creation of the enough number of the workplaces, full and effective utilization of labor resources form one more fundamental macroeconomic problem of the modern society. The rate of unemployment in the country is the major parameter describing position in the field of employment. **The rate of unemployment is the share of the unemployed**

expressed in percentage in structure of economically active population.

$$I_u = \frac{\text{Quantity of the unemployed}}{\text{Economically active population}} \cdot 100\%.$$

Let's compare an ideal, desirable condition of the parameters allocated before with their actual condition.

The society wishes that GDP increases by high steady rates. It is all clear.

A lot of people frequently speak, that the desirable condition of the prices is their decrease. However it is a sight on the prices from the point of the consumers' view. From the point of macroeconomic view, it is false representation. The decreasing prices constrain economic growth as weaken economic stimulus. Optimum influence on economy is rendered with the prices which are increased, not by high rate. A person by his nature is lazy. Higher prices act as stimulus which forces the person to move faster.

When economists speak about «full employment» it does not mean absence of the unemployed, because presence of frictional and structural unemployment is a «normal» condition of economy. Thus, **«full employment» is an absence of cyclic unemployment (**we will speak about it in detail in unit 6).

Table 4.1

An ideal and actual condition of the basic macroeconomic parameters

Macroeconomic parameters	Ideal condition	Actual condition
Volume of national manufacture	Steady fast growth	Fluctuations
Inflation	Absence or insignificant rates	Fluctuation
Employment	Natural rate of unemployment	Fluctuations

What real dynamics of the listed parameters can we observe?

In table 4.2 dynamics of the basic macroeconomic parameters in Ukraine is given. We see that dynamics has different orientation. It becomes more evident if we pass to a graphic representation. For the last 15 years GDP in Ukraine was both increased and decreased. Similar dynamics can be observed in a price index too, once the deflation took place in Ukraine.

Table 4.2

Dynamics of the basic macroeconomic parameters in Ukraine

Year	Rate of a gain of real GNP %	Index of prices, %	Rate of unemployment, %
1997	-3,0	10,1	2,3
1998	-1,9	20,0	3,7
1999	-0,2	19,2	4,3
2000	5,9	25,8	4,2
2001	9,2	6,1	3,7
2002	5,2	-0,6	3,8
2003	9,3	8,2	3,6
2004	12,1	12,3	3,6
2005	2,4	10,3	3,8
2006	7,3	11,6	3,3
2007	7,3	16,6	2,8
2008	2,4	22,3	2,9
2009	-15,1	12,3	3,4
2010	4,2	9,1	2,1

Unfortunately, parameters of unemployment rate do not show a real condition of Ukrainian economy. It is impossible to trust them. The given parameters characterize only an official rate of unemployment. It is approximately the one fourth part of a real level. There is very big so-called latent unemployment in Ukraine. Groups of people are not registered in the centre of employment, and therefore are not considered as the unemployed. There are lots of such people in agriculture. It is necessary to recognize, that we have not only the latent unemployment in Ukraine, but the latent employment as well. Many people can be registered as the unemployed, and actually be engaged in fine business. In view of the stated circumstances, the rate of unemployment in Ukraine makes approximately eleven – twelve percents. However it tends to change too.

Economic fluctuations and value of stability

The changes of the basic macroeconomic parameters do not have the long-run stability practically in any modern economy. The actual condition of these parameters is characterized by instability, and variability in the different sides. Even people with strong character can not achieve stability of the mood. The most advanced economy is not free of a problem of instability in full.

Economic fluctuations are unstable dynamics of the basic macroeconomic parameters having different direction.

If to analyze the data of the advanced countries of the world for the long period of time it is easy to find out, that the periods of economic growth alternate with the periods of economic recession – usually less long. We can find out the same non-uniformity of changes, instability of achievable levels and concerning other macroeconomic parameters.

Supervision shows, that economic fluctuations do not occur chaotically, and have the certain law. It is possible to observe the same conditions through the certain time intervals in economy. It gives the basis to speak about economic cyclic recurrence.

The economy's cyclic recurrance is a periodic repeatability of the same conditions in national economy.

In a modern economic science we can find the characteristic of the set of various cycles. Today we are going to talk about three of them.

In nature we can count the most clear and habitual a day time cycle – «day – night». Its duration equals 24 hours. For this time the Earth does one turnover round the axis. There is longer cycle – Moon cycle. It lasts 28 days. For this period the Moon does one turnover round of the Earth. It is possible to speak about cycle duration of 365 days. It is an annual cycle. For this time the Earth does one turnover round the Sun. These cycles conditionally can be named short-term, intermediate term and long-term ones. Similarly we can find out the same cycles in economy. However, if in nature we can speak absolutely precisely that the day lasts 24 hours and 15 seconds, such accuracy is impossible in economy. As a rule the short-term cycle lasts 1.5 – 3 years, intermediate term – 7–11 years, and long-term – 40–60 years (fig. 4.1).

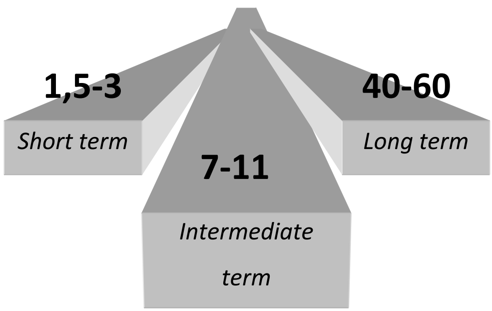


Fig. 4.1. The kinds of economic cycles

Let's consider each of these cycles in details.

4.2. SHORT-TERM CYCLES AND THE GOODS LIFE CYCLES

Just as in the nature every cycle has the material basis, the material basis corresponds to every kind of cycles in economy. The basis short-term cycle is made with life cycle of the goods.

The short-term cycle **is shown in periodicity of an increase and decrease of consumer activity. It finds reflection in the rates change of economic growth.**

The first phase – introduction:

– Low volumes of manufacture and small share in the market; and it is clear. The enterprise only starts to make the product, many lacks exist in the «know-how», the goods only penetrate into the market and buyers are badly informed about its positive properties.

– Low profitableness of manufacture; as a rule, on this phase the costs are very high, therefore the enterprise receives small profit or in general can face losses. But it believes in the future of the goods and is ready to receive the low profit today for reception of the bigger incomes in the future.

– High publicity expenses. As the goods take the roots in the market only, buyers do not know about it anything. Therefore, advertising has basically information character. Those buyers have paid their attention to the goods; the manufacturer should emphasize those qualities of the goods which distinguish it from already known analogues in the market in advertising. Therefore an advertising campaign on this phase is very expensive.

If the manufacturer has correctly chosen the goods and has carried out a successful advertising campaign it can convince the buyer to get these goods. The goods enter a new phase of the life – a growth phase.

The second phase – growth:

– Fast increase of manufacture volumes. The increased demand for the goods enables the producer to increase the volumes of manufacture quickly.

– Growth of a share in the market. The manufacturer occupies the increasing share of the market. The goods win trust among buyers.

– Increase of profitableness in manufacture. As investigation, profitableness of manufacture starts to rise. However, manufacture demands big expenses for technology perfection and organization of production.

The market is gradually sated with these goods and the further increase of the sales volumes becomes not impossible. The goods enter a third phase of the life cycle. It is characterized by the following features:

The third phase – maturity:

– High and stable share in the market. The manufacturer has achieved the maximum share in the market. It is high, but during some time remains constant.

– The highest profitability. Favorable circumstances for reception of the maximum profit develop in the market. On the one hand, the goods are well-known. Consumers buy it much. Therefore, there is an opportunity to keep the high prices. On the other hand, the manufacture is well organized. It allows to minimize costs. As the destiny of the goods is determined, the manufacturer does not put a lot of means in its perfection and additional advertising. As investigation reveals these two circumstances of the manufacture on the third phase of the goods life cycle is very profitable. According to calculations made by the economists this phase brings 70–75% of the profit which is received by the manufacturer for all period of the goods life.

The fourth phase – recession:

Gradual reduction and phase-out. Gradually the goods bother buyers, competitors start to let out the new goods, buyers switch their attention to them. Our manufacturer gradually is compelled to reduce the volumes of manufacture and finally to remove the goods from manufacture. The goods pass the fourth phase of the life cycle. Its life is finished. Then new goods come, but the same result will wait for them.

We see that there is a phase in the goods life, when the sales volumes grow, and a phase when they reduce. What macroeconomic result can be predicted, if the set of the goods is simultaneously on a growth phase or on a phase of recession?

From position of macroeconomics it will be a phase of the hot and cooled down conjuncture.

The short-term cycle is connected with synchronization of life cycles phases of significant amount of the goods.

The economic science can not answer why there is such synchronization. However, such law is based on the analysis of actual sales volumes dynamics.

The theory of the goods life cycle has huge value for practice of managing. The most frequently this theory is used in marketing and management. Therefore managers have thought up names for the goods taking place on different phases of life cycle. The goods taking place on the first phase are referred to as a difficult child or a wild cat. Such name is justified as nobody knows where the wild cat will jump. We also do not know, what will be with the goods, which we introduce into manufacture.

The goods taking place on the second phase of life cycle are referred to as a star. As any star it demands a lot of money for its maintenance. But it is justified as the manufacturer connects the future success with these goods.

The goods taking place on the third phase of life cycle are referred to less romantically – as a milk cow. It is clear. We have already told that the manufacturer receives the basic part of the profit on this phase.

On the fourth phase the goods are referred to as a dog. It is expelle from the market as a dog that served truly and for long time, but now has grown old and became necessary for nobody.

Till now we spoke about traditional life cycle of the goods.

However, not all goods live these stages. There is a set of versions of the goods life cycle. For example, the goods can get in a classical consumer set and then the phase of maturity will be very long. It is a dream of any manufacturer. Such life cycle is referred to as classical one. It is possible to consider its contrast life cycle under the name of a failure. The manufacturer tried to survive in the market with the new goods, but has failed. Just after the phases of introduction a phase of recession has stepped.

For some goods the life cycle under the name nostalgia is peculiar. It means that the growth phase comes again after the phase of recession. It can be result of the manufacturer's successful decision, and as a consequence change in consumer's preferences.

For many consumer goods the life cycle under the name seasonal is characteristic. It, first of all, concerns the agricultural goods.

However shorter cycles are undistinguished for the usual consumer. They can be found out only at the analysis of sales volumes for the certain period of time.

It is necessary to consider the most appreciable cycles: intermediate term cycles. Our following point will be devoted to this problem.

4.3. INTERMEDIATE TERM CYCLES AND THEIR MATERIAL BASE

Intermediate term cycles are connected with periodic infringement of conformity of a supply and demand on the macro level that is expressed in overproduction of the goods in comparison with demand and the subsequent slump in production.

The history of overproduction crises totals already about 200 years. The first crisis of overproduction took place in England in 1825. England was the factory of the world. It occupied the first places in all basic economic parameters. Annual rates of industrial production growth were about 12–14%. And suddenly in 1825 English economy stopped. Manufacture has not grown on one percent. It was very surprising. Nobody could explain the reasons of a stop.

The economic growth was restored next years. And it would be possible to forget about this case. However, in 1836 (in eleven years) the situation repeated. Bankruptcy is the normal phenomenon for market economy. However in 1836 quantity of bankruptcies was in 4 times more, than in the previous (1835) year. It forced economists to search for the reasons causing a periodic shock of economy more actively. To tell the truth, it was impossible to carry out deep scientific research because there was a little of historical material.

New crisis of overproduction took place in 1847. For the first time there was a decrease of manufacture volumes. Though the decrease of manufacture volumes was not so significant, the separate branches suffered very strongly.

There crises occurred only in England. For the Englishmen it was very insulting. Europe developed without shocks. But in 1857 English vanity was satisfied: crisis of overproduction captured all Europe. It was the first all-European crisis of overproduction. And since then 150 years crises of overproduction periodically shake the economy.

Crisis of overproduction in 1929–1933 was the deepest crisis for all history. It began in the USA. In the spring of 1929 the new US president told: «I guarantee the Christmas goose on a table and two automobiles in a garage for each American family by the New Year». However, in October the deepest economic crisis burst. It occurred on Monday as always. Very often we speak, that a Monday is difficult day. The history of crises confirms it. Crises, as a rule, begin on Monday. And it is not by chance. All is connected with the features of work of a stock exchange. Only during the October 1929 the total cost of the shares sold on the New York stock exchange decreased 5 times. As a whole for the period of Great depression the volumes of gross national product decreased approximately on 40%. The greatest falling of manufacture was in traditional branches: ferrous metallurgy, mechanical engineering etc. Economy of many countries was rejected back on some tens of years. In 1933 gross national products of France was equal to the volumes of manufacture in 1895.

Great depression has resulted in revision of the state role in economy. Up to it was considered that the state should not interfere into economy at all. The market mechanism is capable to solve all problems itself. However, the crisis has shown that the market has a lot of lacks. Keynes theory became the scientific base for development of the new economic policy based on an active role of the state. Within the next 40 years the governments of the majority of the advanced countries operated economy being based on Keynesian theories.

Crisis of overproduction in 1974–1975 was the second in depth after the great depression. It is connected with occurrence of the new phenomenon which has received the name stagflation. This word has arisen from association of two words: inflation and stagnation. As a rule, stagnation and inflation did not exist simultaneously. During crisis the prices reduction was observed, and their growth was accompanied with expansion of manufacture. For the first time these two processes occurred simultaneously in 1974. It has shown limitation of state economy regulation based on the Keynes theory. As consequence, positions of monetarism have amplified again.

The last crisis of overproduction was in 2008-2009. It was deep and had some specific features.

What is the mechanism of an intermediate term cycle? Why do crises of overproduction occur in 7–11 years?

Let's take the following example for consideration of the intermediate term cycle. So, we have found some country in the best period of its life. The economy grows with the high rate that is reflected with a fat line in our diagram. This line characterizes the change of the cumulative offer (aggregative supply). To reach the balance of economy it is necessary that aggregative demand grows the same rate, as the aggregative supply. What really happens? To answer this question it is necessary for us to recollect Keynes basic psychological law. It says the following: in process of the income growth consumption grows too, however, consumption grows more slowly than the income grows. As the consumer charges make the basic part of the aggregative demand it means that growth of aggregative demand will lag behind growth of the aggregative supply. The aggregative demand is reflected with a dashed line in the diagram.

In the process of economy development a break between the aggregative demand and aggregative supply is increased. First of all, sellers of consumer goods start to feel it. There are complexities with the sale of the goods. How will sellers react to this situation? First time in any way! Why? The shorter cycle angrily jokes! The seller has got used to rather often fluctuations of the demand caused by life cycle of the goods. We have spoken about it earlier. Therefore he quietly perceives difficulties with selling, including their consequence of a shorter cycle. But the real reasons of complexities with selling are in some other things: backlog of growth of aggregative demand from growth of the aggregative supply. Gradually contradictions collect, warehouses appear the overflow goods. Sellers give a command to the producers to stop manufacture and do not deliver products. However there is a law of inertia. Manufacturers still continue to make production and only a bit later stop production. The first phase of an intermediate term cycle, which is referred to as recession, begins.

Recession. The volumes of manufacture are reduced. Unemployment is increased that is directly connected with curtailment of production at the enterprises. Loading of capacities decreases. If recession gets long character, the prices usually start to show the tendency to decrease. Reduction of prices is connected with crisis of selling – the goods do not find realization in former volumes. One of the ways of selling activation is transition to reduction of prices. The phenomenon of the general price level reduction in conditions of national manufacture recession proves in the advanced mixed economy. There is a powerful private sector where known norms of enterprise activity work. However, here again there are exceptions of this general rule.

We see that the volumes of manufacture are reduced. What occurs to aggregative demand? Certainly, it reduces too, as incomes of buyers decrease. However, the demand decreases more slowly than incomes decrease. On the one hand, it is connected with mobilization of savings, which were saved up earlier and on the other hand – to reduction of prices and growth of real money purchasing capacity. Hence, lines of aggregative demand and aggregative supply are crossed, i.e. a supply and demand are balanced. Falling of economy will be stopped. It will proceed to the second phase of a cycle – depression.

Depression. It is the bottom part of a business cycle. Here the economy achieves the critical points in the field of the manufacture volumes, employment, and wages. During depression the volumes of manufacture achieve the least level, the greatest scales are reached with unemployment, the quantity of bankruptcies, as a result, reduction of a labor demand decreasing is a reduction of rates wages, and a decrease of the general price level.

Gradually the situation is stabilized. The prices stop on a low level. Commodity stocks are liquidated. Manufacturers have free money, which could be used for investments. As a whole, the situation remains rather difficult. There is no opportunity to increase the volumes of manufacture or to rise in the price for the goods. It threatens with new crisis. However the businessman remains focused on profit even in these difficult conditions. How is it possible to receive more profit? If the prices and volumes of manufacture remain constant the businessman can receive more profit only having the lowered costs. For this purpose it is necessary to introduce new and more effective technology. The equipment acts as the material carrier of new technologies. There is a demand for new, more effective equipment. Producers of this equipment can expand manufacture, give an employment to new workers, and buy raw material. The workers, who have received wages, have an opportunity to make new purchases of consumer goods. The economy starts to leave condition of depression and pass to the following phase of cycle – revival.

Revival. In this period the economy starts to recover gradually. Volumes of manufacture grow; at the end of a stage of revival they reach a precritical level. Enterprise's activity raises. Incomes of the enterprises and domestic economy start to grow, demand both for consumer goods and for resources increases. Expansion of output provides creation of new workplaces that results in reduction of unemployment. Crisis of selling passed, some increase of the prices for the goods is observed.

The main contents of a revival phase are mass replacement of an active part of fixed capital. Such replacement acts as the factor of the enterprises' adaptation to new conditions of managing. It makes a material basis of the intermediate term cycle.

A r**ise.** The period of revival is finished with achievement of a precritical level of national manufacture volume. The excess of it means the economy's entry into a new stage of a business cycle – a rise. Here the economy shows the further expansion manufacture, an increase of capacities loading, reduction of the unemployment sizes, achievement of full employment, and an increase of incomes. Investments and consumer charges continuously extend. Demand for the goods and services grows, but by virtue of that the economy works at full capacity, and aggregative demand continues to grow, the tendency of the prices rise accumulates the force. Preconditions the economy's entry into a new cycle start to be formed.

The material basis of an intermediate term cycle *is made with life cycle of an active part of a fixed capital.*

4.4. «LONG WAVES» IN ECONOMY

In 1847 the English economist Klark noticed some similarity between an economic situation in England during crisis of overproduction in the year 1847 and an economic situation in 1795. He stated a hypothesis about the existence of the long-term cycles. However his attempt to find actual acknowledgement of this hypothesis didn't have a success. It is clear. In that time historical experience was still too short. Only in the beginning of the XXth century the Russian scientist Kondrat'ev constructed statistical lines and could find acknowledgement of this hypothesis. Therefore it is possible to use the following word collocations as equivalents: long-term cycles, long waves in economy and Kondrat'ev's cycles.

In fig. 4.2 you can see a wave of a long-term cycle. The long-term cycle includes a phase of increasing growth rates and a phase of decreasing growth rates. On a growth phase the average rates of GDP gain are higher, on a phase of a decrease – they are lower.

To find out the reason of existence of long-term cycles it is necessary to answer: what lives for 40–60 years in economy? It is a passive part of a fixed capital, objects of an industrial infrastructure. These are buildings, constructions etc.

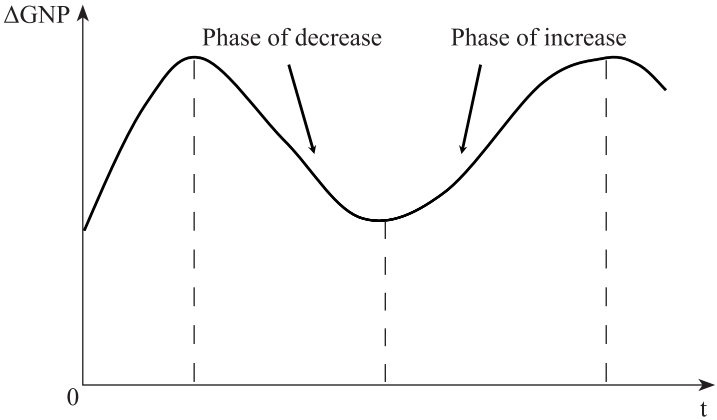


Fig. 4.2. Long-term cycle

The material basis of long waves ***is made with life cycle of an industrial infrastructure.***

Analyzing actual material, Kondrat'ev has formulated four empirical laws which are peculiar for a long wave:

1. Significant changes in the life of a society connected with scientific and technical progress occur at the basis of rising phase or in its very beginning.

This law explains the mechanism of a long-term cycle. In the beginning of an increasing phase there is an introduction of new technologies. As a rule it demands construction of new infrastructure objects. At construction of a building the businessmen in a maximum way aspires to take into account requirements of an active part of the capital – the equipment. Conformity of an active and passive part of a fixed capital (the equipment and industrial infrastructure) allows to realize in full the potential of economic growth incorporated in the equipment. However, the equipment is replaced in 7–11 years. The industrial infrastructure remains old. There is a contradiction between old infrastructure and new equipment.

But in some years again there is a replacement of the equipment. The contradiction becomes aggravated. The old infrastructure can not provide realization of the new equipment potential in full. As consequence the rates of economic growth are slowed down. It proceeds down to mass updating of an industrial infrastructure at the basis of a new phase of an increase.

2. The phase of an increase is richer on social shocks. The modern science can not explain the reasons of such social activity. But in the diagram you see, that the First World War, October revolution in Russia, the Second World War, War in Afghanistan, and disorder in the Soviet Union fall to phases of increase.

3. Intermediate term cycles are strung on a phase of an increase and decrease: during a phase of decrease they are long and deep, during an increase – they are more frequent, but less deep.

4. The phase of a decrease renders destructive influence on agriculture.

The reasons of business cycles

There is a set of the theories explaining an origin of business cycles. To a question on cyclic fluctuations in economy the economic science went from studying crises. D. Rikardo, G. Mill, Z. Sismondi, K. Marks, K. Robertus, M. Tugan-Baranovsky and other economists analyzed to some extent a problem of periodically arising crises in economy. Subsequently in V. Zombart's, U. Mitchell's, E. Lakomb's, N. Kondrat'ev's, J. Shumpeter's works and other economists, crises are considered as a component of wider problem – business cycles. Now it is accepted to differentiate the reasons of fluctuations as external and internal. External factors are the ones which take place outside of economic system borders, internal – take place inside the economic system. The external reasons of business cycles are the following ones:

a) The changes of population: growth of population results in an increase of employment and manufacture causes the economic rise; reduction of population brings an opposite effect. Taking into account relative stability of quantity of population in the advanced countries of the world, it is difficult to recognize the essential importance of this factor in modern conditions;

b) Political, military and other extreme events. So, probably, the largest event of the world history in the second half of the XXth century was termination of the USSR's existence. There was a lot of the new independent states and among them Ukraine. Was this event reflected in condition of the new states' economy? Certainly. Their economy has received the strongest external push connected with inevitable complications in economic mutual relation in the territory of the former USSR.

That was one of the principal causes of slump in these countries' production. Realization of large-scale military actions in any regions can push economy of some countries to escalate manufacture of certain production, and their termination – to business recession. An aggravation of political relations between any countries can result in the same events;

c) Occurrence of inventions which have revolutionary character. It is possible to include the automobile, a railway transportation, planes, synthetic materials, and computers to such inventions. They influence the labor productivity, opening of the new opportunities in needs satisfaction, cause mass burst in investment activity and consumer charges.

The basic internal reasons of the cyclic character include the following:

a) Instability of investment charges. The changes in volumes of investments influence the demand for the equipment, materials, building services etc. An increase leads to the growth of their manufacture, creation of new workplaces on, increase of incomes which usually give a gain of consumer charges, too. Reduction causes the opposite effect;

b) Instability of consumer charges. Households form the demand for plenty of the goods and services created in economy. The change in this or that party of the general consumer charges gives a push either to expansion of manufacture in the certain branches, or – to reduction. The pulse, accepted in these branches, will be relayed in all others;

c) Activity of the government in the field of economic regulation. The economic policy of the government renders essential influence on the general condition of national economy. Those or other actions in the field of the macroeconomic regulation, connected, for example, with the changes in tax policy, currency regulation, and credit policy can promote not only the growth of manufacture but, unfortunately, its reductions as well.

4.5. THE POLICY OF STABILIZATION

We have considered the basic kinds of business cycles. Some of them do not render essential influence on economic life. It is, for example, short-term and long-term cycles. They are necessary to take into account, but not to struggle with them. Intermediate term cycles are extremely destructive for a society. They became an obvious post of great depression. Therefore, governments began to apply different kinds of struggle against business cycles. Originally the governments struggled against crises of overproduction. At that time the policy of the government was referred to as anti-recessionary. However, to struggle against crisis means to struggle with the result, not mentioning its reasons. Later the governments have set the task to remove cycles in general. Then this policy was referred to as anticyclic. Historical experience has shown that it is impossible to remove crises. It is only possible to weaken their negative influence on economy. Therefore, today the policy of the government is referred to as a policy of stabilization.

A policy of stabilization is the state's actions directed to smooth fluctuations in economy.

Restraint and expansion

There are ***two types*** of stabilization policy: **restraint** and **expansion** (fig. 4.3). The government, depending on what stage of a cycle is national economy, is at applies either a policy of restraint, or a policy of expansion.

And that and other type of a policy are finally connected with regulation of aggregative demand, with influence on the size of charges which are carried out by participants of economic life. The basic ***tools*** of macroeconomic stabilization are:

1. The fiscal (tax-and-budgetary) regulation supposing through collection of taxes from the enterprises and domestic economy, and performance of the certain budgetary charges as well, to carry out influence on macroeconomic position, on a level of business in the country. This tool is still quite often called a financial policy.

2. The monetary (credit-and-monetary) regulation meaning influence on a condition of national economy, a level of business with the help of the state control over monetary circulation in the country. The state uses other levers of influence on stabilization of economy. Among them it is possible to name the tools of the foreign trade, currency, direct price regulation, the control of wages, realization of a privatization etc.

The choice of priorities in the use of those or other tools of economy stabilization depends on many circumstances: the features of national economic system, an acuteness of macroeconomic problems, outlook of people who carry out the government functions, the degree of inte-

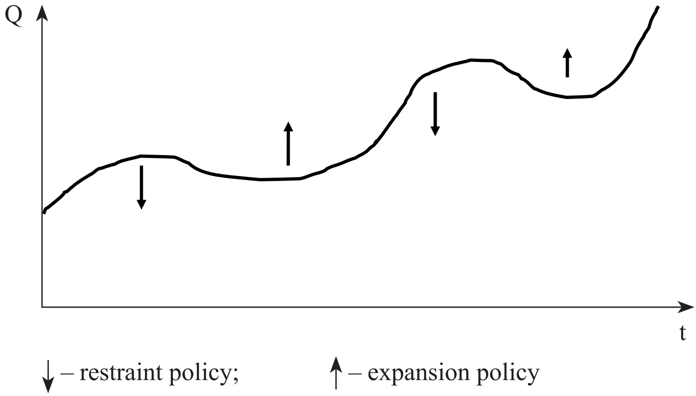


Fig. 4.3. Types of macroeconomic stabilization policy

gration national economy into the world economic system etc. Therefore, we cannot mechanically transfer the receipt of stabilization used, for example, in the USA, on the economy of Ukraine. That is, the thing which is effective in one system, in one conditions, can appear ineffective in other conditions.

We shall consider now each of the above mentioned types of stabilization policy.

The policy of restraint is the activity of the government directed on restriction of aggregative demand. It is applied when the economy is at a stage of the rise. At this time to economy the inflationary potential collects, the conjuncture is warmed up – there is an escalating demand, producers aspire to expand manufacture. But this expansion at each given moment of time has the limits, there comes the moment when manufacture starts to react to expansion of purchasing charges with not so much increase in the output, but with an increase in the prices. The measures of restraint directed on reduction of inflationary potential, cooling of an economic conjuncture are necessary here again. The policy of restraint can be the anti-inflationary means, but at the same time it can cause an aggravation of the employment problem.

The policy of expansion is the activity of the government directed on expansion of aggregative demand. The state resorts to such measures when the economy experiences a condition of recession. Stimulating charges, the state tries to inject manufacture to raise a level of business, to warm up a conjuncture. The state tries to achieve activization of manufacture with reduction of taxes for the enterprises and households, growth of the state budget charges, a decrease of bank interest rates etc. The policy of expansion creates preconditions for economic growth and reduction of unemployment, but, at the same time, brings a threat of the prices rise.

RESUME

1. Instability is characterized with the main macroeconomic factors – the volume of national production, level of the prices, and level of employment. Economic fluctuations are unstable dynamics of the basic macroeconomic parameters having different direction.

2. Economy's cyclic is a periodic repeatability of the same conditions of national economy. The short-term cycle is shown in periodicity of an increase and decrease of consumer's activity. It finds reflection in the rates change of economic growth. It is connected with synchronization of life cycles phases of significant amount of the goods.

3. The intermediate term cycles are connected with periodic infringement of conformity of supply and demand on macro level that is expressed in overproduction of the goods in comparison with the demand and the subsequent slump in production. The material basis of an intermediate term cycle is made with life cycle of an active part of a fixed capital.

4. The long-term cycle includes a phase of growth rates increasing and a phase of growth rates decreasing. On a growth phase the average rates of GDP gain are higher, on a phase of decrease – they are lower. The material basis of long waves is made with life cycle of an industrial infrastructure.

5. The distinguishable external and internal reasons of the cyclic economic development. The following reasons are referred to as external ones: a) the change of the population number; b) political, military and other exceeding circumstances; c) appearance of the revolutionary nature inventions; the following reasons are the internal ones: a) instability of the investment expenses; b) instability of the consumer expenses; c) activity of the state in the field of economic regulation.

6. There are two types of stabilization policy: restraint and expansion. The government, depending on what stage of the cycle national

economy is, at applies either a policy of restraint, or a policy of expansion. The policy of restraint is the government's activity directed on restriction of aggregative demand. The policy of expansion is activity the government's directed on expansion of aggregative demand.

Main terms and notions

Rates of the economic growth
Rates of inflations
Rates of unemployment
Economic fluctuations
Economic cycle
Short-term cycle
Intermediate cycle
«Long waves» in economy
External and internal reasons of the economic cycles
Macroeconomic stabilization policy
Restraint policy
Expansion policy

Exercises

Exercise 1. For each statement listed below choose the right term or concept.

1. Government actions aimed to smooth the cyclical fluctuations in the economy.
2. Phase of the economic cycle in the market system, which is characterized by the reduction in output, unemployment increase, and prices reduction.
3. The set of specific states of the national economy – expansions and contractions in output, which are regularly repeated.
4. State action aimed to limit the aggregate demand.
5. State action aimed to increase the aggregate demand.
6. Phase of the economic cycle in the market system, which is characterized by the beginning of production expansion, increase of capacity utilization, reducing of the volume of unemployment.
7. Ratio of real GNP at the end of a period to its value at the beginning of this period expressed in percentage.
8. Phase of the economic cycle, in which the economy reaches the lowest levels of output, employment, and wages.

9. Instability, multidirectional volatility of the key macroeconomic indicators, which is characteristic for certain periods of time.

10. Phase of the economic cycle, which is characterized by a growth in production volumes, and exceeding of the pre-crisis level.

11. The economic cycle lasting 40-60 years, the driving force of which are the radical changes in the technological basis of social production, and its restructuring.

Terms and concepts:

a) economic fluctuations;
b) economic cycle;
c) recovery;
d) expansion policy;
e) «long waves» in economy;
f) slump;
g) policy of stabilization;
h) boom;
i) depression;
j) rate of economic growth;
k) policy of containment.

Exercise 2. Find the only one right answer.

1. The dynamics of domestic production is:

a) the changes in national output for a certain period;

b) comparison of real and nominal national product for a certain period of time;

c) monetary expression of national output produced for a certain period of time;

d) physical expression of national output produced for a certain period of time;

e) degree of an increase in national production for a certain period of time.

2. «__________________ of the national production volumes is the most favorable condition for any country». Define the missed word (words):

a) positive dynamics;

b) a steady, fast increase;

c) reproduction;
d) non-cyclic fluctuations;
e) cyclic fluctuations elimination.

3. Economic fluctuations are:
a) different values of the national production volumes increased for a certain period;
b) the degree of the economic activity decrease associated with the changes in macroeconomic situation;
c) irregularity, the periodic changes of different directions of macroeconomic indicators;
d) changes in macroeconomic policy of the state, which are reflected in the results of the national economy;
e) absence of necessary correspondence between the main macroeconomic indicators.

4. Economic cycle is:
a) period of time during which the changes of different directions in key macroeconomic indicators are observed;
b) consistent passing of all stages of the positive economic dynamic by the national economy;
c) the set of certain conditions of economic activity periodically repeated in the national economy;
d) there is no right answer.

5. Cyclicity of the national economy:
a) is its regularity;
b) is characteristic for countries with the low levels of economic development;
c) is the result of ineffective macroeconomic policy;
d) is the factor of economic progress of society.

6. What is the most characteristic sequence of passing of the economic cycle stages:
a) growth – depression – revitalization – recession;
b) growth – recession – depression – recovery;
c) recovery – depression – recession – growth;
d) recession – depression – growth – recovery?

7. Which cycles presented in economic science have the most recognition:

a) short-term;
b) medium-term;
c) long-term?

8. Who was the first creator of the «long waves» theory in economics:

a) J. Shumpeter;
b) M. Tugan-Baranovsky;
c) N. Kondrat'ev;
d) I. Fisher;
e) D. Ricardo?

9. Which duration is more often considered as the medium-term cycle (years):

a) 1,5–3;
b) 3–5;
c) 7–11;
d) 10–20;
e) 15–20?

10. Which duration is more often considered as the long-term cycle (years):

a) 5–10;
b) 10–15;
c) 15–30;
d) 30–40;
e) 50–60;
f) 70–90?

11. At which phase of the economic cycle is the highest employment rate presented:

a) recession;
b) depression;
c) recovery;
d) growth?

12. What is not referred to the possible reasons of economic fluctuations:

a) the frequency of appearance of significant technical innovations;
b) the change in the number of people with higher education;
c) wars;

d) the major political events;
e) scientific and technological progress;
f) there is no right answer?

13. Which branches of economy react with the decrease of volumes of production to economic recession stronger than other ones:
a) heavy engineering, agriculture, and construction;
b) production of agricultural machinery, food processing, and telecommunication services;
c) machine tools, production of refrigerators, and agricultural machinery;
g) production of mining equipment, food processing, and feed milling;
e) the light industry, mining industry and construction of production facilities;
e) there is no right answer?

14. The types of counter-cyclic policy of the state include:
a) the policy of expansion;
b) the policy of containment;
c) the policy of open economy;
d) integration policy;
e) antimonopoly policy;
f) the correct answer is indicated in part a, b;
g) the correct answer is indicated in part a, b, c, the

15. Policy aimed to increase the number of working places is:
a) the policy of expansion;
b) the policy of containment;
c) the policy of open economy;
d) integration policy;
e) antimonopoly policy;
f) there is no right answer.

Exercise 3. Define which statements are true, and which are false.
1. The causes of business cycles are the only domestic economic factors.

2. Effective anticyclic policy of the state can overcome the cycle of production.

3. «Long waves» in the economy are the means of struggle with medium-cycle.

4. Causes of economic recession are economic factors only.

5. The cyclic nature of the modern economy is a witness of the result of the lower level of its development.

6. Effective anticyclic policy of the state is able to neutralize the negative consequences of cyclic production completely.

7. Before the recession and after it (the beginning of growth) the volume of investments into machinery and equipment can not be increased.

8. The policy of containment is a state activity aimed to increase aggregate demand.

9. The state budget expenditures fluctuations have the greatest influence on the economic cycles

10. Phases of the economic cycle are in a sequence: the crisis, depression, growth, and recovery.

11. The most effective mechanism of anticyclic regulation of medium-term cycle is the international economic cooperation.

12. Cyclicity of the national economy is the result of globalization.

13. The basis of the cyclic nature of economic development is the excessive political interference into the economy.

14. Economic crises can not last more than 5 years.

Exercise 4. Solve the tasks.

Task 1. GDP of country A exceeds GDP of country B 8 times.

The annual growth rates in country A is 3%, in country B – 6%. Define the number of years when GDP of the country B will be equal to GDP of country A.

Task 2. GDP has increased by 300% during 5 years. Define the annual growth rates of GDP.

Task 3. The curves of the aggregate demand and aggregate supply are presented in figures A and B. In figure A the curve of the aggregate demand AD is shifting to the left side in AD' position; in figure B the curve of the aggregate demand AD is shifting to the right side in AD' position.

Define for the both figures: a) cycle phase; b) the dynamics of GDP; c) nature of inflation dynamics.

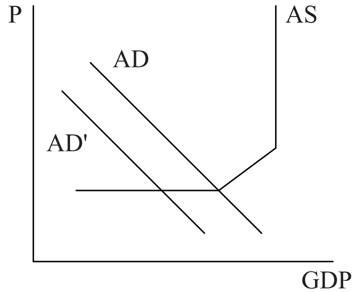


Figure A

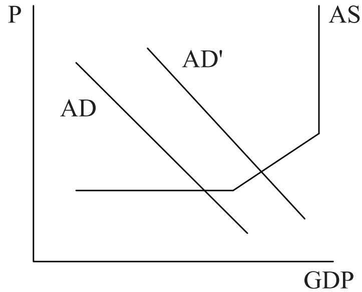


Figure Б

Unit 5. UNEMPLOYMENT

Employment is among the most important indicators of a national economy. It reflects the utilization of the labor force in the society and, hence, the possibility of economic growth. Worldwide practice gives the numerous witnesses of impossibility to achieve the full use of available labor force and gives the examples of millions unemployed. Unemployment is among the most important and vexed social problems.

Macroeconomics examines the issues of unemployment, determines its nature, types, causes, consequences, the state's role in regulation of the processes occurring in the labor market. Consideration of these and other questions is the subject of this chapter.

5.1. LABOR MARKET AS REGULATOR OF EMPLOYMENT

In order to meet their economic needs the people must work to receive income. More than 90% of economically active Ukrainians earn nearly all their money selling labor services. I.e. they are playing the role of employees of the state or private enterprises. The labor market is the main field of interaction between the sellers of labor (employees) and buyers (employers). Like any other market, market of labor assumes the free contracting, the competition and the meaningful role of price in the coordination mechanism.

Mechanism of a labor market consists of demand for labor, supply of labor and wage as the price of labor. While the employees offer their labor for a reward, the employers form the demand for labor and pay for its use.

Supply of labor

Supply of labor is the quantities of labor offered by workers at each possible wage. As for every commodity the higher the price is the more quantity is supplied. For example, during the formation of a market system, business entities in Ukraine are clearly marked a special need for accountants, marketers, specialists in finance, investment and banking. The wages of these specialists were significantly higher wages of others. This caused an increase in arriving entrants at the corresponding specialties in higher education institutions and, ultimately, led to the increase in the supply of these professionals.

Labor supply in market economy is of free nature. People voluntarily choose between employment and unemployment, choose the profession, the activity, make decisions about the job changes. However, this freedom is limited; it is a choice within a specified «corridor of freedom». The factors which limit the freedom of choice and establish that «corridor of freedom» are the following ones:

a) skills and qualifications. For example, it is difficult for Smith to offer himself as a mathematics teacher;

b) physiological features of men. Age, gender, health status, other personal data make their effects on human competitiveness on certain labor markets and objectively affect his capacity to perform a job. Quite often the employer initially commits his demands for applicants. For example, such announcement can be found: «The Company seeks a young person under 30 years, communicative, creative»;

c) social conditions. Place of residence and family reasons limit the ability of labor supply in certain markets as well. For example, for women with young children it is very problematic to offer her labor where the work is related to business trips or requires being in shifts;

d) lack of experience. There is an example of yet another public job offer: «Firm requires an accountant with experience of at least 3 years». Here the employer requires the certain initial experience to get the job.

In general, the main factors of employee behavior in the labor market are: wage, conditions (severity, intensity, shifts, and the environment), remoteness of the residence, prestige of the labor, the degree of autonomy and responsibility, etc.

Demand for labor

The other side of the labor market is employer who is the one who creates the demand for labor. The demand for labor is the scale of the possible wages and corresponding quantities of demanded labor. The law of demand, as it is known, is formulated as follows: the quantity of purchased commodity increases when the price decreases and decreases when the price increases.

Employer's behavior in the labor market has both an objective basis and subjective aspects. Objective characteristics of an employer's activity are determined by the position of the enterprise and its operating environment. The purpose of a private enterprise, with rare exceptions, is to make a profit as the greatest possible excess of revenues over expenses. Resource policy of the enterprise is analyzed through the prism of the rate of return, i.e. the ratio of profit to cost. The selection and involvement of resources in production, including labor, is regulated by the criterion of profitability. The company aims to select the best resources available in different markets, which are capable to bring the highest economic benefit in the current and future conditions.

Position of the company depends on the sales of its products. An entity can not be insured against fluctuations in sales. These fluctuations depend on both internal factors (level of marketing, production, product quality, after-sales service organization, etc.) and external factors (competition, stage of economic cycle, seasonality, etc.). This volatility makes it impossible to maintain a certain constant level of wage costs, and consequently, the level of employment at the company. The production volumes and costs reflect economic viability of the enterprise's activities in a particular economic environment.

In addition to objective parameters, which affect the activity of an enterprise (employer) in the labor market, there are subjective elements as well. Among them:

– reliability, employee loyalty;

– prejudice which causes some discrimination (gender, age, political opinion, nationality, etc.);

– family ties, personal likes and dislikes, etc.

Price of labor

The coordinator of supply and demand in the labor market is the price of labor (wages), which is the core mechanism of the labor market. Wages is the price of mental and physical human abilities to create economic benefits. The wage rate depends mainly on three factors: 1) supply and demand of labor, 2) government regulation, and 3) trade union activity.

The regulatory role of wages appears in the same manner as the market price of any commodity. If, for example, the number of applicants to serve in the militia decreases and the government intends to intensify the fight against crime and expects to attract additional people to work in the police, the main factor that opens the opportunity to expand the ranks of the militia is to increase the salaries, extra pay for the rank, seniority etc. There is no other lever. The only workable alternative is enforcement. Another example: if there is a reduction in demand for the metal (its customers reduce consumption of metal products while expanding the use of new construction materials) a structural shift should take place in the economy. Part of the metallurgists must move to other industries that have favorable economic conditions. A decrease in the average wage rates in the industry will affect the supply of labor in this industry and direct labor resources to the place, where their use will be effective.

Competition in the labor market

The subjects of the labor market compete for the best realization of their interests. The competition among workers is for jobs. The competition among employers is for workers.

The presence of competition means for those who are employed or seeking employment the need to constantly worry about the quality of their labor services, to seek increasing skills, to continuously encourage the interest of employers for their working capabilities. It is the only way with rare exceptions. To get good salary and some guarantee against unemployment an employee must be engaged into self-improvement and must prove the competitiveness of his labor day-by-day.

The changes that occurred in the Ukrainian economy in the last 20 years significantly influenced the relationship «an employee – an employer». While in a centrally-planned economy the state was the only employer-monopolist, who often showed himself to be «soft» and «tolerant» with respect to negligent employees, then market conditions change both the structure of employers and their requirements to employees. People should less trust in government's custody and to rely more on themselves, to rely on their own efforts, knowledge, willingness and ability to work effectively. The state takes under its protection only those who can not compete with others on equal terms in the labor market due to the objective reasons (disabled persons, elderly ones, women with small children, people who do not have the experience yet and some others).

Competition among workers increases quality of labor resources in society in overall. It offers employers a choice. On the other hand, competition among employers gives employees a choice. They can realize their labor services in more suitable conditions, to choose the place of work, which will bring them the greatest benefit and satisfaction for the reasons of profitability and other reasons.

5.2. LABOR MARKET INDICATORS

Quantitative parameters

The main parameters of labor market are: economically active population (workforce), economically inactive population (out of workforce), employed people, unemployed people and the unemployment rate.

Primarily the population can be divided into the economically active and inactive population (fig. 5.1).

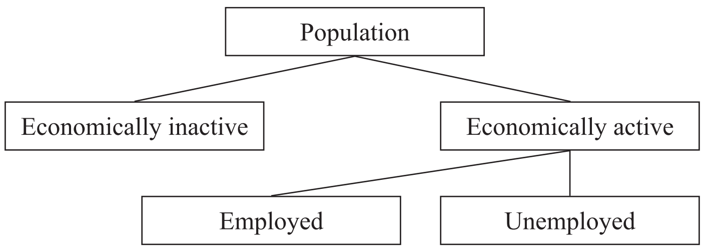


Fig. 5.1. Structure of the population

The economically inactive population is as follows:

a) persons under the age of 16 years;

b) persons who are in mental hospitals and prisons;

c) pensioners, students, housewives and other persons who withdrew from the labor force and neither working nor looking for work.

Economically active population includes both employed and unemployed people.

Employed population is the people with a job that brings them income in cash or in any other form.

Unemployed people do not have a job, but are able to work, ready to work and seeking work. Of course, this definition has some drawbacks. In particular, in practice it is very difficult to distinguish between persons who are unemployed and looking for work (they should be included into the unemployed), and those who are not looking for work (they are not part of the economically active population). But at the same time, it gives fairly clear criteria for identification of the unemployed population. The employment services make decisions on the appointment of unemployment benefits on the basis of determining the status of the unemployed person. Such benefits can receive only those who have the official status of unemployed person.

The rate of unemployment

The absolute number of unemployed people is not able to reflect fully the seriousness of the unemployment problem in the country. The number of unemployed is an important indicator, but it exists separately from the number of economically active population. Therefore, the main indicator of the use of labour resources is the rate of unemployment in the country. The unemployment rate is a percentage of the unemployed people in the economically active population.

However, using only the number of officially unemployed people does not give a sufficiently accurate picture of the situation in the labour market. There are certain circumstances that are not reflected in the ongoing computation yet.

First, much depends on the method of determining the unemployed person. If calculation of the unemployment rate is based only on the number of officially registered unemployed population, then it lowers the unemployment rate in comparison with the real situation. Not everyone who is unemployed and looking for a job is applying to the appropriate service. Moreover, the procedure of getting the status of the unemployed sometimes is not so easy. So, not everyone succeeds to become officially registered. To avoid this disadvantage, in some countries, such as the U.S., calculation of the unemployed is based on the sample surveys of population. This method makes it possible to obtain more complete information, although it has some drawbacks.

Second, the registration of partial unemployment or underemployment is the problem too. Thus, during the economic crisis in Ukraine the aggravation of unemployment problem has manifested itself largely in a latent form. In many enterprises, due to reduced production volumes the people were not so much formally dismissed as were sent to long-term unpaid leave or they were paid the minimum wage without providing the actual work. The work week was reduced to a few days. On the one hand, business leaders hoped for a favourable change in perspective and tried to keep the qualified staff. On the other hand, people were caught in such situations and in many cases simply had not the better choice, as the economy was hit by a general decline and the total number of jobs decreased.

Therefore, calculation of the number of the unemployed people and unemployment rate is very important task but the methods of such calculations are not perfect yet.

5.3. TYPES, CAUSES AND COSTS OF UNEMPLOYMENT

Types of Unemployment

There are three types of unemployment:

Frictional unemployment. This type of unemployment is associated with the voluntary change of jobs and periods of temporary layoff. In our lives we often find cases where people voluntarily resign from their jobs, while nourishing the hope for a new job, which in their view could be better then the previous one. This benefit may include more revenue or better future or better situated workplace, etc.

There are also seasonal activities (agricultural, commercial, resort services, construction) to which workers are taken for the season, i.e. for a certain period of time. During the intervals between periods of work they are temporarily laid off.

Another kind of frictional unemployment is a situation where some people are looking for a job for the first time. This is especially true for young people graduating from schools.

The existence of frictional unemployment should be regarded as inevitable, natural phenomenon. This is the easiest form of unemployment, because it does not require retraining, and therefore does not require the time and money for it. Many cases of such unemployment (such as voluntary job changes are associated with the desire to find a better job) can be seen even desirable and useful to some extent, because here we are talking about the search for areas or places of more effective use of labor resources. However, it is clear that not every change of job is ultimately good for the employee, and, consequently, for the whole economy. But these are the inevitable costs. In football, not every shot on goal ends in goal. But if there were no strikes there would be no goals and, apparently, no football at all.

Structural unemployment. This type of unemployment is related to changes in demand for goods and changes in production technology. In a market environment, no company can have guaranteed sales for their products. Sale of goods is connected with many circumstances. Needs for households and businesses never remain fixed. On the contrary, at certain times they vary quite actively. For example, reduced demand for coal from the power sector could reduce the demand for coal miners. In the coal industry the jobs will decrease. The released workers should look for a new use for their labor ability, to apply to other industries. It is obvious that in the most specific cases there will be a difficult search for and challenging adaptation to new industries. In principle, there is little benefit in high demand for labor in some other industries. The commissioning of the plant for the production of fertilizer or putting into operation of the plant for the production of rechargeable batteries are unlikely to help the unemployed miners. As well as textile workers who remain out of work unlikely to get vacant jobs at nuclear power plant in the region. Particularly acute problem may be in the areas where there was a highly specialized production orientation.

The technological changes may result in reduction of workplaces (and even complete elimination) for one specialty and an increase (perhaps even creation) of the demand for other specialties. For example, the «computer revolution» has generated be massive demand for programmers, operators of computers. On the other hand, industrialization has reduced the demand for blacksmiths.

Structural unemployment is composed as a result of inconsistencies between the structure of labour supply and structure of labour demand. It is as «natural» as frictional unemployment, but even more long-term and complex one. Here, the market can not do without much help from the state. A flexible system of the workers retraining and carrying out of certain activities within the frameworks of the state's structural policy (the regional deployment of new industries and creating conditions for inter-regional labour migration, etc.) are required.

Cyclical unemployment is generated by an overall economic slowdown. Cyclical unemployment is a consequence of GDP falling. Aggregate demand decreases and the volume of domestic production decreases, resulting in the reduced employment. «Treatment» of the problem of cyclical unemployment can only be through the improvement of situation in the economy as a whole. The need to overcome the recession and increase entrepreneurial activity is the good reason for commissioning the levers of expansion variant of the state stabilization policy, which was discussed in the previous chapter.

«Full employment»

When sailors speak of a dead calm, we understand that it is a complete absence of the wind. But when economists talk about «full employment» that does not mean the absence of the unemployed, since the presence of frictional and structural unemployment economists consider as the «normal» state of the economy. Therefore, if there is no cyclical unemployment, there is no serious problem with employment. Everything is going as it should be. Of course, this unbiased approach to macroeconomic events should not obscure the problems (and often suffering) of each person who left without work. But the concept helps to understand the necessity to overcome only the cyclical «appendix» of unemployment.

Thus, the «full employment» is the absence of cyclical unemployment. For the quantitative characterization of the same phenomenon the notion of NAIRU (Non-Accelerating Inflation Rate of Unemployment) is used. It corresponds to the level of unemployment at full employment in the economy. It is believed that the decline in unemployment below this level accelerates inflation.

There is some disagreement among economists concerning the magnitude of NAIRU. It is believed that it may differ for different periods of time, and one can see some growth in it over some time. For this period, the value of NAIRU is estimated by many economists between 5 and 6,5%.

Causes of unemployment

We have largely dealt causes of unemployment during the analysis of unemployment types. Here we are going to generalize it and set it out in a more rigorous form.

There are the three main concepts to explain unemployment: 1) classical, 2) Keynesian, and 3) the monetarist.

The classical theory is associated with the names of D. Ricardo, J. Mill, A. Marshall and other economists who lived mainly in the XIXth century. It is built on the belief that the labour market has sufficient powers to coordinate effectively all the processes in the area of employment and is able to ensure full utilization of labour resources in society. According to the classics, the cause of unemployment is too high wages, which generates an excess supply of labour. This is the result of certain claims of employees themselves. The free play of market forces (supply, demand and wages) will provide the necessary coordination in the field of employment. If there is an excess supply of labour, the decline in wages is to reduce it but at the same time is to raise the demand for labour. If in this situation workers or their unions prevent the deterioration of wages, this means that they «voluntarily» agree on that there is a number of the unemployed.

The Keynesian theory of employment was formed mainly in the 30s of the XXth century. It is associated with the name of the English economist John Maynard Keynes who was the most outstanding researcher in the field of macroeconomics. In his «General Theory of Employment, Interest and Money» (1936) he proposed a fundamentally new interpretation of unemployment.

The classical economists did not consider unemployment as a serious problem. However, the real events are less consistent with the classical assumptions. Mass unemployment occurred in the early 1930's during the so-called «Great Depression». At this time, the unemployment rate in the U.S. reached 25%. It became clear that the classic recipes are not able to manage the problem. Keynes agreed that the reduction in wages may lead to increased employment. But at the same time he pointed out that: 1) in practice it is difficult to reduce wages because of certain circumstances and 2) even if we succeed to reduce the wages, it will lead to a reduction in demand for consumer goods which have a negative impact on production and employment. Keynes also believed that in these circumstances the demand for investment goods will not increase because investment decisions are based largely on the future expectations which in these conditions are unfavourable from the viewpoint of many business entities.

Keynes rejected the assertion of the ability of the market to provide full employment. He concluded that the policy of laissez-faire is ineffective. The cause of unemployment is the low aggregate demand. The cure for unemployment is the state's expansionist policy, which is based mainly on the use of fiscal instruments. By changing the tax and fiscal spending the state can affect the aggregate demand and unemployment.

Monetarist theory of employment is consonant with ideas of the classical school. Monetarism is the direction of economic science that challenged Keynesians in 1960–1970-ies (American economist M. Friedman and others). Monetarists are trying to revive the belief in a strong regulatory capacity of the market and its ability to provide a high degree of macroeconomic stability. According to monetarists, the state's activities in the economic sphere restricted the market forces and excessively limited the regulatory power of the market. In particular, the labour market has lost its flexibility; it is deformed due to excessive intervention of state and trade unions. Too rigid wage creates big problems for employment. Therefore, the cure for unemployment could be to free the market from undue interference (in the area of wages, prices, etc.) and to make the fine public policy to enhance the labour market flexibility (creating flexible education system, the mass distribution of information, promotion of inter-regional flow of labour, etc.).

It should be noted that the economic school of rational expectations, which became widely known in the mid-1970s, manifests the ideas, which are pretty close to monetarism. American economists Robert Lucas and Thomas Sargent are among the most prominent representatives of this school. They tend to see the cause of many problems associated with instability (including unemployment) in the state's economic policy.

Discussions between representatives of different schools are continuing. More attention is paid to Keynesianism and monetarism. Many economists note that the recipes against unemployment of both of them are acceptable in principle. In particular, different types of unemployment require different approaches. Sometimes it is necessary to limit the wages or stimulate the aggregate demand or increase the labour market flexibility.

Losses of unemployment

Unemployment brings serious problems both to worker who left without workplace and to society, and economy as a whole. Losses of unemployment are the losses which are caused by the existence of unemployment. There may be economic, psychological, and sociological losses. Among them:

1. The i*ndividual losses*. What are the costs of unemployment for those people who find themselves in the role of the unemployed? First, their cash income is reduced or even becomes zero. Secondly, the problems with cash flow generate problems with the volume and quality of consumption. Unemployment affects the level of economic well-being of the individual and his family. Third, unemployment often leads to the loss of qualification. In some cases the maintaining of a certain level of professional qualifications is possible only with a systematic practice. Fourth, a new job usually is less favourable than the previous one. One reason for this is the possible decline in the skills level during unemployment. Fifth, unemployment brings significant psychological problems. Psychological state of an unemployed person becomes worse. Depression, feelings of inferiority, life dissatisfaction, and nervousness appear. Stress and health disorder can occur.

2. The s*ocial losses*. This is, firstly, the shortfall of GDP. The real volume of national output is below potential one, i.e. the output with full utilization of available labour resources that could have a society.

The American economist Arthur M. Okun suggested economic principle, under which the excess of the actual level of unemployment above the natural rate of unemployment by 1% leads to a shortfall of GDP by 2,5%. This means that if, for example, the actual level of unemployment in the country is 8,3% and natural rate of unemployment is 6%, then this country receives 5.75% less of the national product than it could ($(8,3 - 6,0) \cdot 2,5 = 2.3 \cdot 2,5 = 5,75$). In other words, in conditions of full employment GDP of this country would be almost 6% more. If we transform these percentages into volumes of goods and services, then we'll get the impressive numbers. Thus, lagging of real GDP from potential level reduces the possibility to raise the general level of well-being.

Second, unemployment causes a certain tension in society. If the level of unemployment is higher, the degree of stress is greater. Unemployment is fraught with manifestations of mass protests in the society and political conflicts. In general, it poses a threat to social stability. Unemployment causes a negative impact on family relationships as well.

Third, the increase in the unemployment rate may complicate the crime situation in the country and promote the growth of crime. This situation reduces the citizens'safety. Economic and psychological problems that arise among the unemployed may lead them to illegal acts. On the other hand, increasing of security will require the taxpayer either increase tax contributions or redistribution in favour of law enforcement to the detriment of other areas of budget financing.

Thus, we can see that unemployment is a serious personal and social problem. The responsibility for it is put on workers, employers and the state. Labour market is the main regulator of employment. However, the problem of full employment requires the state's active participation. Various aspects of this governmental work have been examined in this chapter. At the same time, social security in employment (whom and how the state supports in these areas) has not been analyzed there. This will be discussed in unit 12.

RESUME

1. Employment is regulated by labour market and the state. The labour market is the primary means of interaction between buyers and sellers of labour services. Its mechanism is formed by labour demand, labour supply and wages (price of labour).

2. Labour supply is the amounts of labour that are offered to implement under certain wage rates. The main factors of employees behaviour in the labour market are: the level of wages, working conditions, the remoteness of the place of residence, the prestige of work, adherence to the profession, the degree of independence and responsibility.

3. Demand for labour is the amounts of labour that are requested at the certain wage rates. Employers behaviour is determined by the objective conditions of the company (profit orientation, the volume of sales prospects for the company, product range), as well as subjective preferences (employee loyalty, political opinion, nationality, gender, kinship, etc.).

4. Wages are the price of intellectual and physical abilities to create economic benefits. It depends on supply and demand of labour, government regulation and trade union activity.

5. The main indicators of the labour market are the number of economically active, employed and unemployed population, and the unemployment rate. The unemployment rate is expressed as a percentage ratio of the unemployed to the economically active population.

6. There are three types of unemployment: a) *frictional* unemployment is associated with a voluntary change of workplace and periods of layoff; b) *structural* unemployment is linked with the changes in demand for goods and production technologies; c) *cyclic* unemployment is connected with the general downturn in the economy.

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

8. The main cause of unemployment is determined by: a) high wages (classical theory), b) low level of demand (Keynesianism) and c) lack of flexibility of the labour market (monetarism).

9. The individual losses of unemployment are: a) the loss of income and reduction of living standards; b) the loss of skills and income in the future; c) the adverse psychological changes. The social losses of unemployment are: a) shortfall of GDP; b) social tension; c) an increase in crime. According to the Okun principle the excess of the actual level of unemployment over the natural rate by 1% leads to a shortfall in GDP by 2.5%.

Main terms and concepts

Employment and unemployment
Labour market
Supply of labour
Demand for labour
Wages
Economically active population
Economically inactive population
Employed
Unemployed
The unemployment rate
Frictional unemployment
Structural unemployment
Cyclic unemployment
Full employment

Natural (non-accelerating-inflation) rate of unemployment
Classic theory of employment
Keynesian theory of employment
Monetarist theory of employment
The individual losses of unemployment
The social losses of unemployment
Okun principle

Exercises

Exercise 1. For each statement listed below choose the right term or concept.

1. Condition of employment, for which the absence of cyclical unemployment is characteristic.
2. People who have a job that brings them income in cash or other form.
3. A mechanism through which the interaction of buyers and sellers of labor services is carried out.
4. Ratio of the number of unemployed to the economically active population expressed in the percentage.
5. Unemployment which is connected with the changes in the structure of demand for goods and production technologies.
6. Aggregate employment and unemployment.
7. The volume of the labor services offered at the certain rate of wages.
8. Unemployment, which appears as a result of the general economic downturn.
9. The price of the labor services.
10. The excess of the actual level of unemployment above the natural rate of unemployment by 1% will cause a shortfall in GDP at the size of 2.5%.
11. The volumes of the labor services that will be involved in production by the certain rates of wages.
12. People who are unemployed but capable to work, seeking for work and ready to begin to work at any time.
13. The unemployment rate, which corresponds to full employment in the economy.
14. Unemployment associated with the voluntary job changes and periods of layoff.

Terms and concepts:

a) the labor market;
b) the labor supply;
c) the labor demand;
d) wages;
e) the economically active population;
f) employed;
g) unemployed;
h) the level of unemployment;
i) frictional unemployment;
j) structural unemployment;
k) cyclic unemployment;
l) full employment;
m) the natural rate of unemployment;
n) Okun's law.

Exercise 2. Find the only one right answer.

1. While saying «full employment», the economists mean:
a) complete absence of unemployment;
b) presence of a small number of the unemployed;
c) absence of cyclic unemployment;
d) the total labor force participation in social production.

2. What unemployment rate is imminent:
a) structural, frictional, cyclic;
b) structural, frictional,
c) frictional, cyclic;
d) cyclic?

3. What unemployment rate is considered to be natural (full employment) in the developed countries:
a) up to 2%;
b) 2–3%;
c) up to 4%;
d) 5–6%;
e) 8–10%?

4. A. Okun's law states:
a) the degree of GDP reduction, depending on the excess of the natural rate of unemployment;

b) the degree of influence of general economic recession on the unemployment rate in the country;

c) dependence between the changes in GDP and changes in the level of cyclic unemployment;

g) dependence between the rates of inflation and unemployment.

5. The negative effects of unemployment do not include:

a) underproduction of GDP;

b) reducing of the qualifications level;

c) a decrease of the consumption level among individuals;

d) psychological and social costs;

e) there is no right answer.

6. What official unemployment rate is currently registered in Ukraine:

a) up to 5%;

b) from 5 to 10%;

c) more than 10%?

7. The structure of the economically active population does not include:

a) pensioners, students, unemployed persons, persons under 16 years of age;

b) the unemployed, students and pensioners;

c) pensioners, students, engaged in the service sphere;

d) there is no right answer.

8. The unemployment rate is:

a) the total number of unemployed;

b) part of unemployed people in general population;

c) a share of economically active population in the total number of population;

d) the difference between economically active population and the number of unemployed;

e) there is no right answer.

9. People can become part of the unemployed:

a) just before being the part of the employed population;

b) just before being out of the economically active population;

c) only being earlier in the part of the economically active population;

d) just before being either the part of the employed population or the economically inactive population;

e) there is no right answer.

10. The features of the unemployed status do not include:

a) looking for work;

b) the ability to work;

c) the desire to work

d) correspondence to the certain age parameters;

e) presence of dependents;

f) the correct answer is indicated in c, d;

g) there is no right answer.

11. Which of the directions of economic policy of the state may have a direct impact on the increasing the number of the working places:

a) anti-inflationary policy;

b) strengthening of the state control over the state-owned enterprises;

c) stimulation of small businesses;

d) development of local government;

e) there is no right answer?

12. In Ukraine, the number of the currently unemployed in the official order is determined by:

a) the number of persons registered with employment offices as unemployed;

b) conducting of the special research of selected households;

c) expert assessments of sociological organizations;

d) the number of persons dismissed from factories during the same period;

e) there is no right answer.

13. Part-time employment is:

a) presence of the unemployed in the economically active population structure;

b) the excess of cyclic unemployment over the friction one;

c) presence of the unemployed among the able family members

d) the part-time work because of inability to find suitable employment in a full-time or temporary reduction in demand for products;

e) The correct answer is indicated in c, d.

14. Possible non-economic consequences of involuntary unemployment do not include:

a) political instability;

b) psychological shocks;

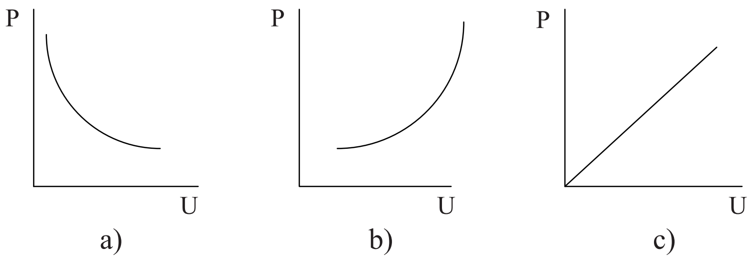
c) social conflicts;

d) fall of moral values;

e) family conflicts;

f) there is no right answer.

15. What graph characterizes the Phillips curve (U – unemployment; P – the general price level)?



Exercise 3. Define which statements are true, and which are false.

1. Full-time, if it is possible, is achieved only under the most productive use of resources.

2. If a person has lost his job due to a decrease in demand for professionals in his field, it is cyclic unemployment.

3. If actual GDP is equal to the potential one, then it means that the economy develops in full employment conditions.

4. The frictional form of unemployment is not only inevitable but desirable for the economy as well.

5. The changes in the level of employment are not necessarily caused by cyclic fluctuations.

6.An increase of the size of unemployment benefits, as a rule, leads to a substantial increase in its level.

7. The economic costs associated with the cyclic form of unemployment are measured by the number of unproduced goods and services.

8. The unemployment rate is determined by comparing the total number of employed and unemployed.

9. The unemployed who are actively looking for works should be included into the labor force.

10. According to the Okun's law the excess of the actual unemployment by 4% above its natural level means that the actual level of GDP gap from the real one is 10%.

11. In conditions of full employment the level of structural unemployment must be equal zero.

12. People who have lost their jobs due to recession in the economy fall into the category of frictional unemployment.

Exercise 4. Solve the tasks.

Task 1. Using Okun's law, determine the GDP gap in a country where the economic situation is characterized by the following:

– actually produced GDP – 100 billion dollars.;

– economically active population – 25 million people.;

– the number of the unemployed persons by the types:

a) friction – 200 thousand people.;

b) structural – 300 thousand people.;

c) the cyclic – 400 thousand people.

Task 2. Short-received GDP, calculated in accordance with the Okun's law, is 8 billion dollars, and actually received – 80 billion. Calculate the number of cyclic unemployment, if the economically active population is 50 million people.

Task 3. The population of the country is 50 million people. It is divided into economically inactive and economically active in proportion 2:3. The total number of the unemployed in the country is 2 million people., 300 thousand of them are the cyclic unemployed. Determine the natural rate of unemployment in the country.

Task 4. 12 million people are employed in economy of the country. The unemployment rate is 5%. Determine the number of economically active population.

Task 5. At condition of the constant number of economically active population, the unemployment rate has increased from 6 up to 9%. By what percentage has the number of employees in the economy decreased?

Task 6. From 80 million people who had jobs, 0.3 million people were dismissed. From 9 million unemployed 0.5 million people stopped looking for work. Determine:

– the number of the employed;
– the number of the unemployed
– the unemployment rate.

Task 7. Real GDP in the previous year was 1086 monetary units and the potential one was 1155 monetary units. The natural rate of unemployment is 5%. Determine the actual unemployment rate in the current year.

Unit 6. INFLATION

There is no doubt that the instability of the overall price level in the economy is one of the most important macroeconomic problems. Many economists are even inclined to think that among all macroeconomic troubles inflation brings the greatest harm. In addition, the inflation control is always difficult and painful.

In this unit we will focus on the nature of inflation, its causes, as well as on the analysis of its main consequences. The inflation control is considered in units 9 and 10, where they are analyzed in the context of financial and monetary policies of the state.

6.1. THE CONCEPT OF INFLATION AND ITS MEASUREMENT

The essence of inflation

For most goods and services that we buy, we have to pay directly. Monetary form of exchange involves the transfer of some amount of money for a certain amount of certain goods. Product price is the amount of money that is to be paid for its purchase.

It is easy to find that the prices of goods and services vary. In different periods they can either grow or decrease. There is a huge variety of goods in economics, and hence, there is the same number of prices. It is almost impossible to monitor and reflect all the changes of prices for goods and services in order to get the macroeconomic picture. Macroeconomics uses the average price level as a general economic indicator of prices. Thus, the average (overall) price level is associated with the concept of inflation.

Inflation is the increase in the average (overall) price level in the economy. It must be emphasized that the increase in prices of particular goods and services is not evidence of inflation yet. Rising prices for some goods may be offset by their decrease in others. Particular price fluctuations may be caused by various reasons related mainly to changes in supply and demand for specific products and services. Inflation is always a characteristic feature of the rising of the general price level.

Measurement of inflation

Thus, inflation reflects the increase in the average level of prices in the economy. The average price level is the weighted average price of various goods and services in the economy. The motion of the average level of prices (or simply the level of prices) in the economy is measured by the price index. The price index is taken as a percentage of the value of a particular set of goods and services in a given period to its value in the base period. This fixed set of goods is usually named the market basket. Thus, to calculate the price index you initially must set a market basket and calculate the value of goods and services in it to a certain date. Then every month, quarter, etc. you can calculate the value of the same basket, divide it by the cost of the basket in the base period and receive a price index. For instance, to find the price index in 2012 in respect to 2011 you must use formula:

$$\text{Price index}_{2012} = \frac{\text{Cost of the basket in 2012 (actual period)}}{\text{Cost of the basket in 2011 (base period)}} \cdot 100.$$

Assume the result is 105%. This means that during the year prices grew 1.05 times (price index) or by 5% (rate of inflation). The period of measuring of inflation may be different. Its minimum length is usually a month. Sometimes you can find posts about the price level change for a week and the maximum period can be measured in decades.

The most known in the world practise price index is the *consumer price index (CPI)*. As it is obvious from the title the role of representative goods in the basket is played by certain consumer products, i.e. those purchased by households. The number of goods used to calculate the index is usually a few hundred. Among them are food, clothing, footwear, housing, transport, etc. The index is calculated as a weighted average. Weights of goods and services included in the consumer basket are their specific shares in the total consumer spending.

Let us illustrate this with an example. Assume that the average consumer spends 50% of its expenditures on food, 30% – other consumer goods, 20% – services. If the price index for food was 95%, other consumer goods would be – 105%, services – 115%, and then the index of the consumer basket value equals:

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

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

To calculate the average growth rate of prices for some time the following formula is used:

$$\begin{array}{c}\text{Rate of inflation for}\\ \text{actual period}\end{array} = \frac{\begin{array}{c}\text{Price index}\\ \text{for actual period}\end{array} - \begin{array}{c}\text{Price index}\\ \text{for previous period}\end{array}}{\text{Price index for previous period}} \cdot 100.$$

For example, the price index for the period equals 110%, and the price index of the previous period equals 105%. Then the rate of inflation would be (110 – 105) : 105 · 100 = 4,8%.

The «rule of 70» is applicable to the inflation measurement. By dividing the number 70 by the annual rate of inflation we can determine the number of years, during which the price level doubles. For example, at an annual rate of inflation at 5% level the prices will double in 14 years. It should be noted that the accuracy of this rule is reduced as the higher inflation rates are used.

Accordingly to the rates of inflation it may be recognised as creeping, galloping or hyperinflation. This classification is intended to convey the degree of severity of the problem of inflation and the time required to suppress it. For advanced economies inflation is considered creeping when its rate is up to 10%, galloping up to 100%, hyper-inflation – over 100%. It is believed that for countries with unstable economies in transition it is necessary to use more soft criteria (e.g., according to a common point of view hyper-inflation can be over 1000% per year). Table 6.1 shows the data characterizing the inflation in Ukraine.

These data show that there was a burst of inflation in Ukraine's economy in the first half of the 90s. The country has experienced periods of hyperinflation. The situation has stabilized to some extent only to the beginning of 2000, but inflation remains relatively high.

Table 6.1

Consumer Price Indices in Ukraine (1990 – 2010)

Year	CPI	Year	The inflation rate
1990	106.8	2001	106.1
1991	390.0	2002	99.4
1992	2100.0	2003	108.2
1993	10256.0	2004	112.3
1994	501.0	2005	110.3
1995	281.7	2006	111.6
1996	139.7	2007	116.6
1997	110.1	2008	122.3
1998	120.0	2009	112.3
1999	119.2	2010	109.1
2000	125.8		

6.2. CAUSES OF INFLATION

Excessive demand

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

Redundant or excessive demand occurs when the production capacity in the country is almost completely loaded and production can not respond to the growing consumer spending by increasing the physical volumes of production. In such cases sellers usually increase the prices. But the rising costs must not necessarily cause rising prices under any circumstances. In Fig. 6.1 Qf point corresponds the volume of domestic production at full employment, i.e. full capacity utilization is reached (*Q* – real output and employment).

Thus, if the state of the economy corresponds the characteristics of the interval 1 (unemployment, underproduction) the increase in aggregate spending cause almost no impact on the price level, since there will be an increase in employment and the output without increasing prices for resources. On the interval 2, the situation is somewhat different. Here the smaller pool of unemployed is; it is gradually exhausted; the increase in demand for labour while labour supply is decreasing leads to the higher wages and higher prices as the consequence of the higher costs of production. On the interval 3 economy has reached its limit

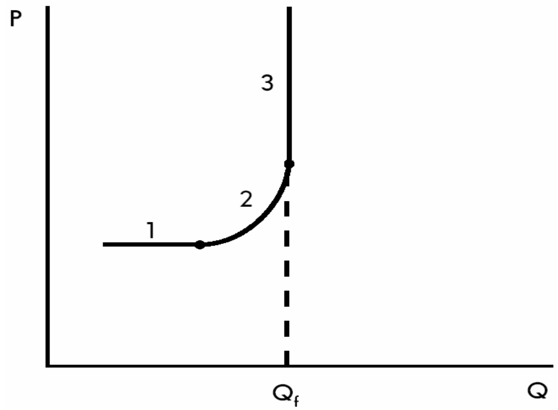


Fig. 6.1. Movement of the national output and price level

in capacity of physical volumes of production, here a further increase in aggregate spending leads to higher prices without the increase of output.

Total spending is formed by: a) households; b) enterprises; c) state. The behaviour of each of these subjects can cause some inflationary pressures. Thus, the consumer demand of households could increase as a result of wage growth or reduced savings or increased use of credit. Enterprises could increase the demand for investment goods by increasing their expenditures. The state can increase demand by increasing the budget expenditures. The reason for the growth of demand can also be the activities of foreign entities. This situation arises when, for example, interest rates of commercial banks in the country are higher than in other countries. As a consequence the funds of foreign entities replenish there.

However, the majority of economists believe the decisive factor of inflation is the activity of the state, and above all, an area that is associated with fiscal and monetary policy. The state is known to control the circulation of money in the country. It is, in particular, can regulate the amount of money in circulation. And between the money supply and the price level in the country there is a definite relationship. So, when, for example, the state, being unable to cover its budgetary costs through tax and other non-inflationary revenue, resorts to printing money (i.e. increases in money supply) it causes inflation or increases its rates. There is no doubt hyperinflation in Ukraine in the first half of the 90s, among the main reasons had just such a state activity.

Describing the link between money supply and price level, many economists refer to widely known «equation of exchange» by the American economist Irving Fisher, productively engaged in analyzing the problems of inflation. This equation has the following form: $MV = PQ$, where M – quantity of money in circulation; V – velocity of money; P – average level of prices; Q – physical volume of goods and services produced.

The formula shows that money, goods and prices are linked in some way. According to the equation of exchange, money growth will lead to the higher prices provided that physical volume of production and the velocity of money are constant.

How tough is this relationship? How quickly are the changes in the amount of money reflected by the price level? In response to these questions discrepancies are found. Thus, monetarists believe that this relationship is very close and the changes in money supply have a direct impact on aggregate demand, and the velocity of money is relatively constant. I.e. factors which determine this relationship change slowly and fairly predictably. And that means they think that we can fairly accurately predict the response of output to a certain change in the money supply. In general, the monetarists came to the conclusion that changes in money are the main cause of instability in the price level and output. A different view on this issue is from the Keynesians. Their view is that the relationship between the amount of money, price level and volume of production is not so rigid and far more complicated than the way it is presented by monetarists. In the view of Keynesians, the velocity of money is not stable, but on the contrary, it is constantly fluctuating and unpredictable. Many economists have noted the presence of difficulties in determining the money itself. Constantly the new kinds of means of payment appear (pay and credit cards, new bank accounts, etc.) as well as difficulties in establishing which ones must be included into the money supply and which must not. Keynesians also indicate that different elements have different velocity of money circulation. Depending on what kind of relationship develops between these elements and how it is transformed by the changes in money supply, it may be either an increase or decrease in the velocity of money. Consequently, there will be different responses, both the price level and output, to the changes in money supply. This means that there is no stable connection between these phenomena.

Monetarists and Keynesians are based on their ideas about the nature of inflation and therefore attach different meanings to the methods of treatment. The monetarists are focused on the monetary policy, while Keynesians more likely to use fiscal one. The practical policy of any developed nation is to use both of those instruments.

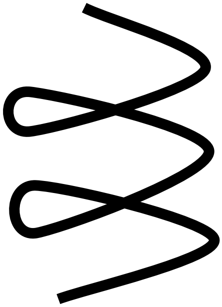
An increase in the costs

When prices are rising due to the higher cost of production of goods and services, it is called cost-push inflation. Let us now analyze an increase in costs per unit of output as the second cause of inflation.

As you know, any production requires resources (labor, capital, raw materials and land). Costs are the payments that are needed to get the necessary amount of resources in order. Average costs are the total costs divided by the volume of output. The amount of costs is a major factor in supply of goods and services. Growth of average costs leads to lower profits and reduced volumes of products for sale at the current price levels. A decreasing supply leads to the increase in prices, being equal under other conditions. If the physical volume of manufactured goods is reduced, then commodity prices increase for the aggregate demand being unchanged.

What reasons can be attributed to the rising costs? The main factors of increasing costs may include:

1. Higher wages. What circumstances could force employers to raise wages? First of all, it may be pressure on the part of employees who use, as a rule, their organizations such as trade unions. If the unions succeed in raising wages which is greater than the growth in labor productivity (sometimes they are able to achieve higher wages without an increase in productivity at all), then employers have the larger average costs, lose some portion of profits and lose an interest in maintaining the former supply at current prices. The changes in supply and demand lead to the higher prices. Such events, which began in one or more industries, may create a chain reaction in other sectors of the economy. In general, this course of events may pose a serious threat to the economy. It may be an inflationary spiral (wage-price spiral), where inflation continuously fed itself. In Fig. 6.2 we have tried to show this picture. Every rise in wages, which is not accompanied by an adequate increase in production leads to an increase in the price level. Rising prices increase the cost of living. You can buy fewer goods and services at the same amount of money. This causes discontent and new demands for the wage increases. Their implementation directs the development of events according to the familiar scenario.



Rise of prices; rising cost of living
Increase of wages
Rise of prices; rising cost of living
Increase of wages
Rise of prices; rising cost of living
Increase of wages

Fig. 6.2. Inflationary spiral

In the economy of Ukraine, there are some enterprises, where the prices do not always provide coverage of all costs of production (e.g. coal industry). In such cases, some of the costs are paid by the state. If the employees and unions of these companies appear to demand the higher wages while the price for the products remains unchangeable or rises less than the increase of wages, it means an increase in budget spending. If the state budget shortfall appears, the government may fund salary through the increase of money supply. Therefore this source of inflation becomes opened.

The experience of Ukraine and other countries shows how difficult it is to stop the inflationary spiral. From the leaders of the state, among other things, great personal courage to accept (as it is obvious) quite unpopular measures to curb the growth of wages and to cut budget expenditures is required.

2. Unexpected events that change the supply of certain goods. For example, implementation of the significant restrictions for the oil sold by OPEC countries (the largest exporters) leads to an increase in oil prices and increasing of inflation in many countries. Ukraine has faced a similar problem since the early 90's when Russian oil and gas suppliers made the transition to sales at world prices It resulted in the higher prices for import of these products and increased costs for their customers and, consequently, improved prices in Ukraine.

6.3. EFFECTS OF INFLATION

Who and how is suffering from inflation?

First, it should be noted that some price increase is almost always takes place in the economy. Periods of deflation (decrease in the general price level) are very rare. Low and relatively stable inflation, which can be foreseen and taken into account in economic decisions, is unlikely to create any serious problems. Significant difficulties arise when inflation is high, when its pace fluctuates dramatically. Consequences of such inflation will be considered in this section.

So, who and how suffers from inflation?

Inflation leads to the lower real incomes for the majority of households. Inflation reduces the purchasing power of money; currency can be exchanged for a smaller amount of goods and services. For those people who can not increase their income at least as fast as the price increases, it becomes impossible to maintain the previous quality of life. If the annual inflation rate was, for example, 110% and the index of income for the period was 105%, this means that your real income for the year would decrease by 5%. It is especially painful for people who have the fixed incomes. For example, teachers, soldiers, doctors, clerks and many others have fixed salaries. Pensioners, the unemployed, mothers who are on leave to take care of children also have the fixed incomes. People with fixed income are not able to protect themselves against inflation by raising the productivity of labour, by increasing production and thus increasing revenues. Their salaries, pensions, benefits are to be adjusted by state, but generally it is always very late and often the increased income does not fully cover the rise in prices.

Inflation also devalues the savings. For example, in Ukraine, many people, in the period before the liberal reforms had been started, deposited free money to deposits in banks. Thus they accumulated money for buying cars, furniture, cottages, apartments and other costly things. And many older people saved money in order to have quite prosperous life in the period when they will be retired. Hyperinflation in 1992 was a real shock for savers. Savings turned into nothing in the first months. During the whole year the purchasing power of money has decreased by more than 20 times! How many hopes have been dashed! How much work devalued! How frustrating was destined to survive for many people! The price of «liberalization» of prices was extremely high.

Unexpected inflation is detrimental for the creditors, i.e., those who gave money to loan. Of course, the lenders usually charge a percentage for granting loans, but an unexpected increase in inflation, of course, can not be accounted for in the loan agreement. As a result, the percentage of the loan may be lower than the rate of inflation. In such situation the lender gets back the money with less purchasing power. Selling goods on credit has a similar effect.

Inflation causes anxiety in humans, the growth of social tension in society. It can be an important factor of social and political upheavals. In this regard economists usually talk about the example of Germany, where hyperinflation in the 1920s is considered an important factor in the ascent of Hitler to power.

For businesses and entrepreneurs inflation brings an element of disorganization. Increased prices for resources increase the costs of production. Producers are trying to compensate the increased costs by higher prices for their products. However, not every producer succeeds to achieve full compensation. Inflation makes it difficult to plan; its unpredictable jumps change the degree of benefit of certain contracts. All of that affects the volumes of production negatively.

There is another important aspect of inflation. Inflation violates the investment process and hyperinflation actually destroys it. Manufacturers need to upgrade equipment, technology, and strive to expand production. To do this, they should do the investment expenses. But inflation quickly devalues savings which are intended for investment purposes. The same happens with the savings of the households. Under these conditions, the flow of investment spending diminishes dramatically. Capacity of the economy of tomorrow suffers the considerable damage.

Who and how benefits from inflation?

Inflation brings benefits primarily to those people who are able to increase their income faster than prices increase. Inflation can be a factor of growth in demand for certain goods and services. For example, demand for foreign currency depends on the degree of stability of the national currency. Inflation destabilizes the national currency and thus extends the income of those entities that provide services of currency exchange. In such cases inflation can bring specific (inflation) income to some economic entities.

Inflation makes a change in the distribution of income in society. People, who work in those structures where there is no way to compensate increase in costs by higher prices for their products, are losing purchasing power of their income. Their real incomes decline. Conversely, those people who have the ability to compensate the cost increase by their higher prices get a chance to maintain real income and even increase it.

Borrowers can benefit from unexpected inflation too. We have already considered this point. Those who use the loan for the period of unexpected inflation will return the money with less purchasing power. It is quite often even easier to return them, since in the period of inflation the nominal income is usually increased.

At last, government may benefit from inflation. It borrows money too. In Ukraine The Ministry of Finance borrows from the National Bank of Ukraine and from private entities by issuing bonds of the State Loan. Due to unexpected inflation it repays loan with cheaper money. Inflation also increases the nominal income of taxpayers. If a progressive taxation is used in the country then this higher nominal income increases both average tax rate and revenues of state budget.

RESUME

1. Price stability is one of the major macroeconomic problems. Inflation is a rise of overall (general) price level.

2. Inflation is measured by the price index, which is taken as a percentage of the value of a specific set of goods and services in a given period to the value in the base period. The most common index of prices is a consumer price index. Inflation rate is defined as the rate of growth of average prices over a specified period of time. Hyperinflation occurs when the price growth is over 1000% annually, or 50% monthly.

3. Excessive demand is one of the causes of inflation. There is a certain relationship between money supply and price level. Monetarists believe that this relationship is very strong and the changes in money supply have a direct impact on the aggregate demand. Keynesians, on the contrary, believe that this relationship is not so strong, and is unstable. In the anti-inflationary measures monetarists recommend emphasis on monetary policy, the Keynesians make accent on fiscal one.

4. Increase in costs is another reason for inflation. It can be caused by the wage increases in excess of changes in labour productivity. The very dangerous phenomena is inflationary (prices – wages) spiral when inflation feeds itself. The costs of producers may also increase as a result of unforeseen circumstances that modify the supply of goods (for example, a sharp rise in prices for imported energy).

5. As a result of inflation in most households the real incomes and their standard of living fall; there is devaluation of savings; nervousness, and social tensions in the community are growing. Inflation disrupts the production, makes a negative impact on output and violates the investment process. Those economic players from inflation may benefit who succeed increasing their profits faster than the prices grow. Also borrowers (including government) benefit in case of sudden acceleration of inflation.

Main terms and concepts

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

Exercises

Exercise 1. For each statement listed below choose the right term or concept.

1. The growth rate of the average price level for a certain period of time.
2. Raising the general level of prices in the economy.
3. $MV = PQ$.
4. The average price of different goods and services in the economy.

5. The situation where the annual increase in prices is measured in thousands of the percents.

6. A set of goods and services used to calculate the consumer price index.

7. The percentage relation of the value of a particular set of goods and services in the given period to its value in the base period.

Terms and concepts:

a) inflation;
b) the average level of prices (in price index);
c) the price index;
d) consumer basket;
e) the rate of inflation;
f) hyperinflation;
g) the equation of exchange.

Exercise 2. Find the only one right answer.

1. What definition captures the essence of inflation more precisely:

a) inflation is a rise of prices in individual markets;
b) inflation is the change of the general price level in national economy;
c) inflation is the change of prices in some markets;
d) inflation is a raise of the general level of prices in national economy;
e) inflation is the increase of money supply in national economy?

2. What does the Latin word «inflatio» (inflation) mean:

a) acceleration;
b) swelling;
c) regression;
d) development;
e) adaptation.

3. «The price index is determined by comparing the cost of the goods set____________________ at different periods of time» (pick up the missing words):

a) different;
b) the same;

c) the most frequently used:
d) essential;
e) some.

4. Is the statement true: «Every subject has its own price index»:
a) yes;
b) no;
c) it is impossible to answer this question clearly;
d) one can agree with this, if a limited period of time is considered;
e) it can be considered rather as an exception to the rule?

5. «Consumer basket» is:
a) a minimum of calories that the body of a man should receive for a certain period of time;
b) the price of a specific set of services;
c) a set of consumer goods and services;
d) a list of essential goods and services;
e) scientifically grounded consumption norm for some population groups.

6. The annual rate of inflation is:
a) a relative price increase for a year;
b) a price index for a year;
c) a price index in percents per annum minus 100;
d) there is no right answer.

7. Which of the following statements is right:
a) inflation is the speed and direction of the change of the totality of prices;
b) inflation is characterized not by the price level but by the rate of their change;
c) inflation is characterized not only by the level of prices but by the direction of their change as well;
d) inflation is a period of a rapid increase?

8. What was the highest annual inflation rate which was observed in Ukraine in the second half of the XXth century:
a) up to 20%

b) up to 100%;
c) up to 500%;
d) up to 1000%;
e) up to 3000%;
f) more than 3000%?

9. The most common quantification of hyperinflation in economic literature is:
a) the rate of inflation for a year is more than 1000%;
b) the rate of inflation for a year is more than 10%;
c) the rate of inflation for a month is over 10%;
d) there is no right answer.

10. When calculating the average inflation rate (overall) the level of prices is:
a) relation of the value of a particular set of goods and services in the given period to its value in the base period;
b) the average price of goods and services in the economy;
c) the amount of money of a particular set of prices for goods and services;
d) the average inflation rate over the past few years.

11. What is CPI (Consumer Price Index):
a) the consumer price index;
b) the wholesale price index of industry;
c) the price index of the agricultural products producers;
d) composite index of prices of producers of the basic consumer, agricultural, resource commodities and services?

12. What characterizes Q_f in the given figure:

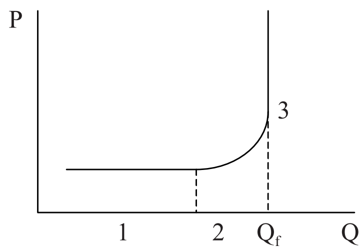


Fig. The levels of price, production and employment in national economy

a) the volume of domestic production at full employment;

b) the volume of national production, at which unemployment begins to rise;

c) the volume of national production, at which the average wage starts to decrease;

d) the volume of national production at which the level of prices is stabilized;

e) there is no right answer?

13. The volume of domestic production is reduced, and the unemployment rate increases. Simultaneously, the increase in prices for individual goods and services appears. What kind of inflation can such situation be referred to:

a) demand inflation;

b) supply inflation;

c) hyperinflation;

d) stagflation;

e) it is impossible to talk about inflation here;

f) there is no right answer?

14. Inflation, which is caused by a decrease in aggregate supply, can be associated with these causes:

a) the mass increase of wages;

b) reduction of public expenditures;

c) an increase in public expenditures;

d) reduction of taxes;

e) the correct answer is indicated in a, b, c, d;

f) the correct answer is indicated in a, b, d;

g) the correct answer is indicated in a, b.

15. What does not belong to the possible consequences of inflation:

a) the decline in real household incomes;

b) depreciation of savings;

c) redistribution of income;

d) an increase in barter transactions;

e) an increase in real GDP;

f) the correct answer is indicated in c, e?

Exercise 3. Define which statements are true, and which are false.

1. Inflation is a price growth for some goods and services.
2. With an annual 10% growth of prices the doubling of their level occurs every 10 years.
3. Inflation reduces the nominal incomes of all enterprises.
4. The inflation level is measured by the inflation rate.
5. One of the reasons for inflation can be the changes in the aggregate demand.
6. The price growth up to 10% per year is defined as hyperinflation.
7. The inflation costs may occur due to the increase of the interest rates.
8. Creditors suffer from unexpected inflation less than all other.
9. The real task for government is to achieve zero inflation in any annual period.
10. The equation of exchange ($MV = PQ$) was led by the American economist Milton Friedman.
11. The high inflation rate reduces investment activity in economy.
12. The mass increase in wages can not be considered as a factor of the costs inflation.
13. The growth rates of inflation and wage rates are usually the same.
14. Inflation may be associated only with the decrease in GDP.
15. The low rates of inflation (5%) are the factor of recovery in business activity.

Exercise 4. Solve the tasks.

Task 1. Prices have increased by 1.25 times for 11 months, and by 1.4 times for the year. Over what period will the prices doubling happen, if in the future the same rate of the price increase continues in December?

Task 2. For 4 years the prices have increased by 4 times. What was the average monthly rate of price growth?

Task 3. Let us assume that the consumer basket of goods is represented by two goods – A and B. Consumers spent one half of their income to purchase product A, and the second to purchase the product B. During the year the prices for good have increased by 5%, and the product B by 25% . Calculate the consumer price index, taking the price index of the last year as 100%.

Task 4. The consumer basket consists of:
– Food (40%);
– Services (20%);
– Industrial products (30%);
– Other consumer goods (10%).
Price indices for each product group are as follows:
– Food products – 110%;
– Services – 1.4 times;
– Industrial goods – 120%;
– Other consumer goods – 95%.
Determine the general consumer price index.

Task 5. Price indices were in: the first year – 100% second year- 112, third year – 150, fourth year- 180, and fifth year – 200%. Determine the annual and average annual growth rate of prices. Calculate the real income in each year, if the nominal income was 500 million UAH in the second year?

Unit 7. AGGREGATE DEMAND AND AGGREGATE SUPPLY

If someone sets the task to calculate the frequency of using the certain concepts in economic textbook, then we can confidently say that there are no rivals of the words supply and demand. That is why once again we turn to the supply and demand in this theme. The demand and supply, their coordination are considered in the course of microeconomics in relation to the markets of certain goods. The conclusions, which are obtained according to this, are very important for understanding the economic processes, but they can't explain many macroeconomic problems. The macroeconomic equilibrium (macroeconomic balance) primarily is a demand balancing of all buyers and the proposals of all sellers. The market is formed by the complex interplay of certain goods markets, regional markets and etc. in national economy scale. Studying the material of this unit allows determining how the national market forms in the way of local markets interaction, its characteristics as an integrated system and its separate elements: the aggregate demand, the aggregate supply and the general price level. We will consider the views of the various economic schools in the mechanism of national economy balance achieving in unit 8.

7.1. AGGREGATE DEMAND

Aggregate demand essence and graph

The demand, including the aggregate demand, characterizes the desire and the opportunities of potential buyers. The buyers in national economy scale are: households (consumer costs), companies (investments), government (governmental purchases of goods and services) and foreign buyers (net export). The aggregate demand structure is presented below in fig. 7.1.

THE AGGREGATE DEMAND	Consumer costs of households
	Companies investment cost
	Governmental costs of goods and services
	Net export

Fig. 7.1. The aggregate demand structure

In this moment the demand values of listed subjects will depend on the price level. **The aggregate demand is the different amounts of goods and services that households, companies and government are willing (ready) to buy at any possible price level.** The law of demand, which is formulated in microeconomics unit, is used in national economy level: the price level and the value of aggregate demand for national product are inversely dependent. This dependence can be presented by the graph, that is shown below in fig. 7.2. What causes the aggregate demand curve decreasing? Analyzing the individual demand, we found that the demand value increases at lower prices, because in this situation the consumer has the opportunity to buy more goods at the same level of income. In what extent is this situation manifested according to combination of the aggregate demand and the price level? If there is the price level increasing, then the consumers spend more money on buying the same quantity of goods and, logically, there should be the real aggregate demand decreasing. Although ones expenditures can become ones incomes in the society scale. That is why the price level increasing can not only increase the level of costs on buying the same quantity of goods,

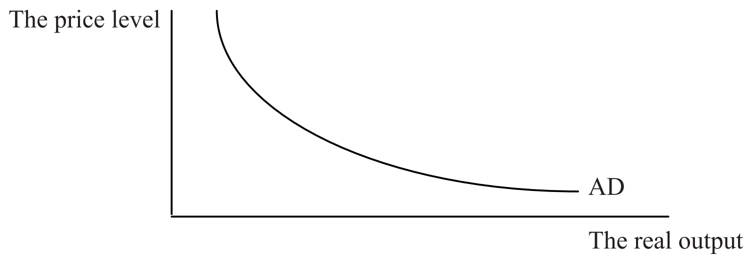


Fig. 7.2. The aggregate demand curve

but also can lead to the income level increasing, and therefore can not affect the aggregate demand.

You can't explain the aggregate demand curve AD singularity and the effect of substitute products. Remind that in the individual demand analysis the consumers become to buy one group of products, which are cheaper and can replace more expensive ones, instead of another group. If we consider the national economy as an integrated system, it is possible to say that the decrease of demand for some products and the increase of it on others will not change the aggregate demand. Thus, the decrease of the aggregate demand curve is caused by other factors than the similar nature of the individual demand curve. Let's consider these factors.

The interest rate effect. In each moment a certain amount of money is turning in the national economy. The requirement in it is determined by the volumes of goods sold and the prices on them. If the price level increases the demand for money increases too. But the money has its price. It is a lending rate. An interest rate increases at a constant supply of money and a simultaneous increase in demand for it. Its growth influences the aggregate demand through several channels. First of all, the investment costs will be reduced. The part of them will become economically gainless, because it will be more profitable to give a loan under the increased rate instead of investing money at a low profit. Therefore, some customers will refuse to consumer costs, particularly connected with durable goods purchasing. After all, the most part of these purchases is connected with getting a loan, which becomes unprofitable in conditions of increased rates.

The wealth effect. It is obvious another direction of the price level impact the aggregate demand. If the price level rises, people with cash savings become poorer, because it reduces the purchasing power of money. If people want to maintain the purchasing power of their savings, many of them will have to reduce their consumption. If you accumulate money for a trip to the sea on summer holidays and face the problem of its depreciation, then as a result of price rising, you will have to sacrifice some shopping or to reduce the costs connected with the entertainments for your trip. Taking into account that many people may be in similar situation, there is a reason to assert that an increase in general price level leads to a decrease in aggregate demand.

The import purchases effect. Just like almost every product has a substitute, which is capable to replace it, so a gross domestic product can have a substitute. This is another country's GDP. For example, if Ukrainian general price level grows, many buyers prefer imported products to domestic ones. At the same time, the foreign buyers also refuse to purchase Ukrainian products. Therefore, the export decrease and import increase will reduce the actual volumes of the realized gross domestic product, because the most people's demand is met by another country's GDP.

The aggregate demand non-price factors

So far we have talked about the factors, which are determining the nature of aggregate demand curve decreasing. The main reason of aggregate demand changing is the general price level. All other conditions were assumed to be constant. However, the changes in aggregate demand can cause other reasons. The non-price factors will shift the demand curve to the left (an aggregate demand decreasing) or to the right (an aggregate demand increasing) unlike the price level, which moves a point on the same aggregate demand curve (Figure 7.3). To install the non-price factors in aggregate demand, let's analyze what can cause the changes in its components (see fig. 7.1).

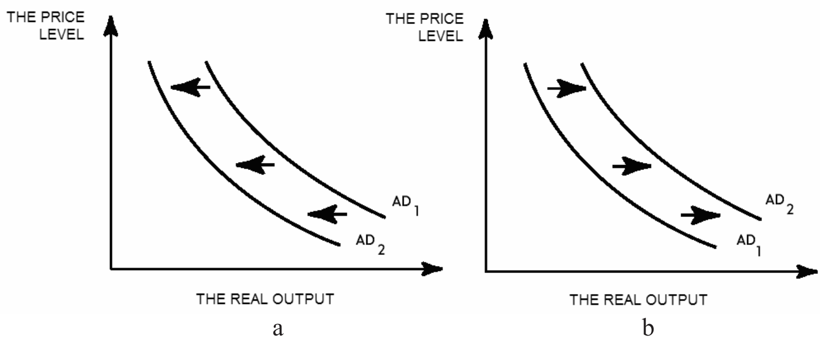


Fig. 7.3. The aggregate demand changes:
a – decreasing, b – increasing

1. Consumer costs: its increasing leads to the aggregate demand increasing and shifts the curve on the graph to the right, but its decreasing reduces the aggregate demand and shifts the curve to the left. What does the consumer cost depend on? Simple observations show that the consumer goods cost value is mostly determined by the value of per capita income, accumulated wealth, etc., in other words, the level of population welfare. If this level increases, the consumer costs increase too, but if it decreases, people are forced to use the part of their income for compensation of their losses and refuse the consumer costs. For example, the aggregate demand will increase if the general price level is constant, but the stock prices rise, or it will decrease, if the market value declines.

Consumer costs also depend on **buyers expectations**. These expectations may be own revenues changes and the possible price level or other sale and purchase terms and conditions. If a significant part of the population in July-August expects that the bread will become more expensive in fall as a result of grain price increasing, then there will be people, who seek to make the biggest flour and flour products stocks in lower prices. So there is the highest demand level, which increases the aggregate demand for some period of time. If many people expect income reducing because of the general economic downturn in the country, in this case the aggregate demand curve can shift to the left (the current demand reducing).

Consumer costs depend on the **tax rates**, because taxes regulate incomes and affect the population costs.

The aggregate demand can vary due to **the volumes of consumer debt** in many economically developed countries, where loans are a significant part of consumer goods payments. If the volumes of consumer debt reach a definite level and it is its deadline, then the aggregate demand will decrease under other equal conditions, because paying off debt revenue increases instead of the consumer costs.

2. The investment costs are the part of the aggregate demand as well as the consumer costs. A typical investment motive is the desire to generate revenue. It is quite clear that the higher **expected rate of returns on investments** will stimulate an increase of investments. But declining level of profitability doesn't stimulate the investors, and that will reduce the demand for investment products.

The economic entity compares the returns on investments with **loans interest rate** considering the investment aspect. If it increases, it is preferable for many investors to invest money in the bank, but don't do the direct investment. Although there can be problems with using a credit as an investment source, because the profitability of many investment projects is insufficient to pay loan interests. That is why the interest rate is inversely depended on the investment costs.

The tax value makes a similar effect, because the real investment opportunities are determined by after taxes income. The private investments increase, when the tax rates reduce, and reduce when the tax rates increase according to constant conditions.

An economic theory and economic practice have proven that companies always need some capital reserves for economic maneuver (economic flexibility). But different **values of capital reserves** make different effect on investment costs. An excessive growth of capital reserves constrains new investments, while reserve reducing stimulates them.

3. Governmental costs are other part of aggregate demand. They depend on many factors, among which the decisive ones are **state budget revenues**. The main source of state budget revenues is tax revenue. Raising taxes from the one hand leads to consumer costs and private investments decreasing and negatively affects the aggregate demand, and from the other hand leads to governmental costs increasing, that increases the aggregate demand.

Many factors depend on the governmental cost structure, on the priorities in economic policy. For example, if the government increases costs on social programs, increasing the volumes of transfer payments (pensions, allowances, etc.), this leads to government purchases of goods and services reduction, but in some way it can boost consumer costs.

4. Net export costs. As we have noted, the price level changes in the country can cause the net export changes. But the exports and imports ratio may vary independently of the processes in the country. The changing conditions in one country can affect the aggregate demand in the other country, because at least two countries are taking part in foreign trade. How will the aggregate demand in Ukraine change, if the general price level increases in Belarus? In this situation the Ukrainian products will become more competitive in the Belarusian markets, and that increases the Ukrainian export and, accordingly, decreases the Belarusian import, which will become too expensive. Thus, **foreign trade partner economic situation** has a significant impact on the country net export.

The exchange rates also have a significant impact on the net export. **An exchange rate** is the price of one country's currency in the currency of another country. If the Ukrainian currency rate in ratio to the Russian ruble decreases, it will stimulate the Ukrainian export to Russia. Ukrainian entrepreneurs will gain more, selling the products in Russia at the same prices and translating the foreign currency into national. The same factor will deter the Russian export to Ukraine: the former Ukrainian currency revenue will be less after translating into rubles.

Aggregate demand non-price factors are presented in fig. 7.4 for better visibility and keeping in mind. It should be noted, that all these factors operate simultaneously, often in different directions that is why the aggregate demand is formed as a resultant set of economic forces.

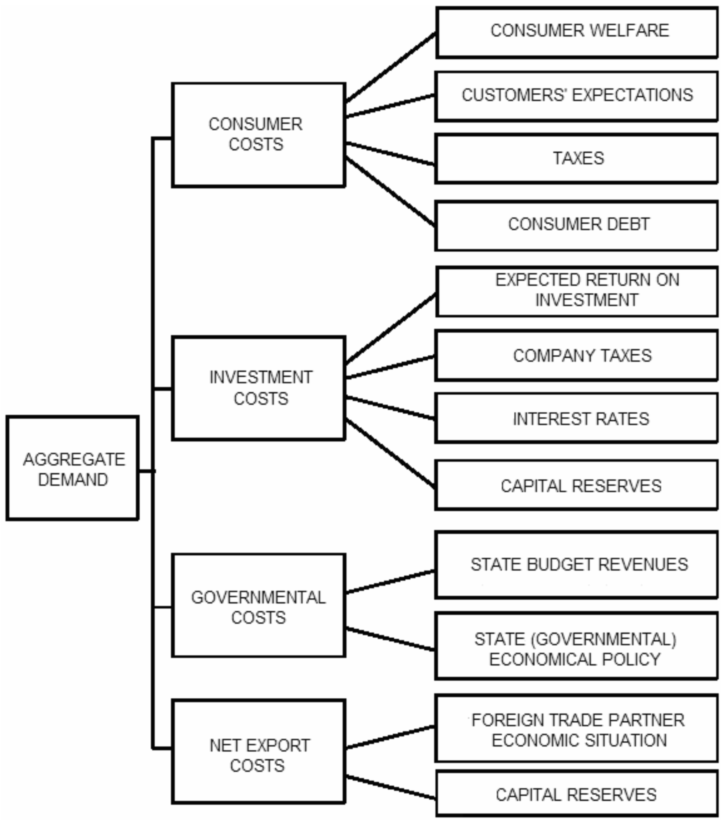


Fig. 7.4. The aggregate demand non-price factors

7.2. AGGREGATE SUPPLY

The aggregate supply essence and graph

The aggregate supply combines the offer of all goods sold in the national market. This is the **real cash national output level of goods and services at each possible price level.** The manufacturer behavior in the market is determined by the expected returns on its activity. The profitability depends on the average cost of goods production according to other equal conditions. The price level prevailing in the country should compensate the costs and ensure an adequate level of profitability, which motivates manufacturers to offer their products. That is why to explain the connection between price level and the actual supply volume means to explain the average production cost dynamics.

It should be noted that there are serious disagreements about the disposition of the aggregate supply curve in economics.

The aggregate supply graph AS, which reflects the approaches of different schools, is presented in fig. 7.5. Let's explain the aggregate supply curve disposition on it different parts without going into detailed analysis of these schools arguments, which will be done in the next topic. As was noted in unit 6, if production operates with considerable volumes of unused resources than its increase isn't connected with average production costs increase and will not raise price level according to

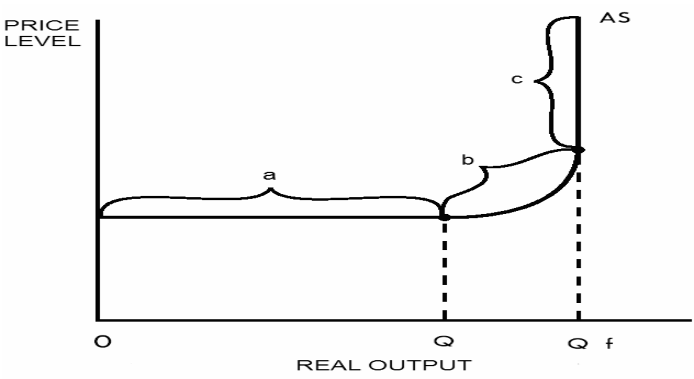


Fig. 7.5. The aggregate supply curve:
a – horizontal (Keynesian), b – bottom-up (interim)
c – vertical (classical) segments

John Maynard Keynes and his followers' views. If there are significant volumes of unused capacities and large number of unemployed people in the country, their involvement into production will not be accompanied by higher costs for the purchasing of the additional labor units and other resources.

A horizontal line reflects the aggregate demand in the segment OQ. This area is called the horizontal or Keynesian.

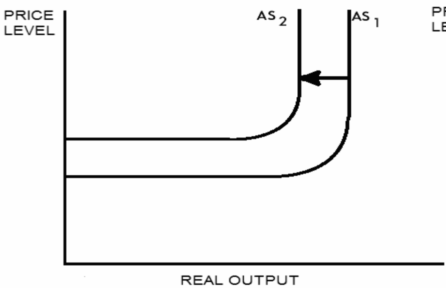
There is a fracture on the aggregate supply curve (Fig. 7.5) upon reaching the real output, which matches the segment OQ. It means that the economy is achieving total employment condition. There is a reallocation of resources, because of not simultaneous process in different industries, which is connected with per unit labor costs increase. Less productive resources there are used, which haven't been used before, when the capital reserves index reaches its critical point. There is a general increase of the average goods and services production costs. It's necessary to organize a compensating price level increase to increase the outside production of OQ segment. This aggregate supply curve segment is called the ascending or intermediate. It reflects the direct dependence between the price level and the output.

However, it is impossible to increase the further real output because of additional resources lack, even if the prices rise, in situation of total employment or natural unemployment rate. That is why the aggregate supply curve becomes a vertical line in the Qf point. Logically, this segment is known as vertical or classical. The classic economic theory representatives consider the situation, when all resources are mobilized, as the normal economic system state. Of course, it should be noted, that «total employment» condition is very mobile. The labor market may get new employees, who didn't look for new job and were not among the unemployed, according to certain conditions. But in any case, it is possible to achieve a situation, when the further expansion of production is impossible.

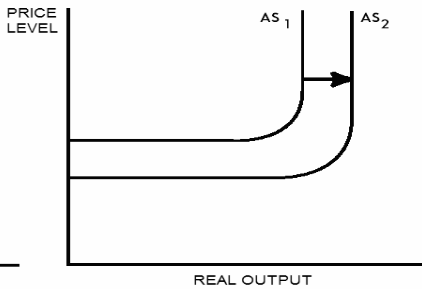
The aggregate supply non-price factors

These factors determine the curve position on the graph. They reflect new motivation terms of the producer. The main question is: what can encourage a manufacturer to increase the production at the same price level? The answer is obvious: it can be an opportunity to gain more profit or to create better conditions for products distribution. The problem of gaining more profit under the fixed prices is in goods and services production costs reducing. That's why the production costs change can be the first aggregate supply non-price factor. They have the reversed connection: the lower the production costs are, the more the aggregate supply is under constant conditions. The converse statement is also the correct one.

The average costs value depends on several conditions, among which **the resource prices** are the most important. The use of land, capital and entrepreneurial skills as labor force in production activities means that their price rising leads to costs increasing and to aggregate supply decreasing, but their price reduction leads to costs reducing and aggregate supply increasing. The first variant is presented in Fig. 7.6 a, and the second – in fig. 7.6 b.



a



b

Fig. 7.6. The aggregate supply change:
a – a decrease, b – an increase

The prices in the domestic resources market are set by the supply and demand interaction. The world market prices can make a significant impact on resources prices, especially, when a significant part of domestic demand is met by imported resources. The price rising for the Russian oil and natural gas, which are bought by Ukraine, determined the aggregate supply decreasing in our country in 1992–1993 and the curve displacement to the left.

The production costs changes can be caused by the shifts in production process, which increases or decreases its productivity, it means productivity changes. Experts note that the powder metallurgy use in machinery parts manufacturing reduces the metal cost in comparison with usual manufacturer method. Mass production automation can reduce the labor resources demand. Of course, there are other examples according to this question. It is well known that the mines and quarries depth is constantly increasing and minerals with lower useful components content are involved in the commercialization. This increases the costs and shifts the aggregate supply curve to the left.

The changes in latter distribution manner can be the motive for supply volume increasing or decreasing at constant prices, costs and profits. Here, **taxes** are the most powerful leverage. The **government subsidies** make the impact on aggregate supply. Government subsidies reduce costs and contribute to the aggregate supply.

The supply non-price factors are presented in fig. 7.7. They all operate simultaneously, with different force in different directions. That's why it is necessary to make the analysis of each factor and to find their resultant for determining the aggregate supply actual dynamics.

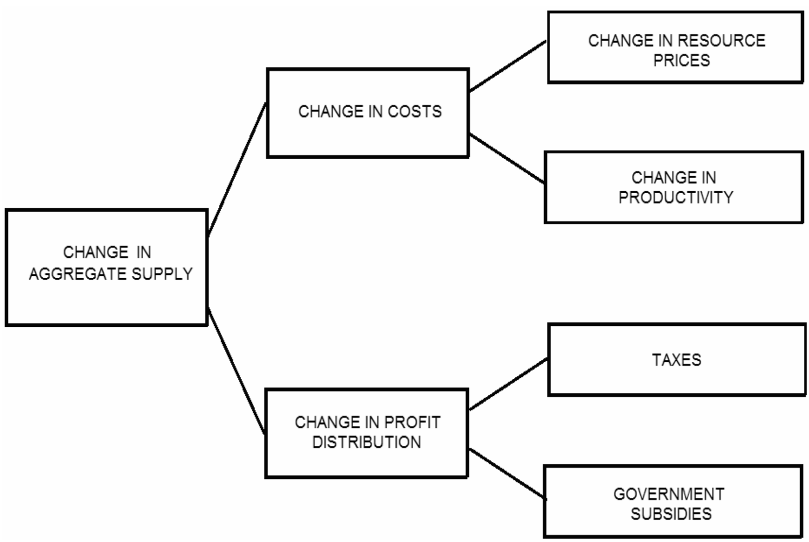


Fig. 7.7. The aggregate supply non-price factors

7.3. AGGREGATE DEMAND AND AGGREGATE SUPPLY EQUILIBRIUM

The equilibrium price level and real output

The balance between aggregate demand and aggregate supply is achieved when customers' desires to buy a certain amount of goods and services at this price level coincides with the sellers desires to sell the same amount of goods and services for the same price level. Graphically, the equilibrium real national output and the equilibrium price level are shown by the aggregate demand and the aggregate supply curves coordinates crossing. The competitive environment, which is typical for market system, provides a restoring equilibrium mechanism in the case of one of the parameters rejection from the equilibrium level. However, this mechanism has the specificity for each section of the aggregate supply curve, and therefore requires special consideration.

1. The horizontal segment. There is a situation, when the aggregate demand and the aggregate supply curves cross the horizontal segment, Fig. 7.8. The point with coordinates (Qe Pe) is an equilibrium point: Qe is the equilibrium real output, and Pe is the equilibrium price level. The manufacturers have rather much freedom under these conditions. So they can increase the production to the point Q1 at the current price level.

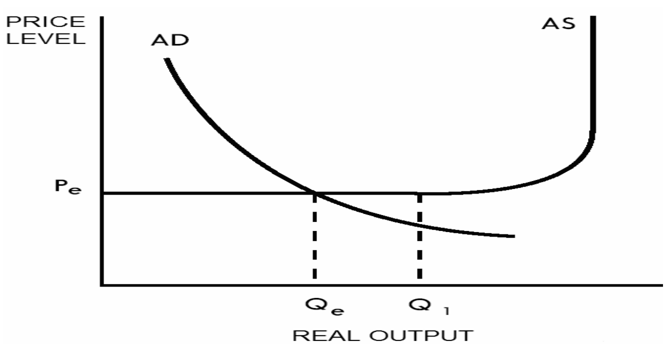


Fig. 7.8. The aggregate supply equilibrium in the horizontal segment of the curve

But if it really happens, there will be serious difficulties from product sales, as a result the reserves will increase and manufacturers will need to cut the production until they reach Qe point, until they balance the aggregate market. Note that the overproduction doesn't reduce the price level according to these conditions, because the lower prices will lead to the production cessation.

2. The middle segment. The traditional mechanism, which is well known from the individual markets analysis, functions at the aggregate demand with the aggregate supply curves crossing in the middle segment. For example, actual production volume decreases, when there is a price level decreasing below the equilibrium. A deficit supply and high demand level increase the competition among the buyers that leads to the higher prices. This stimulates the aggregate supply increasing and limits the aggregate demand. Eventually everything is in balance.

3. The vertical segment. If the equilibrium point is situated in the vertical segment, the equilibrium mechanism is exposed by total employment conditions. The aggregate demand value increases from Qe to Q1 (Fig. 7.9) in the way of price level decreasing from P1 to Pe. But the volume of proposed goods and services will stay unchangeable. The buyers' competition will balance the price level after the excess demand. If the price level is higher the equilibrium level, the aggregate demand value will decrease at a constant supply volume. In this case, the competition among sellers, because of the excess supply, will reduce prices and balance the situation.

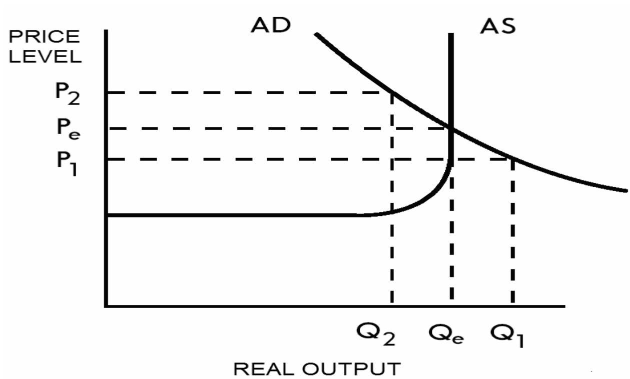


Fig. 7.9. The aggregate supply equilibrium in the vertical segment of the curve

Thus, the equilibrium is achieved by changing of the production volumes (real output) at constant price level in horizontal segment, by changing of the price level at constant production volumes (real output) in vertical segment and by simultaneous changing of the real output and price level in the middle segment.

The changes in balance

We still don't take into account the effect of the aggregate demand and aggregate supply non-price factors, considering the balance mechanism, which determines the curves position on the graph. Now let's analyze these conditions.

The aggregate demand curve can shift to the right according to the reasons, which were discussed in the first paragraph. There will be different consequences of such shifting for different segments of the aggregate supply curve, which are presented in fig. 7.10.

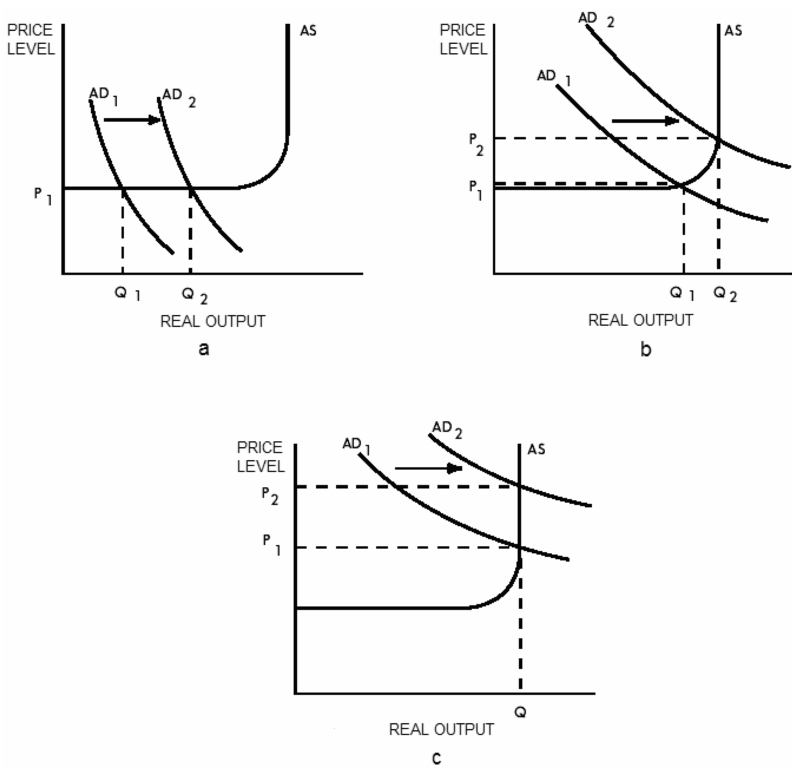


Fig. 7.10. The aggregate demand increasing effect for the segment: a – horizontal, b – middle, c – vertical

The equilibrium output will increase from Q_1 to Q_2 at constant price level, if the aggregate demand curve shifts to a horizontal segment. The supply of goods and services will increase with simultaneous price level rising, if a similar process occurs in the middle segment. The aggregate demand increasing causes the price rising in the vertical segment, but the supply has the same value. That's why the demand pull-inflation will be a resulting factor of the aggregate demand curve shifting to the right in the middle and vertical segments.

There are some difficulties while analyzing the aggregate demand curve shifting to the left. Logically, the price declining makes a simultaneous effect with such shifting in the vertical and middle segments.

However, the price rising can change very quickly, but they are not enough flexible and can't be reduced in short period of time. This phenomenon is the **ratchet effect** (the mechanism that allows you to turn the wheel forward, but not backwards; remember how the springs in a mechanical watch starts) in economic theory.

The price reducing inflexibility is due to several factors, which include the wage reducing inflexibility as one of the most important costs element and which is caused by government intervention, trade unions, employer personnel policy in the process of its formation. Besides, the manufacturers' monopoly position in the market allows them to withstand the price level decreasing.

The ratchet effect shifts the aggregate demand curve to the left and makes price decreasing, which promotes balance achieving by shifting of the aggregate supply curve horizontal segment upward and vertical segment to the left.

The equilibrium changes may occur by shifting of the aggregate supply curve. The aggregate supply curve shifting to the left means country's production capacity reduction. This may be due to any internal resources exhaustion or imported raw materials price rising. Costs increasing, the equilibrium output decreasing and price level increasing are the result of this process. This process was discussed in previous chapter in the inflation costs analysis.

The aggregate supply curve shifting to the right means society's production capacity increasing. It also includes the equilibrium output increasing and the equilibrium price level decreasing.

RESUME

1. The aggregate demand is the different quantities of goods and services, which households, companies and government are ready to buy at any possible price level. It is formed by household consumption costs, company investment costs, government purchases of goods and services and net export.

2. The aggregate demand curve decreasing effect in the graph is due to the interest rates, wealth and import purchases.

3. Non-price factors shift the aggregate demand curve to the left (the aggregate demand decreasing) or to the right (the aggregate demand increasing) in the graph. These include the changes in investment, consumption and government costs and net export.

4. The reasons of consumer costs changing are the changes in population welfare, customer expectations, taxes and buyers' debt. The investment costs dynamics is due to the investment incomes, interest rates, company taxes and the availability of spare capacities. The government purchases of goods and services depend on the state budget revenues and priorities of government economic policy. Net export is changed under the influence of foreign trade partners, economic situation and foreign exchange rates.

5. The aggregate supply is the real output level of goods and services at every possible price level. The aggregate supply curve consists of a horizontal (Keynesian), ascending (middle) and vertical (classical) segments.

6. The aggregate demand and aggregate supply balance is achieved in the point of graphs crossing. The equilibrium disturbing in the horizontal segment of the aggregate supply curve is restored by changing of the production volume at constant price levels, in the vertical segment is due to the price levels changes at constant production volume, but in the middle segment is due to the simultaneous changes in production volume and price levels.

7. The consequence of the aggregate demand curve shifting to the right in the aggregate supply horizontal segment is the equilibrium output increasing at constant prices, in the middle segment – the equilibrium price level increasing, in the vertical segment – the price level increasing without production volumes increasing.

8. The aggregate supply curve shifting to the left leads to the costs inflation, to the right – to the society's productive capacity increasing, and leads to price reduction.

Main terms and concepts

Aggregate demand
Interest rate effect
Wealth effect
Import purchases effect
Aggregate demand non-price factors
Aggregate supply
Aggregate supply curve
Horizontal, vertical and middle segments of aggregate supply
Aggregate supply non-price factors
Equilibrium price level
Equilibrium real output
Effect of the ratchet

Exercises

Exercise 1. For each statement listed below choose the right term or concept.

1. Segment of the aggregate supply curve, where the increased production volume is not accompanied with an increase in the price level.
2. The volume of goods and services that households, businesses and government are willing to buy at any possible level of prices.
3. The influence of the external sector of the economy on aggregate demand and GDP growth, which occurs when the prices for domestic goods increase or decrease in comparison with the prices for foreign goods.
4. The situation where the prices vary upwards quite quickly, and become unresponsively to reduce, and for a short period of time can not be reduced.
5. Segment of the aggregate supply curve, in which the compensating increase of the price level is necessary to increase the production volumes.
6. The level of the available real national output of goods and services at each possible price level.

7. The influence of prices on the real value of the accumulated financial assets with fixed income, which results in the fact that their owners really become poorer or richer.

8. The price level that ensures the equality of the aggregate demand and aggregate supply.

9. Segment of the aggregate supply curve, which characterizes the condition of full employment and where an increase in the production volumes is not possible even at the expense of the price level raising.

10. The situation when the price growth will cause an increased demand for money and therefore, an increase in the interest rates.

11. The volume of production, when equilibrium between the aggregate demand and aggregate supply is reached.

Terms and concepts:

a) the aggregate demand;
b) the effect of the interest rates;
c) the effect of wealth;
d) the effect of the foreign purchases;
e) the aggregate supply;
f) the horizontal segment of the aggregate supply curve;
g) the intermediate segment of the aggregate supply curve;
h) the vertical segment of the aggregate supply curve;
i) the equilibrium level of prices;
j) the equilibrium volume of production;
k) the ratchet effect.

Exercise 2. Find the only one right answer.

1. What does not belong to the factors determining the character of the aggregate demand curve:

a) the effect of profit;
b) the effect of the interest rates;
c) the effect of wealth;
d) the effect of the foreign purchases?

2. Where is the first mistake made in the given logical chain that characterizes the effect of the interest rate:

a) an increase in prices

b) an increase in the interest rates
c) the decline in consumer spending
d) increased investment?

3. What does not belong to the non-price determinants of the aggregate demand:
a) the welfare of consumers;
b) the taxes;
c) the changes in labor productivity;
d) the expected return on investment;
e) there is no right answer?

4. Which of the following may affect the amount of the aggregate demand:
a) the expectation of consumers;
b) the changes in the general price level;
c) an increase in prices for imported oil;
d) the changes in the exchange rates;
e) there is no right answer;
f) the correct answer is indicated in a, b, c, d?

5. The exchange rate of UAH against Russian ruble has increased. How will that fact affect the aggregate demand in Ukraine:
a) it will decrease;
b) it will increase;
c) it will remain the same?

6. What will be the impact of achievement of the significant growth in national income in Belarus the aggregate demand in Ukraine:
a) the demand will decrease;
b) the demand will increase;
c) the demand will remain unchanged;
d) will change only the volume of demand?

7. The prices for the imported gas have increased. How will this fact affect the amount of the aggregate demand:
a) the amount of the aggregate demand will change, because the overall level of prices can change;

b) the aggregate demand will increase, because of the increased net exports;

c) the aggregate demand will decrease, because of the reduced consumption of gas;

d) the correct answer is indicated in a, b;

e) the correct answer is indicated in a, b, c?

8. What definition reflects the essence of the category of the «aggregate supply» more accurately:

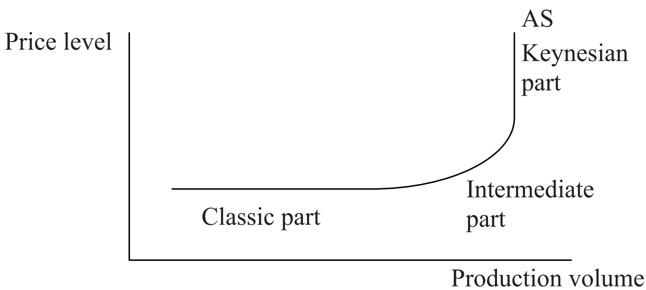
a) the total output of goods and services during the corresponding period of time;

b) the level of real output available at each possible price level;

c) the maximum amount of production that is achieved under conditions of full employment;

d) the total output, achieved with the optimal use of the available resources in the community?

9. What mistake is made in the graph:



a) the wrong marked axis;

b) the improperly marked curve;

c) the improperly marked segments;

d) there are no mistakes?

10. Which of the following events will shift the aggregate demand schedule to the right:

a) an increase of the general level of prices;

b) a raise of the taxes on businesses;
c) an increase of the number of the workable citizens;
d) a loss of fertility of the top soil due to exhaustion;
e) there is no right answer?

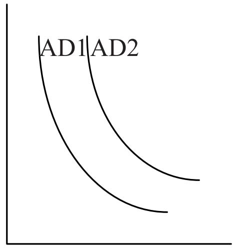
11. Which of the counted events can cause a shift in the aggregate supply curve to the left:
a) mass immigration;
b) an increase of the general level of prices;
c) depreciation of the hryvnia against the ruble;
d) there is no right answer?

12. Effect of which factors can not change the position of the curve in the graph of the aggregate supply:
a) an increase of the labor productivity;
b) a reduction of the general price level;
c) an increase in the state subsidies to the enterprises;
d) there is no right answer?

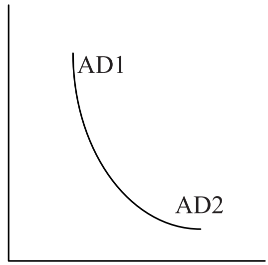
13. Will the massive influx of the total labor force of women who were in household before, influence the position of the curve in the graph the aggregate supply:
a) will not affect;
b) the curve will shift to the right;
c) the curve will shift to the left;
d) a point of the real supply in the curve will move up the supply curve?

14. The aggregate supply schedule is a straight line under
a) the full satisfaction of the existing demand;
b) achievement of full employment;
c) absence of incentives for a further increase of the production volumes;
d) availability of administrative restrictions to further production growth.

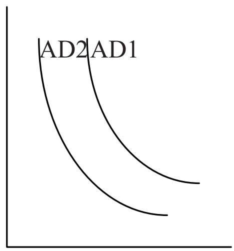
15. Which graph shows the influence on the aggregate demand of inflation expectations in the community?



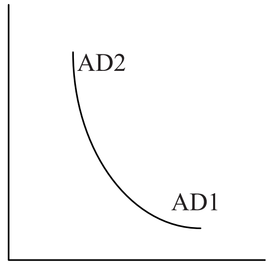
a)



b)



c)



d)

16. What impact, ceteris paribus, will the real output growth in demand in classical aggregate supply curve segment have on the equilibrium price level and equilibrium real production volume:

Equilibrium price level	Equilibrium real production volume
a) will not change	Will increase
b) will increase	Will not change
c) will decrease	Will increase
d) there is no right answer	

Exercise 3. Define which statements are true, and which are false.

1. Wealth effect is a non-price factor, which determines the dynamics of the aggregate demand.

2. With an increase in the aggregate demand in the intermediate segment of the curve of the aggregate supply the prices and real GDP increase.

3. The aggregate supply curve, according to the Keynesians, describes potential output only in the long run.

4. The aggregate supply curve is horizontal in its classic segment.

5. An increase in the aggregate supply increases the equilibrium level of production and the production level that corresponds the full employment.

6. The high level of the consumer debt stimulates the growth of consumption expenditures and aggregate consumption.

7. The curves of the aggregate demand and aggregate supply shift under the influence of price factors.

8. The vertical segment of the aggregate supply is a simplified picture of real production capacity limits, as the economy always has small reserves to increase in this segment.

9. The aggregate demand curve has an increasing character.

10. Classical and Keynesian schools consider that the long-run aggregate supply curve is vertical.

11. The price decrease reduces the demand for money and increases the interest rate.

12. An increase of the national currency rate against the foreign one creates conditions for the growth of exports and, consequently, increases the aggregate demand.

13. An increase of the domestic price level relative to the world one leads to the increased exports and reduced imports of goods and services.

14. There is always full employment in equilibrium economy.

15. The causes of shifting of the aggregate and individual demand curves are the same.

16. Reduction of the excessive production capacity slows the growth for the capital demand, thus, reduces the aggregate demand.

17. Inflation expectations of consumers always shift the aggregate demand curve to the right.

Exercise 4. Solve the tasks.

Task 1. The aggregate demand is described by the equation $AD = 20 - 0{,}4\,p$, and the aggregate supply is described by:

$$AS = \begin{cases} 0 - 10, \textit{ under } p = 10; \\ 8 + 0{,}2p, \textit{ under } 10 < p < 20; \\ 12, \textit{ under } p > 20. \end{cases}$$

Determine by what percentage will the prices increase if there will be an increase in the aggregate demand and it can be described by the following equation: $AD = 24 - 0,4\,p$.

Task 2. The table below contains data about the aggregate supply volume:

It is necessary to define:

1) What are the boundaries of the amount change in real GDP in the Keynesian aggregate supply curve segment?

2) What are the boundaries of the price level changes and the amount of real GDP in the classical segment of the aggregate supply curve?

Price level	Real GDP
250	2000
225	2000
200	1800
175	1700
150	1400
125	1000
125	500
125	0

3) What are the boundaries of the amount change in real GDP in the intermediate segment of the aggregate supply curve?

Build the aggregate supply curve.

Task 3. Last year, the potential GDP was 3000 monetary units, the aggregate demand curve was described by the equation $AD = 3300 - 3p$. This year, potential GDP grew by 1%, the aggregate demand curve has acquired the following form $AD = 3300 - 2p$. It is necessary to define the rate of inflation.

Unit 8. THEORIES OF THE GENERAL EQUILIBRIUM

Now the next logical step of macroeconomics knowledge should become finding out of the deep reasons of infringements of national economy proportional development as a whole and mechanisms of its equilibrium condition maintenance.

We said about existence of differences in the approach to explanation of the general equilibrium, available beside representatives of the different schools. In this unit we are considering in details the basic models of macroeconomic equilibrium in the short run: classical and Keynesian. The long run models will be dedicated to unit 13. For the best understanding stated here we recommend to restore in memories the contents of the three previous units before studying this unit.

8.1. CLASSICAL SHORT RUN MACROECONOMIC MODEL

Scientific development of macroeconomic equilibrium questions is a rather new problem for the economic theory. Some aspects of this problem were considered in the works of the economists in XVIII–XIX centuries (for example, D. Ricardo, A. Marshall, A. Pigou), but they have not received the completed kind of the general equilibrium model. Keynes analyzed the macroeconomic models only in 30s years of the XXth century. The whole direction in the modern economic science is called Keynesian. The group of Neo-classical direction economists, based on the ideas of the above named economists of the XVIII–XIXth centuries in development of the general equilibrium theory of the economic systems, is different from Keynesian points of view on this problem. These two basic approaches to a problem of the general equilibrium have received the name **classical** and **Keynesian macroeconomic models.**

Before starting consideration of these models, it is necessary to specify some simplifications which are applied at an initial stage of the analysis.

1. The short run period is considered. It is an interval of time, sufficient for attraction of an additional labor and raw material by the enterprises, but insufficient to change the capacities.

2. The economy is analyzed as the closed system, foreign economic relations are not considered.

3. It is supposed that the government fails active intervention in economic sphere. Therefore taxes, transfer payments etc. are not taken into account; it allows as word «the income» to understand the net national product, the national income, and the personal income, because they do not differ quantitatively.

It is obvious that in reality such economic systems do not exist, but through construction of the simplified models it is possible to achieve understanding of the economic world arrangement.

Say's Law

The basis of classical macroeconomic model is made with the statement that **any supply creates own demand**. The substantiation of this law was given by Jean-Baptiste Say – the French economist of the end of the XVIIIth – the beginning of the XIXth century. The logic of his reasoning can be presented as follows. Any manufacturer is ready to buy so much monetary units of the goods, as he is able to sell. Therefore for him the supply and demand are identical. But if this statement is true for each person, it is true for to a society formed by a generality of these people. Even if the supply will exceed demand in one of the economy sectors there will be the other sector where the excess of demand over the supply will be compensating. Thus, the general equilibrium will be kept. Differently, if we designate total income as Y, and the total charge as E, the general equilibrium assumes identity:

$$Y = E.$$

However, this substantiation is based on two assumptions: a) the income is used on consumption only; b) the own means are spent only. Actually the part of the income is saved up, and credits are used frequently as the source of spent means.

Then the total income can be presented as consisting of their two parts: intended for consumption (*C*) and savings (*S*):

$$Y = C + S.$$

Total charges consist of consumer charges (*C*) and expenses for investments (*I*):

$$E = C + I.$$

Thus, it is simple to notice that the general equilibrium will be achieved, if the saving part of the income is equal to the investment charges:

$$S = I.$$

The problem becomes complicated, so far as discrepancy in actions of persons who save a part of the income, and the persons who are carrying out the investments is observed. In the economic activities they are guided by different interests and motives. However, in opinion of the classical direction economists, in the competitive environment of the market there is such mechanism, which automatically provides equality of savings and investments.

Savings, investments and bank interest

For understanding of this mechanism essence it is necessary to address to motives by which the recipient of the income is guided, directing its part on savings. One of such motives is named reception of the additional income. But even if an ultimate goal of the savings is another (for example, purchase of the durable goods), the managing subject will prefer an investment of money with the certain interest in comparison with their storage in the cash form. Under constant other equal conditions, with an increase of the interest rate there is an additional stimulus for the savings: the sizes of savings will increase either due to the increase of their share in incomes of separate persons, or due to occurrence of savings in those who preferred all sum of the income to direct on consumption earlier. Therefore, it is possible to approve that savings is a growing function from a bank interest (*r*):

$$S = f(r).$$

Investors are guided by interest of the profit reception in the activity. Thus they are ready to share a part of the future profit with suppliers of monetary resources. If the price of the monetary capital (the interest rate) is not too high, investments will be significant so far as not very profitable investment projects begin to carry out favorable. If the payment for the credit increases, investment activity will go on recession. Therefore, representatives of classical school assert that investments can be considered as function (but decreasing) from bank interest too:

$$I = f(r).$$

Consequently, it is possible to consider the specific monetary market where savings act as the supply of money, and investments are the demand for them. The bank interest will be the price of money. It is possible to present this reasoning graphically (fig. 8.1).

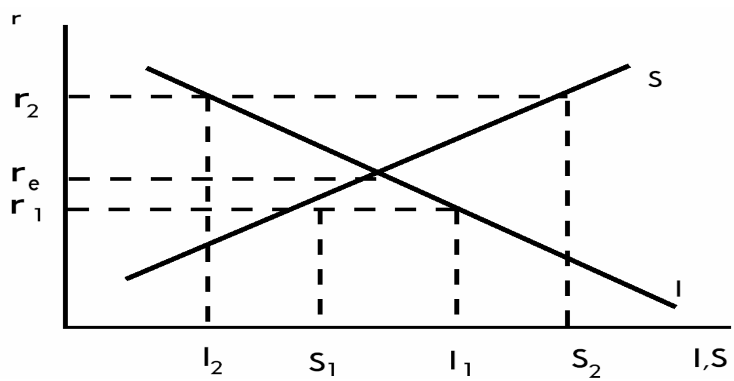


Fig. 8.1. The balance of savings and investments in the classical model

In the diagram there is a unique point in which volumes of investments and savings are equalized: it is a point of two curves crossing. Why does the economy aspire to such condition? We shall construct the reasoning on the reception, known in mathematics as *the proof from opposites*. Let's suppose that the bank interest was established equal to r_1 in economy. It corresponds to savings S_1 and investment I_1. As we can see, in this situation presence of demand for money appears more than supply. Competing borrowers will be ready to pay the more interest on credit. It will expand the supply of money and will push away the part of borrowers. The demand for money begins to decrease, and the supply – to grow. Processes will proceed until the bank interest will achieve a level r_e, and the savings and investments will be balanced. We will receive the same conclusions, having considered a situation, when the bank interest is established at a level above the equilibrium (r_2).

Thus, representatives of classical school consider that the flexible reaction of bank interest to a ratio of supply and demand of money is the condition of achievement of investments and savings equilibrium. The unique reason of infringement of such equilibrium can be infringement of the bank interest flexibility. Therefore, the government should not interfere into a market mechanism of bank interest formation.

The theory of employment

The second problem of the macroeconomic equilibrium is balance in the labor market. In opinion of classical school representatives, the real wage acts as the price at formation of the supply and demand in the market of labor services. It is not simply the sum of money offered as a payment for work. It is real quantity of the goods and services which can be got for this money. Being based on the general theory of supply and demand coordination, the mechanism of the equilibrium price formation in the labor market can be presented as the diagram (fig. 8.2).

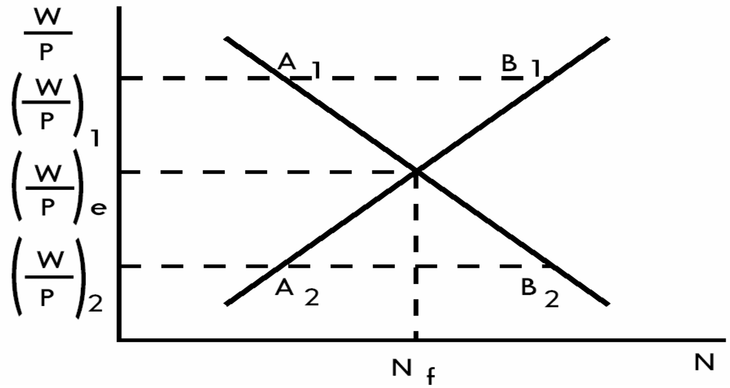


Fig. 8.2. The balance in a labor market in the classical model

If the real wage equals $(W/P)_e$, we can see the balance in the labor market. It means that all employers are able to get desirable volume of labor services under the given price, and all sellers who agree to work for such wages, have found a place of application of the labor abilities. And though not all able-bodied population in this case is involved in a social production, such condition can be counted full employment (N_F), so far as all interested persons have got a job. If the real wages are established at a level $(W/P)_1$ or $(W/P)_2$, equilibrium will be broken. In the first case there is unemployment: we see the surplus of those wishing to work in comparison with the demand for labor services; in the second – there are some free workplaces, deficiency of a labor will be observed.

The main position of the employment theory at classical school is formulated in the following way: **the market forces operate in a direction of equilibrium and full employment restoration in conditions of the perfect competition.** Discrepancy of a supply and demand in the labor market can not be steady, so far as the competition between workers leads to reduction of wages, if unemployment takes place; the competition between employers leads to the increase of wages in case of labor services deficiency in the market. Therefore, the market situation results in position of equilibrium again.

If there is steady unemployment in reality, in opinion of classical school supporters, it is necessary to search for the reason in infringement of wages flexibility. The law of competition in this case does not operate; and the period of a long partial employment can come. Insufficient flexibility of wages can be caused by purposeful activity of trade unions, the unions of businessmen, and the government. Hence, some excess of the labor supply in comparison with labor demand is in someone's interests. Therefore in strict sense of a word it is impossible to name such unemployment compelled, so far as it is caused by no-internal laws of the market functioning, and the no-market institutions introduced from the outside.

The theory of money

The classical economic theory recognizes that economic system functions on the basis of the traditional commodity exchange, money exists to provide development of real processes only, but do not influence the result. This statement is based on the known quantity theory of money and the explanation of general price level establishment mechanism, based on it.

There are two variants of the quantity theory of money. You know an exchange equation by Fisher ($MV = PQ$). We shall remind only that in opinion of its supporters, if at each certain moment the volume of manufacture is given, and speed of money movement does not depend on their quantity, the general price level (P) should change in the same direction and in the same ratio, as quantity of money.

Other variant of the quantity theory of money was developed by A. Marshall. In his opinion, managing subjects aspire to have the certain quantity of money in their most liquid form (cash). Thus, it is necessary to compare each time a prize from simplification of the conclusion of bargains to payment by cash, and loss of that cash could be repaid at other use (for example, at an investment in bank, purchase of bonds etc.). In Marshall's opinion, it is possible to calculate, what share of the income managing subjects prefer to have as cash. This share does not depend on quantity of money in circulation and is more – less constant one. Then the balance of supply money and demand for them can be expressed by the formula:

$$M = KPQ,$$

where M – supply of money;

KPQ – demand for money;

K – a share of the income which the society counts expedient to store in the monetary form;

P – the general price level;

Q – volume of national manufacture of the goods and services.

As K and Q do not depend on quantity of money in circulation and on a price level, it is possible to draw the same conclusion, which was made on the basis of analysis of the equation of exchange by Fisher: *the general price level changes the same way as quantity of money in circulation*.

Thus, economists of a classical direction are convinced that the competitive market system has the automatic mechanisms, capable to provide the general equilibrium and full employment.

8.2. KEYNESIAN MACROECONOMIC MODEL

The classical theory served for a long time as a key to understanding of economic life and was scientific base for a development of government policy in the field of economy. However, after the First World War the situation in the majority of the advanced countries stayed in the frameworks of the classical school traditions. The urgency of development of new approaches to understanding of macroeconomic equilibrium became especially appreciable in the period of «Great depression» in 1929–1933. The governments of some countries (first of all, the USA, Great Britain, and Sweden etc.) began to resort to active participation in economic processes, having broken a principle of neutrality, which classical school asserts. The theoretical basis of a new policy for many decades was based on Keynes concept, who proved inability of the competitive mechanism always to provide full use of resources and has developed the model of macroeconomic equilibrium.

The theory of effective demand

First of all, Keynes has stated disagreement with fundamental position of the classical theory – Say's law. According to his theory, not the aggregative supply creates the aggregative demand, and, on the contrary, the aggregative demand creates the own supply.

Keynes asks: what is the aggregative supply in the short-run determined with? If the technological level of production and capacities remain constant (and it is attributes of the short run), the level of production is determined by number of employers. Producers are ready to supply on the market some quantity of products and to provide employment of some quantity of workers. It depends on revenue, which they will receive, having realized the goods and services. This revenue, inducing the manufacture of this or that volume of products, Keynes has named ***price of supply***.

Differently, at each given moment of time function of the aggregative supply is given, because the expense of manufacture of any volume of the goods and services is given by the achieved level of development.

Predicting the results of the activity, manufacturers actually expect to receive a determined price for each volume of manufacture. This expected revenue can be named the ***price of demand***.

The valid volumes of manufacture will aspire constantly to a point in which the price of supply (S) and the price of demand (D) coincide. Any other condition appears unstable. Really, if the price of demand (expected revenue) appears above the price of supply the significant additional profit induces producers to increase manufacture. If the expected revenue does not compensate the expenses necessary for the manufacture of the given volume of a product, the supply will decrease. This interrelation can be noticed in the diagram represented in fig. 8.3.

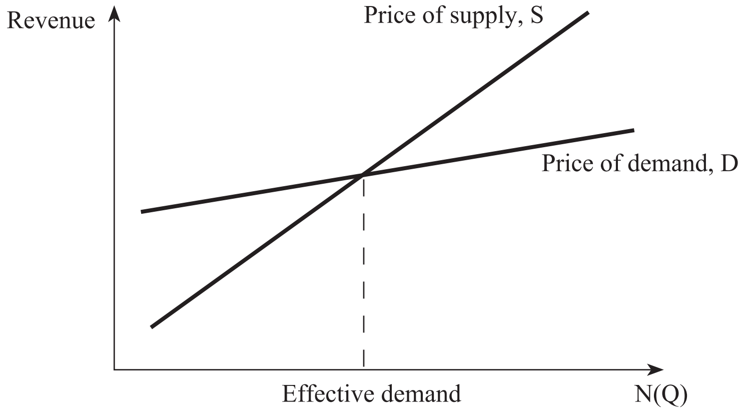


Fig. 8.3. Effective demand

The manufacturer in his actions will be guided by the volumes of supply appropriate to the point, where the price of supply and the price of demand curves cross. The size of aggregative demand in this point is named the ***effective demand.***

Thus, Keynes believes, functions of the aggregative demand and the aggregative supply determine a level of production and employment. But as it is given in the short-run function of the aggregative supply, it is possible to assert that the real level of production and employment is determined by function of aggregative demand. Therefore, the special attention in Keynesian theory is given to the analysis of aggregative demand, and, first of all, the consumer charges.

Consumption and savings

Analyzing the factors determining volumes of consumption, Keynes formulates the ***«the basic psychological law»*** (we said about it before): with growth of the income consumption grows too, but consumption grows more slowly than the income grows. ***Average propensity to consumption*** (APC) and ***marginal propensity to consumption*** (MPC, or c) **are** the quantitative characteristic of these dependence parameters, considered as follows:

$$APC = C\ /\ Y; \qquad MPC = c = \Delta C / \Delta Y,$$

where C – the consumption;
Y – the income.

This connection between growth of the income and fading growth of the consumption serves one of arguments in a substantiation of that in economic development there comes the moment when effective demand appears insufficient for maintenance of full employment and consequently the balance of supply and demand in the commodity market can come at more – less stable compelled unemployment.

Other important conclusion, following from the basic psychological law, concerns function of the savings. Keynes considers that savings in very small degree depend on the bank interest, so far as reception of the additional income of savings is not main motive for savings. Consumption and savings form the aggregative income. That is why dying away propensity to consumption will mean at the same time growing propensity to the savings. Accordingly, it is possible to enter concepts ***of average propensity to savings*** (*ÀPS*) and ***marginal propensity to savings*** (*MPS*, or *s*):

$$APS = S\ /\ Y; \quad MPS = s = \Delta S\ /\ \Delta Y.$$

$$\text{But as } \Delta C + \Delta S = \Delta Y, \quad c + s = 1.$$

Dependence between savings and the total income shows the diagram in fig. 8.4. Savings arise, since the certain level of incomes. So far as marginal propensity to the savings is more than average one, the curve will grow with acceleration.

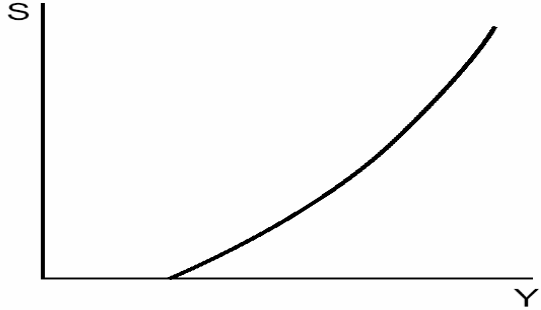


Fig. 8.4. Dependence of savings on the total income

The multiplier

The investment charges, as it is known, are the other component of aggregative demand. Analyzing connection between investments and income, Keynes finds out **the *effect of the animator (multiplication)*.** We will show it on a simple example. Let at some moment it is invested 96 UM ($\Delta I = 96$) in addition. What gain of the total income (ΔY) will this gain of investments cause?

Additional investment charges of one (an expense, for purchase of machines, the equipment, etc.) will result in reception construction of the additional income by others on the same size. But if to assume that marginal propensity to consumption is 0.5, half of gain of the income will go on consumption, and half – on the savings. In this case the fund of consumption will increase by 48 UM. This gain will be used for the purchase of consumer goods and will increase the income. The new gain of the income will cause the further increase of consumption in turn. This chain of events conditionally can be presented by the following circuit:

ΔY 96		48	24	12	6	3	1,5...
ΔI 96							
ΔC	48	24	12	6	3	1,5	0,75...

If to summarize all the increases of the income, it is possible to receive the size, which is coming nearer to the double size of a gain of investments. Having formalized the given reasoning, we will find out the following dependence:

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

The multiplier is a numerical coefficient showing the effect of a change in one economic variable on another. Macroeconomic multiplier, the autonomous expenditures multiplier, relates the impact of a change in total national investment to the nation's total income; it equals the ratio of the change in total income to the change in investment:

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

The effect of multiplication has received a wide circulation in the economic theory and, in particular, at a substantiation Keynesian direction of the state economic policy. Increasing taxes from the population and reducing savings, the government directs the withdrawn means for investments and stimulates economic growth by that.

Balance of investments and savings

The general equilibrium in the commodity market is achieved at equality of savings and investments. As investments and savings in Keynesian models are determined by various motives and carried out by various subjects as well the explanation of achievement of their equilibrium is a little bit complicated in comparison with classical model. The diagram of savings and investments equilibrium is constructed using the method, which is called asymmetric transferring points. There is function of investments is submitted depending on the bank interest in the quarter of diagram II, and function of savings from a level of the income – in the quarter IV. The diagonal in quarter III means equality of investments and savings. Each point of the curve in the diagram in quarter I shows, which level of the bank interest should correspond to each level of the total income that savings and investments were counterbalanced. The total income is given at each moment, and the bank interest, on the contrary, is very flexible. That is why their conformity is the phenomenon which is more casual than natural. Hence, balance of savings and investments by virtue of market laws is unstable, and therefore government intervention for maintenance of the general equilibrium is necessary.

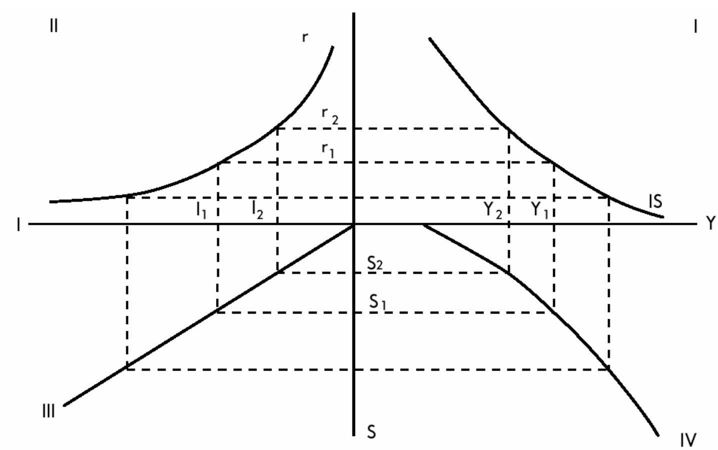


Fig. 8.5. Balance of investments and savings in Keynesian models

The theory of employment

Analyzing a labor market, Keynes brings small, but very essential specification: an increase of real wages acts as the factor of an increase of labor supply (*Ns*) only after achievement of full employment. If there is compelled unemployment, the labor services supply is absolutely elastic in attitude to the real wages (fig. 8.6).

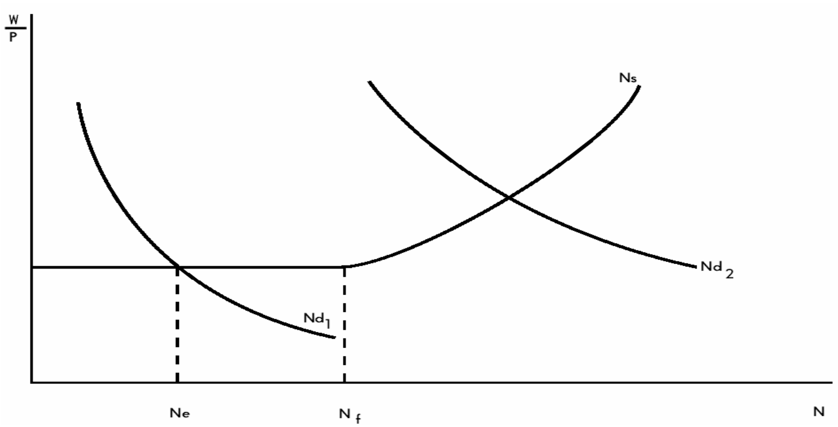


Fig. 8.6. Equilibrium in the labor market in Keynesian models

We know that the aggregative demand lags behind the aggregative supply. Therefore, as a rule, the curves of labor demand and labor supply are crossed on a horizontal site. In this case the mechanism of wages influence in the labor supply does not act. We can see unemployment in society. In Keynes' opinion, the market mechanism can not remove unemployment. This problem can be solved only with the help of the government.

Balance in the monetary market

Keynes treats the money supply in the same way as the representatives of classical school: it is accepted by them as given. In treatment of money demand Keynes' position is distinguished with more originality. First of all, he considers that the demand develops in two parts, in view of functions, which they carry out: service of commercial transactions and the speculative purposes.

Money demand **for commercial transactions** (M^t_d) can be considered as growing function from the total income. It is simple to calculate money need for reception of the total income unit and to express dependence with the help of coefficient K:

$$M^t_d = KY.$$

The second kind of demand is connected with probable advantages from possession cash as, thus, the making of transactions becomes simpler. Cash is one of the saving forms. Savings are allocated in **cash** (still they are called **speculative** or **liquid**) and kept as bringing incomes depending on the bank interest: at higher bank interest the quantity of speculative money decreases. This dependence can be written down in the following way:

$$M^t_s = L\,(r),$$

where L – speculative (liquid) money; r – the bank interest.

For construction of the general equilibrium diagram in the monetary market we shall take advantage of the same reception, as in the case with equilibrium of savings and investments. In fig. 8.7, quarter II, you see function of demand for speculative money from the bank interest, and in quarter IV function of demand for money for commercial transactions from the income is submitted. The condition of balance in the monetary market will be constant equality of the sum M^t_d and M^t_s to the

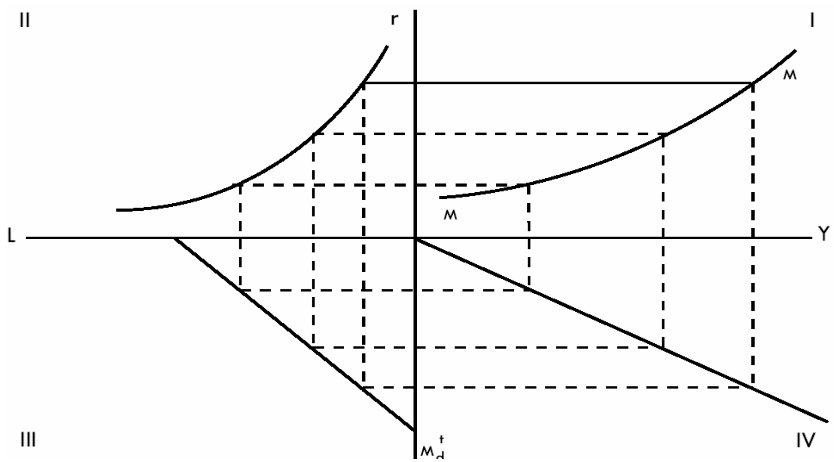


Fig. 8.7. Balance of a supply and demand on money

fixed supply of money. The sum of any point of the coordinates on the straight line in quarter III will be constant and equal to the money supply. Using the way of points carry, in quarter I we will receive the curve; each point on it will show parity between level of the total income and the bank interest, which provide equality of money supply and money demand.

Economically it is possible to interpret the curve MM as follows: at each probable level of the total income the money demand for realization of commercial transactions absorbs the certain part of the money supply which is considered as given. The rest of monetary aggregates can be used for satisfaction of speculative character needs. The bank interest varies in the limits, which are necessary for establishment of balance between supply and demand. If the bank interest decreases, the quantity of liquid money will increase; and money demand will exceed their supply. But the covering of money demand will need the big credits, and the bank interest will increase up to the equilibrium level again.

The general equilibrium

Till now equilibrium of investments and savings, and equilibrium in the monetary market were considered separately. But in real life these processes are bound, forming the general equilibrium of economic system. For its analysis it is compatible in one diagram curves of equilibrium in the commodity and monetary markets (fig. 8.8).

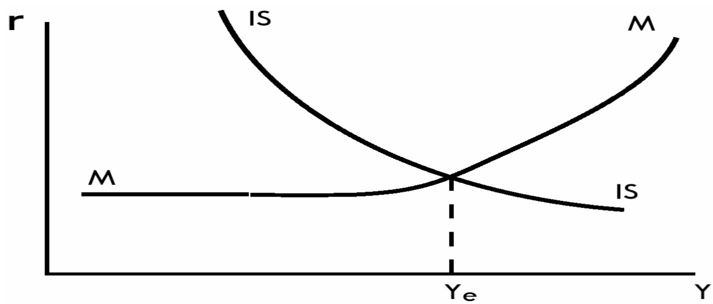


Fig. 8.8. General equilibrium in Keynesian models

However at Keynes' model there is a so-called **liquid trap** – a horizontal site of the equilibrium curve in the monetary market. It means that the bank interest is so low that all free money from commercial transactions turns into speculative. If the point of the curves crossing falls to this site, the increase of money quantity in circulation will not result in growth of the income, so far as the bank interest is not reduced further and there are no additional motives for investments. The real increase of the total income can take place only at displacement of the curve to the right.

Thus, according to Keynesian theories the market of a free competition can not guarantee an achievement and maintenance of full employment. The equilibrium level of the income is determined by aggregative demand, which size, as a rule, is less than it is necessary for achievement of full employment. In this situation government can not occupy neutral position in attitude to functioning of economic system. Keynes designed the concept of the government interference into economy, in which fiscal and credit-money policies are the most important elements. The next units are dedicated to consideration of fiscal and money systems.

RESUME

1. The basis of classical macroeconomic model is made with the statement that any supply creates own demand. The substantiation of this law was given by Jean-Baptiste Say. Any manufacturer is ready to buy so many monetary units of the goods, as he is able to sell. Therefore, for him the supply and demand are identical. But if this statement is true for to each person, it is true for to a society formed by a generality of these people.

2. The part of income is used not for consumption but for saving. The problem of equilibrium in the goods market is reduced to achievement of the equality savings and investment. In the opinion of the classical school representatives, the flexible reaction of bank interest to the ratio of supply and demand of money is the condition of achievement of investments and savings equilibrium. The unique reason of infringement of such equilibrium can be infringement of flexibility of bank interest. Therefore, the government should not interfere into the market mechanism of bank interest formation.

3. The main position of the employment theory at classical school is formulated in this way: in conditions of the perfect competition the

market forces operate in a direction of equilibrium and full employment restoration.

4. The classical economic theory recognizes that economic system functions on the basis of the traditional commodity exchange, money exists to provide development of real processes only, but does not influence their result. This statement is based on the known quantity theory of money and the explanation of general price level establishment mechanism, based on it.

5. Keynes believes, functions of the aggregative demand and the aggregative supply determine a level of production and employment. But as in the short-run function of the aggregative supply it is given, it is possible to assert that the real level of production and employment is determined by function of aggregative demand. Therefore, the special attention in Keynesian theory is given to the analysis of aggregative demand, and, first of all, the consumer charges.

6. Analyzing the factors determining volumes of consumption, Keynes formulates «the basic psychological law»: with growth of the income consumption grows too, but consumption grows more slowly than the income grows.

7. The multiplier **is** a numerical coefficient showing the effect of a change in one economic variable on another. Macroeconomic multiplier, the autonomous expenditures multiplier, relates the impact of a change in total national investment to the nation's total income; it equals the ratio of the change in total income to the change in investment.

8. According Keynesian theories the market of a free competition can not guarantee an achievement and maintenance of full employment. The equilibrium level of the income is determined by aggregative demand, which size, as a rule, is less than it is necessary for achievement of full employment. In this situation government can not occupy neutral position in attitude to functioning of economic system. Keynes designed the concept of the government interference into economy, in which fiscal and credit-money policies are the most important elements. The next units are dedicated to consideration of fiscal and money systems.

Main terms and notions

Classical macroeconomic model
Say's law
Mechanism of the equilibrium investment and savings achievement

Classical theory of employment
Keynesian macroeconomic model
Effective demand
The demand price
The supply price
Basic psychological law
Multiplier
Money for commercial transactions
Speculative (liquid) money
Liquid trap

Exercises

Exercise 1. For each statement listed below choose the right term or concept.

1. Numerical coefficient, which shows how many times the growth of aggregative income is greater than the rate of investments.
2. Revenue, which stimulates manufacturers to produce a particular volume of output.
3. Revenue that producers expect to get for each amount of the product.
4. The statement that every supply creates the demand equal to itself.
5. An increasing function of the bank interest.
6. $\Delta C/\Delta Y$.
7. The need for warranty provision, encouraging individuals to save more money in the liquid form than it is necessary for implementation of transactions.
8. $\Delta S/\Delta Y$.
9. An increasing function from the value of current income.
10. The statement that with an increase of income consumption increases but slower than revenue increases.
11. The level of real output, when the supply price and demand price are the same.

Terms and concepts:

a) Say's Law;
b) the effective demand of Keynes;

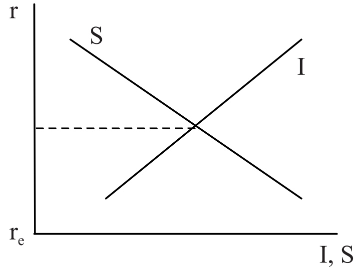
c) the demand price ;
d) the supply price;
e) the basic psychological law of Keynes;
f) the marginal rate of consumption;
g) the marginal rate of savings;
h) the multiplier;
i) the speculative demand;
j) savings function in Keynesian model;
k) the function of savings in the classical model.

Exercise 2. Find the only one right answer.

1. In the classical model savings are the function from:
a) return;
b) the bank interest;
c) the prices;
d) salary (wages);
e) there is no right answer.

2. What definition represents the essence of Say's law most closely:
a) the supply of a commodity creates its own demand;
b) the demand for goods creates their supply;
c) the supply and demand of goods are always the same in a market economy;
d) the supply of a commodity is determined by the production capacity and the demand – by the customer needs?

3. What mistake is made in the graph of equilibrium investment (I) and savings (S) in the classical model:

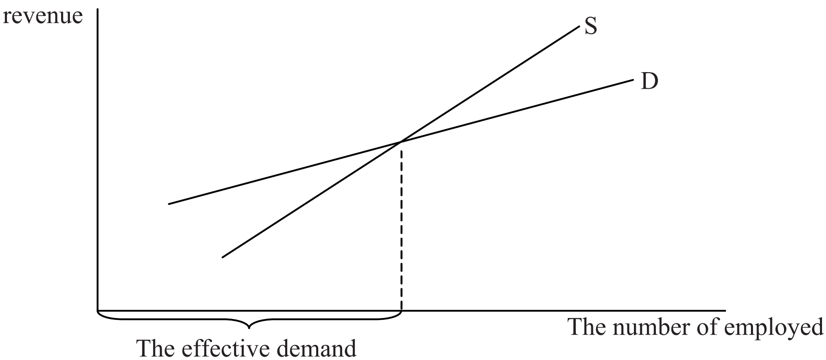


a) the wrong marked axis
b) the improperly marked curves;

c) the wrong marked equilibrium level of the bank interest (re);
d) there are no errors?

4. According to the representatives of the classical school, the demand for labor is:
a) an increasing function from the nominal wage;
b) a sloping function from the nominal wage;
c) an increasing function from the real wages;
d) a sloping function from the real wages.

5. What mistake is made in the graph:



a) the wrong marked graphs of the expected (*S*) and actual (*D*) revenue;
b) the improperly marked axis
a) the incorrectly shown effective demand;
d) there are no mistakes?

6. What formula correctly displays the relation of the marginal propensity to save (s) and the marginal propensity to consume (c):
a) $s + c = 1$;
c) $s – c = 0$;
b) $1/s = c$;
d) $1/c = s$?

7. Multiplier – is a numerical coefficient, which expresses the relation between:
a) the growth of investments and growth of income;
b) an increase of savings and increase of income;

c) an increase of consumption and increase of savings;
d) an income and growth of investments;
e) there is no right answer.

8. Which statement correctly displays the views of Keynes on the regulatory market forces of work:
a) the demand for labor is a function from the nominal wages, and the supply is a function from the real wages;
b) The labor supply depends on the nominal wage before achievement of full employment, but when the full employment is achieved it depends on the real wage;
c) the supply and demand for labor depends on the nominal wage;
d) the supply and demand depends on the real wages.

9. According to the Keynesians economic recession is caused by:
a) the excessive rise in prices and wages in the phase of recovery;
b) the excessive tendency of people to save;
c) the excessive use of resources in the phase of recovery;
d) the excessive diligence of entrepreneurs to differentiate the products, which leads to monopolization.

10. The basic psychological law of Keynes can be formulated as follows:
a) people tend to keep the capital in cash;
b) the tendency of entrepreneurs to invest has an inverse dependence on the amount of taxes;
c) with an increase in employment and aggregate income, personal consumption increases but more slowly than the income increases;
d) an increase of savings in economy will cause the growth of the real interest rate.

11. Which of the given statements doesn't correspond the points of view of the economists of Keynes school:
a) full employment is more random, than logical one;
b) the causes of inflation and unemployment are associated with the peculiarities of functioning of the market system itself;
c) the balance of the aggregate output can be achieved only at full employment;

d) capitalism is not self-regulated system capable to endless prosperity;

e) the correct answer is indicated in b, c?

12. What line in the table reproduces the views of Keynesians and monetarists on the velocity of money circulation correctly?

	Keynesians	Monetarism
a)	constantly increasing	constantly decreasing
b)	remains unchanged	increases
c)	varies unpredictably	varies predictably
d)	varies predictably	varies unpredictably

13. What, according to the Keynesians, should form the basis of stabilization policy:

a) fiscal policy;

b) employment policy;

c) monetary policy;

d) policy of income equalization;

e) policy of investment stimulation?

14. According to Friedman, monetary rule provides:

a) the amount of money in circulation is always equal to the demand for them;

b) the money supply should grow with the same rates as the rates of the potential growth real GDP;

c) velocity of money circulation is inversely proportional their amount;

d) there is no right answer.

15. Phillips curve displays the following relationship:

a) the level of investment and level of employment are directly proportional;

b) the rate of inflation and the unemployment rate are inversely proportional;

c) the level of bank interest and savings amount are directly proportional;

d) the level of prices and the amount of money in circulation are directly proportional.

Exercise 3. Define which statements are true, and which are false.

1. The principle of the aggregate demand and aggregate supply is in the basis of the classical theory of macroeconomic equilibrium.
2. The amount of changes in consumption and saving is not equal to the changes in income.
3. The main psychological Keynes' law acts only at the level of a separate economic entity or a family.
4. The «Saving» and «investor» are not always one and the same.
5. At the first signs of the near recession, according to the theory of Keynes, it is necessary to increase the tax rate.
6. An increase of government spending will more influence the unemployment level, if there is a marginal tendency to save.
7. The marginal tendency to consume is the ratio of the consumption volume to the amount of income.
8. The tendency to save increases with the development of society.
9. According to Keynes, the problems of economic development are associated with the lack of effective demand.
10. The higher the marginal tendency to consume, the greater the multiplier.
11. The sum of the marginal tendency to consume and the marginal tendency to save always equals 1.
12. According to Keynes, stimulating of the aggregate demand through government spending leads to inflation.
13. Multiplier in the Keynesian model of macroeconomic balance is a ratio that shows how many times the total revenue increases for a given increase in investment.
14. Investments are the sloping function of the interest rate.
15. Equilibrium of the national income, according to Keynes, can be only under condition of the full employment.
16. The multiplier effect can appear only under conditions of full employment economy.
17. Savings are the function from incomes in the classical model.

Exercise 4. Solve the tasks.

Task 1. Consumption function has the form $C = 100 + 0{,}8\,(Y - T)$. Taxes have decreased by UAH 1000. Determine, how has equilibrium level of income changed?

Task 2. Consumption function has the form $C = 100 + 0{,}8\,(Y - T)$. Public expenditures have increased by UAH 1000. Determine, how has equilibrium level of income changed?

Task 3. From every 100 UAH of the national income is spent:
20 UAH – on the taxes;
20 UAH – on the savings;
10 UAH – on imports.

The government intends to increase the national income for 10 million UAH. How much it is necessary to increase the public expenditures?

Task 4. Determine the size of the growth of total income caused by the growth of investments by 40, if the marginal tendency to consume equals 0,3.

Task 5. The dependence of the savings from the total income can be described by the following formula: $S = 20 + 0{,}2\ Y$, and the dependence of investments from the bank interest: $I = 80 - 0{,}6\ r$. At what amount of total income the investments and savings become equal (in accordance with Keynesian theory), if the bank rate is 6%.

Task 6. Total income has increased by 30, and investments, that caused it, have increased by 5. Determine the size of the marginal tendency to consume.

Task 7. Investments in the classical model are defined by the formula: $I = 80 - 0{,}4\ r$, and savings: $S = 30 + 0{,}5\ r$. Calculate the equilibrium size of the bank interest.

Unit 9. MECHANISM OF FINANCIAL REGULATION

State uses a variety of management tools while performing economic functions. The majority of the economists foremost among the tools (especially Keynesian representatives) tend to consider the fiscal (financial) instruments. The extent of their impact on the economic life of society can be judged from the fact that in the developed world 30–50% of gross domestic product is redistributed through the fiscal system.

Financial instruments have a multilateral character of the impact on economic relations in society. With their help, the state can influence the amount and structure of national production, the investment activity of economic entities to regulate inflation, employment, impact on the competitive environment, to redistribute income, etc. In other words, the macro-economic regulation, to achieve a balance between aggregate demand and aggregate supply financial (fiscal) system of the state, plays a fundamental role.

Taxes and budget assessments are always the «hot» topics. Almost always there are discussions about: how to make the tax system more efficient. It is clear that no taxes can be dispensed, but at the same time, their use may produce different effects, including negative. Taxes can be compared with the drug, medicinal properties of which are manifested only when used in reasonable doses. A tax practice, in particular in Ukraine, shows how difficult it is to identify these reasonable doses correctly.

In this chapter we consider the structure of the Ukrainian taxation system, we analyze the major types of taxes, show the direction of the influence of tax and budget expenditures on the economic processes, the behavior of economic agents, consider the opportunities and key issues of fiscal policy of the state.

9.1. STRUCTURE OF FISCAL SYSTEM

Who pays taxes and how

Taxes are compulsory payments that households and businesses do to the state budget. These charges are of legitimate character, it means that they are levied on the basis of existing legislation of the country. Taxpayers are those who are obliged by law to pay taxes and that in exchange for these payments directly from the state do not receive anything. Therefore, taxes can be characterized as a legitimate part of the forced withdrawal of the state revenues from households and businesses.

There may be different forms of taxes. The sources of income: wages, profits, dividends, interest, pensions, scholarships, benefits, etc.

Under the taxation object we mean something that is subjected to taxation. It may be income tax, cost (a portion of it) of certain goods and services, property, businesses and households (including capital, housing, cars), a transfer of property (inheritance, gift, etc.), use of natural resources, etc. In some cases, the source and object of taxation may be the same: the income tax, and corporate income tax.

Who sets taxes?

Taxes are set by the state. If you specify an expression with respect to Ukraine, then we see the following picture.

In the process of tax treatment formation for households and businesses in Ukraine the following authorities are involved: the Parliament (Verkhovna Rada) and local authorities. Depending on who introduced the tax and in whose possession it is, there exist the following types:

a) national taxes are established by Parliament and are imposed throughout the country;

b) local taxes are established by the laws of the country, and shall be implemented by local authorities in certain areas.

Construction of the fiscal system depends on country's government form. If a country has federal system (USA, Canada, Germany, etc.), its taxation system consists of three levels (central government taxes, of constituent territory, local authorities). If a country has a unitary form of government (Ukraine, France, Japan, Sweden, Finland, etc.), its taxation system provides two levels; the taxes are not the subjects of federation.

Recently, we can see inter-states taxes, which are operating under certain international economic activity. These taxes are introduced in particular in the European Union (for example, a tax on imported agricultural products). They enter the organization's budget.

The tax rates and their structure

The tax rate is the amount of tax per unit of the taxation object. The tax rate may be:

a) ad valorem tax, which is expressed as a percentage of something (e.g.: income tax rates);

b) specific tax is expressed through sums of money from the physical unit of taxation (in the example is: payment for the land).

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

In determining the tax rates the state can provide tax benefits: discounts, which mean the reduction of the tax, deducted under certain circumstances. Objectives and methods of providing tax incentives, we consider in analysis of the financial system functions.

It is important to consider how to construct the tax rates. Depending on the relation between the tax rates and taxable income, taxation can be divided into:

a) proportional taxation, when the tax rate is constant; it is not related to the size of income or the changes in them. If a country has adopted, for example, a single tax rate on dividends received (regardless of the value of dividends), then it will just be an example of the principle of proportionality in taxation;

b) progressive taxation, when the tax rate increases with the income increasing. Thus, this principle is often used in collecting the income tax: the higher the income is, the greater its share should be given to the state. In this case, the tax burden is not distributed equally among taxpayers, as under proportional taxation. Here it is distributed in the following way: more for the rich, less to the middle and even less for the poor people.

Important is the slope of progression, i.e. at what rate grows taxation with increasing rates of income, whichever is the maximum tax rate. Global experience suggests the possibility of using two types of progression: simple and complex. With a simple progression of the increased tax rate applies to the whole object of taxation, in a complex – the object of taxation (e.g. individual taxpayers income exists now in Ukraine) is divided into parts, each of which is subject to its rate, i.e. increased rate does not apply to the entire object, but only to that portion which exceeds the boundary of the previous range;

c) regressive taxation, when the tax rate declines as the income rises. This taxation is not as spread as the previous two methods are. In the regressive taxation the tax burden is greater for the subjects (entities) with lower incomes. To some extent the properties of regressive taxation have a value added tax. Here, tax is not based on personal income, and is set as a percentage of the value of goods and services produced, and included in the price of their implementation. Such a taxation procedure differently affects low-income and high net individuals. For example, if two families with different income levels are buying bikes for children at the price of 100 UAH. Comprising 20 UAH tax, you may notice that 20 UAH of taxes make up a larger share of income for the family with lower income, and lower share for the family with greater income.

To the question of fairness in taxation, we shall return in section 7.3.

Direct and indirect taxes

The direct taxes are such taxes, the object of which is the income or assets of the payer. On this basis they can be divided into income and property tax. Examples of direct taxes may be called the income taxes, corporate income tax, land tax, taxes on movable and immovable property, taxes on inheritance, tax on dividends received on shares, etc. In Ukraine, priority is given to the income taxation. At the same time it is important to note that the imposition of capital can help solve some problems. Thus, it can reduce the interest to conceal the profits of its transfer to production costs, limited interest in joint stock companies to build retained earnings at the expense of dividends, make, thus, more harmonious relations between ordinary shareholders and management, enterprise management structures.

The indirect tax is tax, which is subject to appeal and consumption of certain goods and services. These taxes are not so obvious to the taxpayers, many of those who pay them, often are not even aware of their existence. The indirect taxes are included into the price of goods and services and are paid by their buyers. Sellers of these products are mobilizing the tax revenues and transfer them to the state. In this order there is no direct relationship between the payer and the state. These taxes are spread not on all income, but on some forms of income's use (i.e. on consumer spending). Therefore, they are called taxes on consumption. Examples of such taxes may be called value-added tax, excise tax.

The taxes on consumption originally appeared in the form of excise taxes with a limited range of consumer goods (alcohol, tobacco, tea, sugar, salt, etc.). Modern indirect taxes, including a dominant position, particularly in European countries, including Ukraine, is the value added tax, which may be regarded to as the result of the merger of taxes on circulation and consumption taxes, because the buyer pays the tax in every act of the treatment of certain goods.

Finally, the following factor should also be mentioned. It is assumed that the final payer of direct tax is the recipient of levied income or owner levied property, and indirect taxes – consumer goods. Economists, however, notice that it happens not always, under favorable conditions, the direct taxes can be passed on to consumers through the mechanism of price increases, and the indirect cannot always be passed on to consumers – the market can not ensure the implementation of the previous quantity of goods at higher prices.

9.2. MAJOR TYPES OF TAXES

There are tens of taxes of the total amount used in the country. We cannot describe in this manual all of them. Our attention will be focused on those taxes which have a decisive impact on the economic behavior of households and businesses. Analysis of these taxes will get an idea about the main sources of government revenue.

Income tax

Income tax is one of the traditional taxes. It is believed that the first time when it appeared was 1842, in the tax system of Great Britain, and then – in the late of the XIXth – early XXth century – appeared in many of other countries. The object of taxation here is the individual income.

In Ukraine, as in many other countries of the world, progressive taxation of individual incomes is used. This means that the tax rate increases as the income rises.

Taxable gross income is subject to the payer's income, reduced on the value of non-taxable minimum and other discounts, offered by the law. By 2004 in Ukraine, five levels of income were applied and, respectively, there were five tax rates – from 10 to 40%. Currently a system of proportional taxation of individual incomes. Since 2007, a single 15 percent income tax rate is applied.

The technique of taxpayer's duties may be different. Non-cash income tax method involves the calculation and withholding of tax accounting to the enterprise (organization, institution) that pays income to a taxpayer.

Declarative method involves the taxpayer independent counting of his income, filling in the tax declaration and submitting it to the relevant authorities.

There are many countries where the declarative way of fulfillment of tax payments from personal income is generally accepted. In Ukraine, starting with the results of 1993 declarative way to tax relationships of citizens and the state is partly used.

In particular, the tax returns were to be submitted by those who receive incomes in addition to the main job (for example, part-time workers).

Tax on profits

Tax on profits is perhaps the primary tax in the financial relations between the state and enterprises.

Profit to be taxed, is formed as the difference between revenue and expenses of the enterprise. The revenue may be obtained from the sale of output and the so-called non-operating activities (e.g.: obtaining payment from the rental of production facilities).

The profit is the main source of enterprises' development funds. Extraction of profits, in principle, reduces the potential for expansion.

Therefore it is important to determine such rates of tax, so they do not undermine the interest of economic players to increase the efficiency of economic activities. Different countries have different systems of profits taxation.

If we consider the rates, they are rarely less than 30% and 50%. They can be proportional, and progressive. In the latter case, the rates vary depending on the size of the profits. It also uses a variety of ways of establishing tax credits. Actually in Ukraine profits are taxied at 25% rate.

The taxes on consumption

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

Indirect taxes include:

a) the individual excise taxes levied on certain goods at fixed rates. Traditionally, individual excise taxes apply to alcoholic beverages, tobacco and other consumer goods;

b) universal excise tax. It is levied on the value of a wide range of goods and services sold. Excise taxes on the individual differ in scope of taxable goods and services and use, as a rule, a single tax rate. Currently this tax is not widespread in the world;

c) value added tax (VAT). The emergence and widespread use of this tax has become one of the most remarkable phenomena in the development of tax systems in recent decades. Currently this tax is applied in many countries, primarily European ones, including Ukraine, where it was introduced in 1992 instead of sales tax.

The added value which is calculated according to the tax, defined as the difference between revenue and enterprise value of its costs for raw materials, services received from intermediates and suppliers. In other words, this is the value added by an enterprise to the cost of raw materials due to their specific treatment, alteration, or other economic use.

This tax is applicable where added value is created. The taxpayer is the purchaser of products; it acts as a seller of the tax collector or an intermediary between the payer and the state. Quite often, the rates of VAT are differentiated by different product groups. Typically, the minimum rates are applicable to goods and essential services.

This reduces the regressive manifestations of this tax. In Ukraine, however, since its introduction only unified (single) tax rate is used for all taxable goods and services (in recent years, 20%). It should be noted that lack of differentiation, high tax rate are factors that significantly affect the price of commodities, demand, supply, profitability of enterprises, and the levels of real income.

Experts say that the advantage of this tax is the opportunity to use the low rates through a broad tax base. Thus, its influence on individual economic agents is very limited and the presence of the great difficulties for those who wish to avoid tax could be less significant than those problems that may come from poorly constructed system for tax collection and the lack of flexible response to changing macroeconomic conditions.

The taxes depending on their use can be divided into general and targeted (specific) ones. Total taxes coming into the state budget and earmarked for investing in various activities. Target (special) taxes accrue to the state authority for investing them strictly to definite activities, i.e.: have a specific intended purpose. Most of the earmarked taxes are the taxes purposed on various forms of social security and welfare.

Specific and other taxes

The main specific taxes in Ukraine are:

a) payments of enterprises and citizens to the Pension Fund and Social Insurance Fund. At the expense of the latter, in particular, paid benefits for temporary disability, such as those associated with the disease. In 2008, working citizens have made their income from 1 – 5% of the Pension Fund, and the company 35% of its labor costs – in the above funds together;

b) payments of businesses and individuals to the Employment Promotion Fund. Due to this fund unemployment benefits are financed by the cost of training and retraining and other activities related to solving the problem of unemployment. In 2008, these payments amounted to 1.3% of the total costs of enterprises to attract workers, and the size of payments of employed people was 0.5% of their revenues.

Among other general taxes are the following:

– Payment for the land. In Ukraine, according to the category of land (agricultural or nonagricultural), its location, the nature of the tax rates are set at fixed amounts per unit area;

– Taxes on movables (vehicles) and real (capital, housing) estate;

– Tax of inheritance and gifts;

– Export and import taxes. These operations are imposed by tax to regulate the foreign trade operations.

There are other types of taxes. If you rank all the taxes on their value in tax revenues of the state, the leading role in Ukraine in recent years, will take the taxes on consumption and corporate profit tax.

National and local taxes

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

In particular, national ones include: tax on profit, excise tax, value added tax, income tax on citizens, duties, fees for environmental pollution and others. These taxes are set by the Verkhovna Rada of Ukraine and most of them in whole or in part are directed to the state budget. Partial distribution of the tax revenues between the central and local budgets is set in legislatively established proportions. The formation of these proportions is a difficult task, as there is necessity to achieve a combination of national and local interests.

Among local taxes there are tax on advertising, municipal tax, hotel fee, the fee for car parking, resort fee, the fee for the use of local symbols, tolling of transit traffic and others. A list of these taxes and their maximum rates are set by the Verkhovna Rada of Ukraine. The task of local authorities is to determine which set of local taxes will actually be applied in their territories. However, in some cases, the central government introduces certain local taxes mandatory. Local taxes and fees are credited to the local budgets.

In general, they can be considered as an additional source of income for local budgets.

Taxes, incentives and the shadow economy

We can confidently say that even the most efficient tax system would cause dissatisfaction among taxpayers. Probably a lot of people would agree with the need for a tax system in principle, but that does not mean that they will not have criticisms of the state tax policy in term of volumes and conditions of fulfillment of tax obligations. Experience shows that this is not a problem. Professional economists will easily find a subject for debate, if we turn to the taxation.

An important condition for the effectiveness of the tax system is a moderate tax levies imposed by the state. High tax rates can create some problems.

First, they can undermine the incentives and interests of households and businesses to increase its level of economic activity. Thus, the government needs a balanced approach to development of a system of income tax. As it is known, progressive method of taxation suggests that higher income is taxed at a higher rate. Construction of the taxation system and tax rates should not be a disincentive, i.e. not to chill the willingness of people to work longer and better. This concerns the corporate income tax as well. The tax pressure here may be a disincentive to increase profits, expand production and increase its efficiency.

Secondly, it may happen that the state will receive less income from tax revenues at higher tax rates. Dependence between the values of tax rates and the amount of budget revenue is shown in Fig. 9.1.

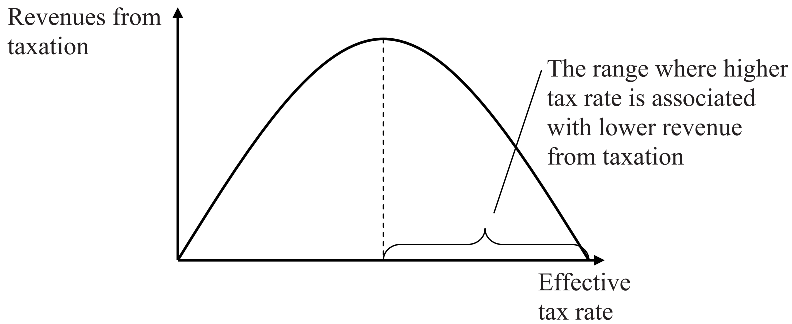


Fig. 9.1. Laffer Curve

The figure shows that an increase of tax rates can generate larger revenues to the state only up to certain level. If the rate is higher then further increases in tax rates can only reduce the tax revenue from taxation. Reduction of tax revenue is the result of the reaction of economic entities to the excessive tax claims of the state. Therefore, the state must always keep their tax appetites and pursue a prudent fiscal policy.

Third, higher taxes can generate interest in the concealment of taxpayer's income. Hidden income is a part of the shadow economy. The shadow economy is an economic activity related to production and exchange of goods and services that are not registered legally. The money earned in the shadow economy is not reflected in the relevant documents and are not taxed. Examples of tax evasion and concealment of income are unregistered payments to employees, to the specialists who repair your car or TV-set, etc. This income concealed from taxation and the state receives less money than it would. If the state intends to make certain expenditures and the projected tax revenue is not enough, it could make a decision to increase the tax rates. Then the «obedient» taxpayers have to take the additional tax burden.

The shadow area exists in any economy. For example, the U.S. economists believe that the shadow economy in the U.S. ranges from 5 to 15% of the gross national product. The scale of the shadow economy in Ukraine has no precise quantitative estimates. From the occasional statements of economists and public figures we can conclude that it is considerably higher than in the United States. It should also be noted that these scales vary. Thus, during an economic crisis the shadow economy, obviously, extends. On the one hand, people are more actively looking for additional income, but on the other hand the state less effectively controls the legality of economic activities due to growth of corruption and bribery. In the booming economy taxes are usually paid more accurately due to the less interest to search for the ways of income concealment.

9.3. FUNCTIONS OF FISCAL SYSTEM

In the introduction to this chapter, we paid attention to the multilateral nature of the impact of financial instruments of the state in economic life. Confirmation of this can be obtained by analyzing the functions of the fiscal system.

Filling the budget for the purchase of certain goods and services

As we know a state incurs costs on institutions of education, science, medicine, culture, military, law enforcement, national television and radio, building houses, roads, enterprises, etc. The main sources of such funds are the tax revenues from households and businesses. The state may also have other sources of income (sale of state assets, income on capital, dividends, issue government bonds, etc.), but their importance in the total revenue of the state is much smaller compared with the tax sources.

Regulation of production and investment activities of enterprises

By tax incentives, and sometimes sectoral differentiation of tax rates, the state can make manufacturing of certain products or services more attractive or, alternatively, difficult. For example, in Ukraine the state is usually trying to stimulate the growth of agricultural production by creating a liberal tax environment.

The state can not dictate to a private enterprise how to use the profits. But at the same time, society has an interest in company's profits reinvesting with the purpose of increasing output, of updating product range, of improving the quality of products, of improving technology. After all, the possibilities of the economy in the future are largely determined by our current savings and investments.

Therefore, to stimulate technological innovation, renovation, etc the state may establish tax incentives for the part of the profits, which returned to production.

By acting as a customer of specific products and paying for it, the state affects the amount and structure of production. It can affect the level of business activity by changes in the tax system.

The tax system is often used to regulate competition. If the state establishes a new tax relief for small businesses, then, it contributes to the emergence of new competitors by this.

Regulation of inflation

Price volatility, as we already know, is one of the major macroeconomic problems. The state should be able to control inflation and to seek the low level of it. Fiscal system is an important factor towards price stability. On the one hand, the budget problems can cause inflation, but on the other hand, tax instruments are applicable to the state regulation of inflation. In Chapter 6 it was noted that one of the causes of inflation is the increase in total costs, which are not supported by corresponding changes in labour productivity. Through the financial system, a State may, in particular, affect the aggregate demand through the changes in tax rates and budget expenditures. Fighting inflation requires cutting the total cost, which, for example, can be achieved by heavier taxation and reduction of budget expenditures.

Redistribution of income

Cash receipts of households come from different sources. Recall, in particular, that the revenue could be brought by the supply of labour, land, capital, and money. At the same time, in a society there are people who receive income from a special social status: retired, disabled, unemployed, students, etc. They receive income from the state, which, in turn, creates its own budget at the expense of taxpayers' money. As already mentioned, payments of state for social aid are called transfer payments.

Households get different incomes through realizing the economic resources on the various markets. The tax system makes adjustments in the income distribution in society. Under the progressive taxation the rich people give to the state the greater part of their income than the poor ones. As a result the income inequality is reduced. We shall return to the problem of income distribution in unit 12.

Discretionary fiscal policy and automatic stabilizers

The state uses the financial system as a tool for macroeconomic stabilization by adjusting tax rates and regulation of public expenditures. Achievement of stability in output, employment and inflation is an essential function of a fiscal system. Financial policy, which assumes a conscious change in tax rates, tax structure and fiscal stability in order to make the development of national economy, is called a discretionary policy (fig. 9.2).

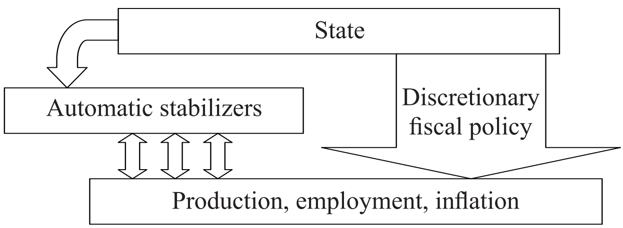


Fig. 9.2. Discretionary fiscal policy and automatic stabilizers

However, the financial system has a certain stabilizing potential by itself, i.e. it may under certain conditions act as a stabilizer even if no special changes have been made. It is itself a damper for economic fluctuations. Automatic stabilizers are the tax and budgetary mechanisms, which constantly act to mitigate the economic fluctuations. Perhaps you've heard about a man who is the leader of a group. The very presence of this man brings confidence and stability to the work of this group. Similarly, the presence of fiscal power in the economic system brings some stability in its functioning.

How automatic stabilizers work

For example, if the economy downturn it usually leads to a reduction in the total income of households and businesses. As a result, the tax revenue reduces too, because its sources (personal income, profits, etc.) are exhausted. Under progressive taxation the tax payments decrease faster than taxable revenues. Under these conditions the government will have to increase some of their expenditures. For example it may be unemployment benefits because the general downturn reduces jobs in the economy and increases the number of unemployed. The higher state expenses play stabilizing role due to compensation of smaller private spending.

Alternatively, in the case where the economy is booming and there is a danger of «overheating» and high inflation a progressive tax system extracts an increasing proportion of private income and, thereby, reduces the pressure of aggregate demand. Growth in consumer spending becomes less than it could be.

Thus, the automatic stabilizers reduce fluctuations in national production in both directions. Many economists stress the significant role of automatic stabilizers in smoothing the cyclic character of economic development. In particular, it is believed that they were able to prevent a significant multiplicative effect of the aggregate demand reduction. However, one should not exaggerate the importance of automatic stabilizers. They alone are not sufficient to achieve full stability. Automatic stabilizers need to be complemented with discretionary policy.

Problems of the state budget

The state budget includes revenue and expenditure parts. Between them must be a definite match. It is difficult to expect that expenditure part will exactly match the revenue one. Expenditures more often exceed the revenues. It is a budget deficit which appears as excess of government spending over the revenues.

Economists tend to assume that risk to the economy is not deficit itself, but a certain level of it. Budget deficit is defined as the ratio of deficit to the gross domestic product, expressed as a percentage. It is recognized that budget deficit under 3% is not dangerous.

The main danger of the state budget deficit is associated with the problem of inflation. The fact is that covering the budget deficit can be carried out both by non-inflationary and inflationary sources of financing. One embodiment of non-inflationary financing of the deficit is an issue of government bonds. Buyers of these bonds act as creditors of the state. Relatively limited opportunities of non-inflationary budgeting are pretty obvious. Large budget deficits of the state can not be met by borrowing, which is not associated with an increase of payment instruments traded in the economy. Another way to cover the lack of financial resources of government is issuing paper money, resulting in the increase of means of payment and the money supply, which leads to acceleration of inflation.

In the 1990s the problem of budget deficit in Ukraine was one of the sharpest. Sometimes its value reached 15–20%. The cover of the deficit was carried out mainly by printing money by the National Bank of Ukraine. Monetary financing of the state deficit increased the aggregate demand. In combination of reductions in national production it led to an acceleration of inflation. Information on the consolidated budget in Ukraine is presented in Table. 9.1.

Table. 9.1

Year	Deficit / surplus
1995	–6.6
1996	–4.9
1997	–6.6
1998	–2.2
1999	–1.5
2000	0.6
2001	–0.3
2002	0.7
2003	–0.2
2004	–3.2
2005	–1.8
2006	–0.7
2007	–1.1
2008	–1.5
2009	–3.5
2010	–5.9

A fiscal deficit usually means that the state should borrow or in other words get into debt. This money borrowed by the state forms the national debt. It is called domestic in the case when loans have been made by the state within the country or foreign in those cases when the state borrows money abroad.

In a civilized society every borrower (including the state) should repay the debts in time. This means that taking a loan today the state should include in future budgets the additional government spending on debt repayment. Moreover, the money is usually borrowed at interest rates and then the state must not only repay the debt, but also must fulfil certain obligations to pay interest. The presence of these expenditures in the budget of the state means that some areas of budget financing receive less and growing debt indicates that its repayment is shifted to future generations of taxpayers.

Budget programs are implemented in Ukraine at the national (state budget) and local level (local governments). The sum of state and local budgets is called the consolidated budget. Budget distribution between these levels is another problem. The distribution must be based on what functions are assigned to the corresponding structures and authorities. In Ukraine, as in almost all countries of the world, most of the tax revenue is mobilized by the central authorities and the smaller part goes to the local authorities. However, in Ukraine it is still difficult to talk about some trends related to the changes in the ratio of funds allocated to the various levels of budget system, because the system itself is still not quite stable. In general, in some developed countries an increasing proportion of government revenue is distributed to local authorities.

Allocation of budget expenditure can say a lot about government policy and its priorities. What is the proportion of expenditure on education, culture, medicine, science, military, economy, social welfare and environment? These answers reflect the government policy in general.

Estimates of the stabilization capabilities of fiscal policy

Thus, by changing their spending and tax rates the state may affect the macroeconomic parameters (volume of national output, employment and inflation). But how significant is the potential of fiscal policy in terms of macroeconomic stability? Is this potential enough to achieve a general equilibrium in economic system? Keynesians and monetarists respond to this question differently.

Thus, Keynesians believe that financial tools are the most powerful and reliable means of state control. They are sure that fiscal policy has relatively high stabilization potential. A state may achieve macroeconomic stability through the changes in the volume of public expenditure, through adjusting spending and tax rates. Thus, Keynesians think that in some circumstances (during a macroeconomic recession) the state can deliberately run a certain budget deficit with the purpose of macroeconomic stimulating. By increasing their spending the state will cause the growth of aggregate demand. This, in turn, has a positive effect on aggregate supply. Unemployment decreases too. This stance of fiscal policy is called an expansionary one. Alternatively, in the boom period the state should beware of the budget deficit. It is needed to cut spending and increase taxes in order to suppress inflation. These measures are defined as contractionary fiscal policy.

Monetarists, whose theories are based on the classical tradition in economics, generally consider that fiscal policy is a weak tool of macroeconomic stabilization and suggest monetary policy to be a crucial mean of regulation. They suggest that the state had to borrow money from businesses and households to cover a budget deficit. Thus, it enters into competition with financial institutions and businesses for money. The states not only «pulls» on themselves some of the potential investment but such actions may cause the rise in interest rates on loans. As a result of the declining demand of enterprises for money the amount of investment decreases. But this spending is the key factor of business activity. This causes a lower aggregate demand for goods and services, contrary to the objective of a fiscal stimulus. Neoclassical economists generally emphasize this effect (also known as crowding out) while Keynesians argue that fiscal policy can still be effective, especially in recession.

RESUME

1. Taxes are compulsory payments that households and businesses have to pay to the state budget. The objects of taxation may be income, estate or cost (part thereof) of certain goods and services purchased. Different forms of income can be a source of tax: wages, profits, dividends, interest, pensions, scholarships, etc.

2. National taxes are the same all over the country. They are set by Parliament. Local taxes are collected by local authorities in a particular area and fully absorbed by the local budgets. National and, as a rule, local taxes are established by the supreme legislative authority in the country.

3. The tax rate is the amount of tax per unit of taxable object. With proportional taxation the tax rate is constant for any value of the object of taxation. In case of a progressive taxation it increases with an increase of this value and in case of regressive taxation it is reduced while the object grows.

4. Direct taxes are ones which object is income or property of the taxpayer (income tax, profit tax, tax on movable and immovable property, social payments, etc.). Indirect taxes are the taxes on the consumption of certain goods and services (value added tax, excise tax, etc.).

5. Tax collections should be moderate. High tax rates may reduce the economic activity of households and businesses, lead to a decrease in state revenue and stimulate the development of the shadow economy.

6. Taxes and government spending can significantly affect the macroeconomic situation. Keynesians believe that fiscal policy is the best tool for macroeconomic stabilization. Monetarists argue that the implementation of fiscal policy has a negative impact on credit markets, which reduces the effectiveness of state regulation.

Main terms and concepts

Taxes
Sources of tax
Objects of taxation
National and local taxes
Tax rate
Ad valorem and specific tax rates
Proportional, progressive and regressive taxation
Direct and indirect taxes
Income tax
Profit tax
Value Added Tax
Excise taxes
Social transfers

Shadow economy
Lafer curve
Functions of fiscal system
Automatic stabilizers
Discretionary fiscal policy
State budget deficit
Public debt

Exercises

Exercise 1. For each statement listed below choose the right term or concept.

1. Obligatory payments of households and businesses into the state budget.
2. Policy of the deliberate changes in the tax rates and budget expenditures in order to achieve a stable national development.
3. The ratio of the state budget deficit to gross domestic product, expressed as a percentage.
4. The taxes, the object of which is the payer's income or assets.
5. Method of taxes collection when the tax rate increases with the increasing amount of income.
6. Definite relationship between the state's income and the values of the tax rates.
7. Funds borrowed by the state.
8. Policy of the use of such tax and budgetary mechanisms (embedded stabilizers), which are characterized by constant action aimed at mitigating of the economic fluctuations.
9. Method of taxes collection when the tax rate is constant, it is not related to the size of income and its changes.
10. The taxes, the object of which is the amount of consumption of certain goods and services.
11. Method of taxes collection when the tax rate decreases simultaneously with an increase of income.
12. The amount of tax per unit of taxable objects.

Terms and concepts:

a) the state debt.
b) the taxes;

c) the Laffer curve;
d) the tax rate;
e) proportional taxation;
f) progressive taxation;
g) regressive taxation;
h) direct taxes;
i) indirect taxes;
j) the budget deficit;
k) discretionary fiscal policy;
l) non-discretionary fiscal policy;

Exercise 2. Find the only one right answer.

1. Taxes are:

a) the amounts of money paid only by economically active population;
b) cash and natural payments paid by the person to the state;
c) sums of money which are levied by the state from the profits and wages;
d) obligatory payments of legal and working individuals into the state budget;
e) there is no right answer.

2. Direct taxes include:

a) income tax;
b) value added tax;
c) excise duty;
d) there is no right answer .

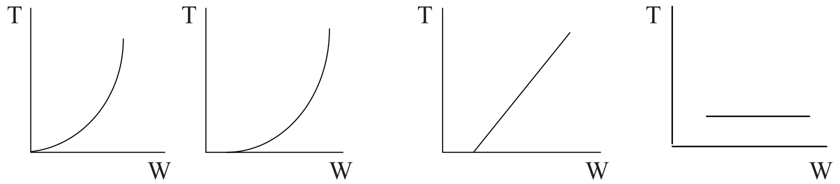
3. Unprofitable enterprises:

a) don't pay any taxes;
b) do not pay only the income tax;
c) do not pay the value added tax;
d) do not pay the income tax and value added tax.

4. Income tax is charged in Ukraine on the basis of:

a) proportional taxation;
b) progressive taxation;
c) regressive taxation.

5. Which graph describes correctly the current taxation system of wages in Ukraine (T – the tax rate; W – wages)?



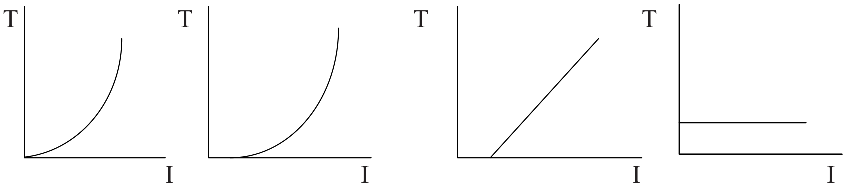
a) b) c) d)

e) there is no right answer.

6. How can the commodity supply change with an increase of the taxation rates of producer's income:

a) the supply value will increase;
b) the supply value will change;
c) supply curve will shift to the left in the supply graph;
d) the supply curve will shift to the right in the supply graph?

7. Which of the graphs corresponds to the current Ukrainian system of profit taxation (T – tax rate, I – income):



a) b) c) d)

e) there is no right answer.

8. Which of the taxes is actually paid by the end consumer:

a) profit tax; c) excise duty;
b) income tax; d) payments to the pension fund?

9. Value added tax:

a) is included into the sale price of the goods;
b) is included into the cost of the goods;

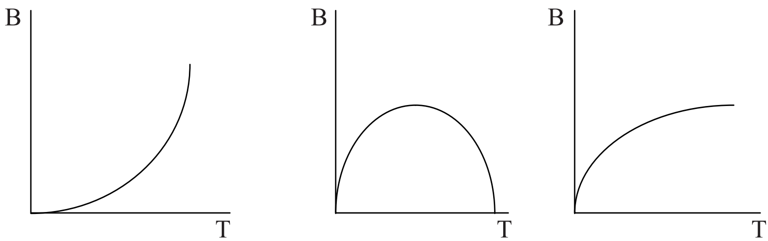
c) is included into the material costs of the enterprise;
d) is equal to the profits of the enterprise.

10. The social security payments in Ukraine are currently made by:
a) legal entities only;
b) individuals only;
c) legal and individual persons.

11. Which effect, if the other conditions are unchanged, could an increase of the tax on land lead to:
a) an increase of productivity in agriculture;
b) reducing costs of agricultural producers;
c) a decrease of the market value of real estate;
d) reduction in the amount of payment for the land lease;
e) there is no right answer .

12. With an increase of the tax rates the state budget revenues:
a) will necessarily increase;
b) must be reduced;
c) will likely grow to a certain level and then fall;
d) will decrease to a certain level and then increase.

13. Which of the graphs describes correctly the relationship between the amount of the budget revenues B and the value of the tax rate T (Laffer curve)?



a) b) c)

d) there is no right answer.

14. Non-inflationary way to cover the state budget deficit can be:
a) the sale of government securities;

b) the emission credit policy of the central bank;

c) reduction of credit resources, which are issued by the central bank to the commercial banks;

d) A structural change in the expenditure part of the state budget;

e) there is no right answer

15. The enterprises in Ukraine must not pay:

a) the profit tax of the enterprises;

b) the income tax;

c) payments to the Pension Fund;

d) contributions to the Employment Fund;

e) there is no right answer .

Exercise 3. Define which statements are true, and which are false.

1. The objectives of discretionary fiscal policy are a decrease of the inflation level, a decrease of unemployment, stimulation of the economic growth.
2. An increase in the government expenditures shifts the aggregate demand curve to the left.
3. As a result of the fiscal policy implementation the government expenditure come down.
4. Automatic stabilizers increase the sizes of the government expenditures and investment multiplier.
5. An increase of taxes and government expenditures to the same amount could result in an increase of GDP.
6. The balanced budget is an effective means to reduce unemployment and come out of depression.
7. The state budget deficit is not related to monetary policy of the enterprises.
8. Non-discretionary government policy can reduce the inflation and unemployment levels, but can not relieve the economy from them.
9. The budget deficit occurs when the state budget revenues are less than the revenues to the local budgets.
10. An increase of government transfer payments in itself can create a budget deficit.
11. Policy of taxation and state financing is carried out only in order to reduce the unemployment and inflation level.

12. The Keynesian school believes that the state should contribute to the achievement of macroeconomic equilibrium stimulating the aggregate supply.

13. Fiscal policy of the state is called monetary policy.

14. Anti-inflationary policy of the state provides tax reduction and a higher level of government expenditures.

Unit 10. MECHANISM OF MONETARY REGULATION

One of the important elements of macroeconomic regulations is monetary instruments. By regulating money supply and financial markets, the state obtains the possibility to influence the business activity, general level of prices and employment in national economy.

In this chapter we are going to study the structure of money supply, basic institutes of monetary system – banks, money and credit instruments – used to regulate the national economy. The instruments are the important factor providing macroeconomic stability, equilibrium between aggregate demand and aggregate supply.

10.1. MONEY: FUNCTIONS AND STRUCTURE

Money and its functions

It is quite obvious that money is an integral element of the modern economic life. Economic cooperation would be rather complicated and less efficient if society did not use money in every day life.

Money is a generally accepted means received as a payment for all goods and services.

Money has the following functions:

1) is a medium of exchange of goods and services;

2) is the unit of account of exchanged goods and services;

3) is a store of value (purchasing power), because could be used to obtain necessary goods and services.

Money has rather long and interesting history. Originally different commodities played the role of money. On a certain stage of historical development of society this role was given to precious metals. For a long period of time gold and silver were used as money. In contemporary society money has changed, its structure has been essentially complicated.

Money supply – is the sum of generally accepted means of payment in the economy of the country. Money supply can be divided into two parts: *1) cash money; 2) credit money*.

Cash money and credit money

The role of cash money is undertaken by banknotes and coins. Gold and silver are not usually used in coinage. Cash money represents the liabilities of the state. This in particular means that the state guarantees the acceptance of these items as the payment for goods and services. Cash money usually represents the smaller part of a total money supply (as a rule, from 5 to 25 % in different countries).

Credit money represents payment obligations of certain economic subjects. The latter are represented by such financial and credit institutions as banks. Enterprises, for instance, do not pay by means of cash money. Each enterprise has an account in a commercial bank, where the sum of money of the enterprise is registered and payments with the other enterprises are made by means of increase or decrease of this sum. In this case an account is a form of a bank obligation to pay for exchange operations of the enterprise in terms of existing sum of money.

The types of money

Classifying money into two groups – cash and credit – reflects only one aspect in the study of money supply, its structure and basic elements. The important thing is to determine the structure of credit money, meaning that it is necessary to define and classify existing credit payment instruments. It is worth noting that it is not an easy thing to do. Even the countries practicing such classifications for a long period of time disagree about the structural elements of money supply. And as we have already mentioned this problem is of vital importance: one can efficiently control supply only when the object of regulation is specified.

While analyzing the practice of the developed countries in the world it should be noted that the following types of money are determined: M0, M1, M2, M3. The typical layout, in terms of payment obligations applied in Ukraine, for each of the M is as follows (table 10.1):

The types of money mentioned in the table are classified according to the **degree of liquidity of payment means**. The degree of liquidity of payment means is determined by the speed and costs with which

Table 10.1

Types of money

Types	Content
M 0	Notes and coins in circulation
M 1	M_0 + transactional accounts
M 2	M_1 + demand deposits, saving deposits
M 3	M_2 + large time deposits, institutional money market funds, short term repurchase and other larger liquid assets

these means could be exchanged into goods and services. Cash money represents the most liquid means. Transactional accounts can be characterized as high liquid payment means as banks are obliged whenever required by clients, e.g. enterprises, to pay other individuals for goods and services purchased. Demand deposits and saving deposits (taking into consideration their characteristic features, applied in the world practice) are less liquid than cash money, transactional accounts. Demand deposits are funds held for a certain period of time. Preterm requirement of the means by their owners is usually connected with certain costs resulting in losses of money and time. Large time deposits are money deposits at a banking institution that cannot be withdrawn for a certain period of time. These deposits usually differentiate reward of the clients: interest depends on the term within which the deposit cannot be converted into cash. This type of deposit can be used as caution while crediting. Analyzing the features of time deposits numerous economists agree that it is less liquid than all of the above mentioned types of money. M3 includes government bonds as well.

To analyze macroeconomic conditions economists usually use the notion of the monetization level of economy which can be regarded as the ratio of money supply to GDP. This indicator characterizes the degree of accumulation of money in economy.

10.2. INSTITUTIONS OF MONETARY SYSTEM

The essence and origin

Banks are the major institutions of monetary system. It is them that organize the circulation of the major part of credit money dominating in general volume of money supply. Moreover banks have possibilities to create such type of money and thus to increase its supply.

Commercial bank is a financial institution taking deposits and giving commercial loans. In other words bank is an enterprise buying and selling money.

As one can see in fig. 10.1 the purchase (mobilization) of money by the bank is connected with spending (%'), and sale (giving loans) gives profit (%"). Banks manage to achieve their commercial goal, i.e. make profit only in case when margin – the difference between %" и %' – is positive. The larger the difference is – the better the financial results of commercial bank are. Thus, it is quite obvious that bank plays the role of mediator; it is one of the institutions of market infrastructure – between holders of temporary free monetary means and those in need of it.

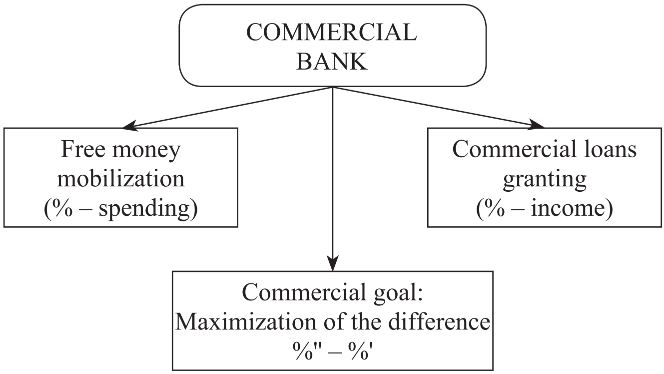


Fig. 10.1. Major functions and goals of commercial bank

Credit business appeared long time ago. On a certain stage of its development the commercial banks came into existence. These banks concentrated the fulfillment of a range of monetary operations. To tell the truth it is still a burning question about time and place of the first commercial bank. Thus, according to some data the first private bank appeared in Venice in 1157, other researchers suppose that the first bank as special crediting and accounting institution appeared in Genoa in 1407. Whatever the case, mass distribution of commercial banks started in the XVIIth–XVIIIth centuries.

Early stages of banking industry development are connected with the jewelry production. Jewelers started providing special services such as storage of gold, and then they promoted the distribution of new payment means – debt instruments. These instruments (certificates) became more convenient means of payment than direct usage of gold as a means of payment associated with these certificates.

Commercial bank's reserves

Did jewelers have to provide these debt certificates with gold? If yes, then it means that their liabilities had to be strictly corresponding to the quantity of gold they stored. At first they did so, and it meant that their liabilities were provided by 100 % of their reserves, that is, they possessed the quantity of gold that could be given for immediate satisfaction of depositors' demands. But with time jewelers found out that clients never came together as school kids to the museum, requesting their gold back, and if so, there was no necessity to hold 100% reserves. Thus, the system of partial reserves appeared which is now used by the contemporary commercial banks.

Reserves of the commercial banks – are the banks' assets which can be used for immediate satisfaction of depositors' demands.

Reserve requirement – is the ratio of the bank reserves to the sum of deposits taken by the bank.

The system of partial reserves applied in banking industry means that commercial banks at every moment of time possess only the part of monetary means necessary to cover all their liabilities. Banks hold (reserve) only part of finances received from the depositors, and the rest they use as credits. The role of reserves-assets is played by: cash money of the bank; means of compulsory reservation at the correspondent accounts of the National Bank of Ukraine; credits given to the enterprises, households, other banks; securities (shares, bonds); bank property, etc.

The liquidity of banks' assets is extremely important. The degree of liquidity of assets is determined by the speed and the costs with which these assets can be sold.

Thus, for instance, cash money is absolutely liquid. The shares of the leading companies are also characterized by the high degree of liquidity. At the same time the shares of enterprises with lower efficiency and incomes as a rule are characterized by the low degree of liquidity.

The system of partial reserves characterizes banking system in the following way (fig. 10.2): firstly, banks obtain the possibility to increase money supply, secondly, potential threat to the monetary system stability appears in case of simultaneous requests of the clients to the banks to return their money. The problem of creation of money by the banks will be studied in the next paragraph together with the analysis of the functions of money. When analyzing the possibilities of «bank panic» it is worth noting that examples of bank crashing do really exist. However, the chances for such events under modern conditions are seen by economists as low ones. Mostly it is connected with the strict state control of the banking system activity.

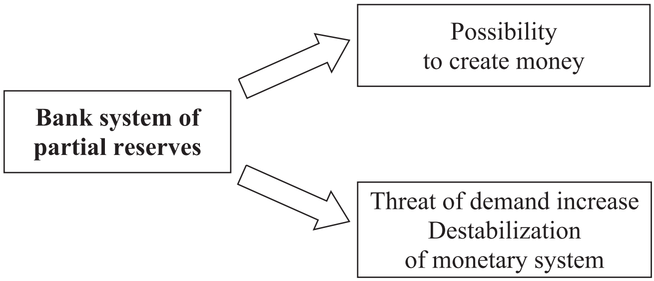


Fig. 10.2. Possibilities of the bank system with partial reserves

The levels of banking system

Contemporary banking system has the two level structures. Its basis – the lower layer – is represented by commercial banks and the top – upper layer – by central bank.

Central bank plays a special role in the banking system of any country. In Ukraine the role of central bank is played by the National bank of Ukraine. This is a state institution executing very important functions on national economy regulations. In 10.4 we will study in details the influence of central bank on the economy.

10.3. FUNCTIONS OF COMMERCIAL BANKS

Money accumulation

The initial point of any commercial bank activity is the formation of the sum of money which can be used to give loans. In order to do this bank has to draw on temporarily free monetary means of different economic subjects. Households, enterprises, as well as other banks, can be the suppliers of money. Measures, undertaken by the bank to accumulate temporary free monetary means, are usually called the depository policy of the bank.

Deposits can be placed in the bank on different conditions, can fulfill different functions. In connection with this the following types of deposits are determined:

1) demand deposit – in this case the parties do not determine the term of placing money in the bank for. The role of such deposits is, for instance, played by the money left at the enterprises' current accounts. Such deposits presuppose the lowest interest paid or no interest at all, because the bank has difficulties in planning the application of these means as a client has the right of immediate request;

2) time deposit – is a deposit with the prescribed term of placing money in a bank. The term can vary from 1 month to a year or more. On these conditions bank pays higher interest, such deposits are more preferable for the bank, as they grant the opportunity to use these monetary means better.

There are other types of deposits: special, individual retirement deposits, etc.

Major goals of depositors are the following:

1. Fulfillment of payment transactions. Enterprises set up accounts in the commercial banks and use them to settle transactions. While choosing a bank an enterprise pays much attention to the speed and reliability with which the bank fulfills payment transactions. The speed of transactions is an important indicator of bank efficiency. Economic results of the enterprise depend quite often on the speed of transactions. Households can also have bank deposits giving possibilities of transactions. This can be, for instance, an account used by an employer to transfer wages. There has been a tendency to distribute «salary» plastic cards in Ukraine recently, which can be used as a means of payment for certain goods and services.

2. Raising revenues. Holders of temporary free monetary means usually think about the possible profit they can get. One of the results of such ideas is the decision to place the money in commercial bank. Leaving money to the bank for temporarily use earns income for the depositor in the form of interest. Interest – is an income earned while leaving money for temporarily use.

As any income the interest can be divided into nominal interest rate and real interest rate. Nominal interest rate – is the sum of money earned for the opportunity to temporarily use of monetary means. Thus, depositor places the certain sum of money (for instance, 1000 UAH) in a bank and withdraws a larger one (1200 UAH). The growth rate (200 UAH) is a nominal income of the depositor which is shown in fig. 10.3. Is the depositor satisfied with the actions providing money surplus? Not yet; it is worth paying attention at the change in purchasing power of money for the period of time. As money is not valuable in itself, its power is in its possibility to be exchanged into other goods and services. That is why the rate of inflation should be taken into consideration.

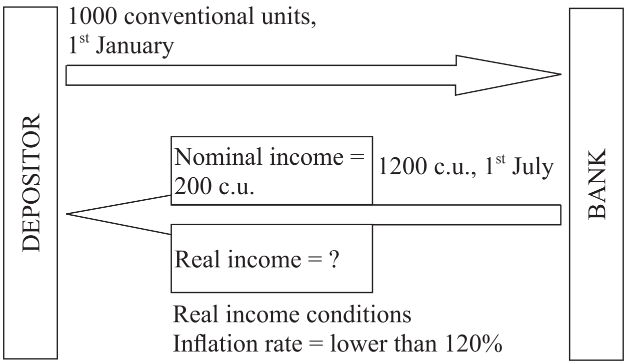


Fig. 10.3. Depositor income

Real interest rate can be determined as the difference between nominal interest rate and inflation rate. If, for instance, in six months' time the depositor withdrew the sum of money making 120 % of the deposit, and the inflation rate of the period made 115 %, then the real income for the period of time, according to rather simplified system of settlements, would make 5 % of the deposit. If inflation rate exceeds the nominal income rate, then it means that the depositor does not get real income at all – the depositor withdraws the sum of money with lower purchasing power.

3. Accumulating money. It is quite obvious that the sum of money we earn every month is not sufficient to buy certain goods and services. Monthly income does not allow the majority of people to buy a car, an apartment, audio system, to celebrate a wedding, to have a rest at the Black Sea coast, etc. That is why the purchase of these goods and services is possible only in the result of accumulation of money, regular saving of the part of income, or by getting certain credit. Besides, people aspire to have some reserve in case of unpredicted expenses. One of the ways of money accumulation can be to set up a deposit in the commercial bank and add to it. Together with this while depositing one should pay attention to the inflation factor.

Granting of a credit

Depositary activity of a commercial bank creates the conditions of its functioning. Formation of credit resources of a bank is a result of this activity. Application of accumulated money is another aspect of the bank activity. Interest bearing policy includes measures taken by the bank to apply borrowed money funds and get corresponding revenues. Application of these monetary funds takes the form of crediting.

Credit represents the provision of monetary means for temporary use at a specified charge.

Creditor is the one giving loans, **debtor –** is the one taking loans.

Credit characteristic features are: *a) collect ability; b) specified usage terms; c) material security or other guarantees.*

It is obvious, that a credit is no longer a credit if it is not to be returned. This simple truth is to be reminded as the necessary strictness has not always been applied in credit relations in Ukraine. Mass annulations of loan debts are not a rare case for Ukrainian economy.

According to the terms of usage the credits are divided into short-term, mid-term, and long-term. The terms are defined by the goals of credit. If a loan is taken to reconstruct an enterprise, it can be repaid only in the long-run. If money is borrowed to pay wages or to buy resources, then the parties sign a short-run credit agreement. In Ukraine in the 90-s the short-term credits were rather popular due to certain circumstances: high inflation rate, production decline, payment failures, etc. Absence or small share of mid-term and long-term credits means that such an important source of investment as credit resources does not work. Such circumstances make the national economy prospects much worse.

A credit agreement usually includes the notification of the credit security in case the credit is not paid back. Capital securities, land, real estate and other property of a borrower serve as credit security. Money has its price. Interest is a price, a borrower has to pay to use credit. Interest rate is determined in monetary units. The notion of interest rate is usually used in the monetary deals.

Interest rate on financial market depends on the ratio of demand and supply of money. The demand and supply in their turn are determined by a range of factors. Expected changes in inflation rate, the stage of business cycle, central bank policy, etc. are in particular among them. The interest rate determines the quantity of demand and supply. The lower the price of money is, the higher the quantity of demand is, according to the law of demand, i.e. the borrowers are ready to use more credits, the higher the price of money is, everything is vice versa. The growth of interest rate leads to an increase of credit supply, and reduction of interest rate results in a decrease of credit supply.

How does credit influence the economic processes?

Firstly, credit broadens the investment resources of enterprises. These resources are amortization fund, net surplus, earning from shares, etc. Credit is one of the leading elements in investment structure.

Secondly, credit business leads to a concentration of investment resources. Banks and other financial credit institutions can be compared with the lakes, the mountain rivers from a certain territory flow into. Flows of money reserved by the bank create enough monetary means for large investors to implement huge economic projects.

Thirdly, credit relations promote efficient distribution and use of monetary resources. It really differs whether your parents give you some money or you borrow from your friends or acquaintances. In the former case there was no need to pay back, in the latter – it is to be done. And it means that in case you borrow and use credit, you should think in advance about earning it to pay back in time. Banks do not give credits to anyone. They credit only the subjects who can prove their reliability. And reliability, the level of trust is mainly defined by the results of economic activity. The more efficient the enterprise is, the higher is the trust of creditors to it. It means that the bank holds selection for the right to get money. And this right is granted only in case all the stated requirements are met and to those who can use it most efficiently. And having borrowed the money a borrower will do his best to earn income, pay back and pay the interest.

Fourthly, credit accelerates the enterprise circulation, leads to increase of exchange operations. Enterprise funds – its material, physical and monetary resources – can be presented in different forms: productive (capital, material stock), commodity (final products), monetary (money accumulated at the accounts). Enterprise economic activity deals with the change of these forms – raw materials transform into final products, its marketing earns money, money is used to buy resources, etc. If, for instance, there is a gap between the earnings from final products and payment for raw material, then, in fact, enterprise fails to operate. In this and other cases the problem may be solved by a credit, accelerating the circulation and thus resulting in more efficient enterprise activity – for a certain period of time it can make and market more products, earn higher profits. The given case exemplifies the role of a credit in the development and accelerating of the goods exchange.

Everything mentioned above leads to the following conclusions: credit is an integral element of modern economy; its usage increases the level of efficiency of economic subjects cooperation.

How banks create money

As it has already been mentioned, contemporary bank system is based on the principle of partial reserves. One of the effects of such system of banking industry is the possibility the banks possess to increase the supply of money or create new money. Let us see how banks manage to do it.

For instance the National Bank of Ukraine sells 1 million UAH credit resources to a commercial bank. Commercial bank credits a metallurgical enterprise with this money; the enterprise in its turn uses it to pay for coal. Coal enterprise, naturally, has its own account in a commercial bank. It means that the money will be transferred to this account; its amount will be increased by 1 million UAH. This money will increase the credit resources of the given commercial bank. With the deduction of reserve requirement comprising, for instance, 20%, new credit resource will be 800 000 UAH. Bank uses it crediting another enterprise, for instance, a construction company, purchasing cement. After the deal, to the account of cement factory, registered in the third commercial bank, 800 000 UAH will be additionally transferred. This money will add credit resources of the third bank: it can use additional 640 000 UAH for crediting.

The process of credit money multiplication will proceed. Without stated limitation – reserve requirement – set by the National bank of Ukraine, the process would be endless. But some conclusions are worth making. As a result of 1 million UAH credit given by the National bank of Ukraine (another can be taken as an initial point) money circulation was increased by 800 000 and 640 000 UAH. We finish our calculation here. Total amount of additional credit money can be calculated by means of multiplier. Money multiplier (production coefficient) is determined by dividing 100 by the reserve requirement. Thus, if reserve requirement equals 20 %, then money multiplier is 5. It means that initial 1million UAH credit in this case could increase money supply by 5 million UAH. The higher the reserve requirement is, the lower the ability of banking system to multiply credit money is, and vice versa. It is obvious, that borrowers have to pay back credits, and the supply of credit money will be reduced to the former volume.

Other operations of commercial banks

Apart from accumulating deposits, processing payments, and lending money, commercial banks provide a wide range of other bank services.

1. Exchange of currency. Commercial banks can buy and sell foreign currency to get mediatory income. Enterprises and households, buying and selling foreign currency, aim at achieving different goals. Thus, for instance, enterprise-importer needs foreign currency to buy products abroad, enterprise-exporter exchanges income in foreign currency into national currency.

2. Mediatory operations with securities. Bank can act as a mediator while placing shares of the enterprise, following orders of its clients to buy and sell bonds and shares.

3. Discounting of promissory notes. *Promissory note* – is a negotiable instrument wherein one party makes an unconditional promise in writing to pay a determinate sum of money to the other, either at a fixed or determinable future time or on demand of the payee, under specific terms. Discounting of promissory note means that bank buys it deducting the specified interest from the sum stated in the promissory note.

4. Factoring. It is a financial transaction whereby a business job sells its accounts receivable (bad debt) to a third party (bank) at a discount. The client has a deficit of proper monetary means and offers the bank to fulfill factoring to accelerate money circulation. Factoring assumes that bank pays the liabilities of business job and settles financial transactions with the debtor itself. For this operation the bank is paid specified interest from the value of transaction. Thus factoring means that the bank being rewarded agrees to pay a business job for the products and fulfill further settlements with the receiver. Quite often factoring is applied in external economic deals.

5. Trust transactions. Trust transaction – is the voluntary delivery by the owner of some property, bonds or monetary means rights to the bank to manage the given objects to maximize profit. Doing this bank receives apart of an income.

6. Consulting. This stands for bank consultations on different financial and economic problems. It is worth noting that a respectable bank possesses large information resources, its specialists can succeed in forecasting and evaluating different economic situations, and a enterprise opportunities.

The list of bank services stated above includes only the major types of them, the general spectrum of bank services is much wider.

10.4. CENTRAL BANK AND CREDIT-MONETARY REGULATIONS

Credit system

The credit system includes banking and non-banking financial-credit institutions (fig. 10.4). The banking system is represented by the central bank and commercial banks. Non-banking financial-credit institutions include: insurance companies, financial foundations, credit unions, pawnshops and some other structural elements. These institutions fulfill in particular the certain functions connected with money and credit sphere. For instance, credit unions can lend to their members, pawnshops credit on security of certain objects.

The National bank of Ukraine does not credit directly enterprises and households. It has other functions in the credit system, in the economy in general. It is «the bank of the banks», major element in money and credit regulation of economy.

In Ukraine, as in majority of countries, Central bank belongs to the state. What are the major functions of the Central bank?

1. Credit and monetary regulation. By managing money supply in the national economy, Central bank has possibility to influence the degree of economic activity of enterprises, the state of employment and

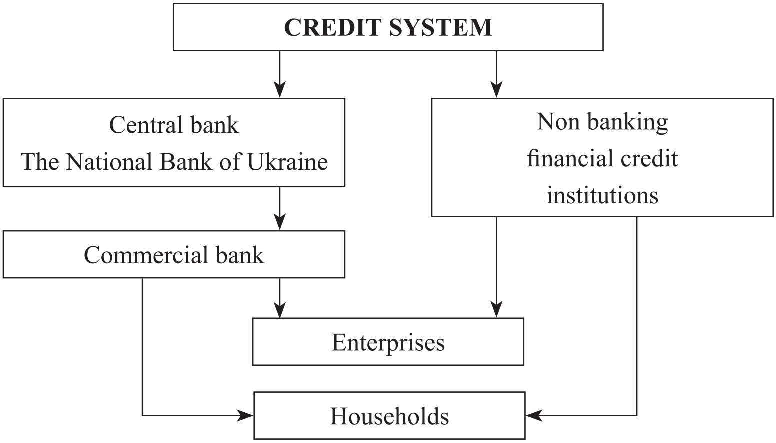


Fig. 10.4. Credit system structure

inflation. This aspect of Central bank activity is worth paying special attention to. Central bank is the only issuing centre of cash. Speaking about supply of credit money, its increase is connected not only with the activity of Central bank, but, as we already know, with the activity of commercial banks able to create (multiply) credit money. Central bank has the possibility only to restrict or stimulate this ability of commercial banks.

2. Control over the activity of commercial credit institutions. The system of partial reserves applied in banking industry creates potential threat of demands rush and bank panic, as it was mentioned earlier. «The domino theory», when the crash of one financial structure leads to the following failures (bankruptcies), can have destructive effects for economy. That is why banking industry needs rather strict «rules of the game», which are the function of the central game. This function has to provide reliability, efficiency, safety of money and credit settlements.

3. Credit-accounting servicing of the government. The National bank of Ukraine functions as a bank, servicing financial operations of the government of the country.

4. Formation and storing official foreign-exchange reserves of the country. Every state aspires to have such kind of reserves. They, in particular, are necessary to regulate the exchange rate, to fulfill certain external economic operations, etc.

Instruments of credit and monetary regulation

Central bank has a range of instruments which can be used to stabilize national economy. Their functions, credit and monetary policy in general focus on the regulation of the volume and structure of money supply.

1. Change of discount rate. Fig. 10.4 shows that Central bank can credit commercial banks. These loans as any other are to be paid back. Discount rate is an interest rate paid for the loans given by Central bank to commercial banks. By changing the discount rate Central bank influences the economic processes. Let us take an example. Assume that the National bank of Ukraine made a decision to increase the discount rate from 10 to 15 %. The law of demand is valid in monetary market as well as in any other market: the quantity of the goods purchased decreases with the increase of price of a unit and increases with the decrease of price. The discount rate is the price of credit money sold by the National bank of Ukraine. The increase of discount rate leads to a reduction of loans, causing the restriction of money supply. The latter can be regarded as the restricting factor of inflation. And vice versa, the decrease of discount rate makes credit money of central bank more available for commercial banks, and as a result leads to an increase of money supply stimulating an increase in business activity, growth of production and creation of work places.

2. The change of the reserve requirement. As it has already been mentioned, commercial banks are obliged to reserve a part of taken deposits. This payment means cannot be used by commercial banks for crediting. The reserve requirement is a central bank regulation that sets the minimum reserves each commercial bank must hold (rather than lend out) of customer deposits and notes.

The reserve requirement for commercial banks of Ukraine is set by the National bank of Ukraine. It may differentiate according to the types of deposits. The application of the reserve requirement results in the restriction of credit possibilities of the commercial banks: factual credit resources are smaller than potential ones (fig. 10.5).

By changing reserve requirement Central bank influences the volume of money supply. The increase of the reserve requirement leads to the restriction of money supply and lower opportunity of commercial banks to create money by crediting. The decrease of the reserve requirement – leads to the increase of money supply, higher opportunities of commercial banks. The effects caused by changes in money supply have been already discussed.

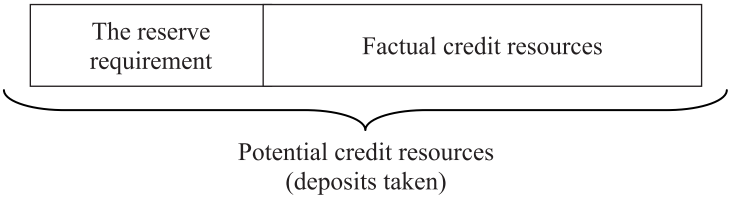


Fig. 10.5. Potential and factual credit resources of commercial bank

3. Fulfillment of operations in the open market. In economy the state also plays the role of the seller and buyer of bonds. Operations in the open market are the operations fulfilled by the state to buy and sell its bonds to and from households and enterprises. The object of purchase and sale in these operations is bonds. When the state buys bonds from commercial banks, enterprises and households, it makes payments and thus increases money supply. Commercial banks in particular obtain more credit resources and higher credit potential. If the state sells bonds, it leads to a decrease of money supply as commercial banks have lower credit potential.

In foreign economy this instrument of credit and monetary policy plays the leading role. Its application in a certain national economy depends on the degree of authority and trust to the state on the part of population and economic structures, on the conditions of securities circulation, on financial condition of the state. The practice of T-bonds circulation in the USSR was not characterized by the strict fulfillment of the state liabilities, favorable conditions for creditors, besides it had some other features having negative effects in order to raise the interest of households and enterprises in such operations. Ukraine applies this instrument in real life in certain periods of time with different degree of activity; the instrument is the element of credit and monetary and financial policy of the state.

Two types of credit and monetary policy

According to the goals of credit and monetary policy as well as the way of application of regulatory instruments, one can distinguish the credit and monetary policy of restriction and expansion (table 10.2).

Table 10.2

Essence and goals of credit and monetary policies of restriction and expansion

Instruments and goals of regulation	The policy of restriction	The policy of expansion
Instruments:		
Discount rate	Increases	Decreases
Reserve requirement	Increases	Decreases
Open market operations	Sale of government securities	Purchase of government securities
Goals:	To reduce inflation	To stimulate production, to reduce unemployment

Credit and monetary policy of restriction («expensive money policy») is fulfilled by means of restricting monetary supply and is targeted at reduction of inflation. It assumes the increase of interest rates makes the credit resources less available, reduces investment spending. This policy results in the decrease of aggregate demand and reduction of general level of prices in economy. Thus, the goal of «expensive money policy» is to reduce inflation. Together with this, the policy of restriction may lead to the growth of unemployment, caused by the decrease of investment spending and the degree of business activity.

Credit and monetary policy of expansion («cheap money policy») is fulfilled by increase in money supply and targeted at growth of production and employment. It is connected with the decrease of interest rate, and with more available loans. It results (table 10.2) in an increase in investment spending (monetarists supposed that other elements of aggregate spending also increase), growth of aggregate demand and increase of production and employment. At the same time the policy of expansion may cause rapid inflation.

Results of credit and monetary policy

The efficiency of credit and monetary policy is still the matter of heated debates. Keynesians suppose it to be less reliable and efficient means of stabilization of economy if compared to fiscal policy. Monetarists consider credit and monetary policy to be the key factor of determining the level of economic activity achieving macroeconomic stabilization.

We have already touched upon different aspects of these debates. For instance, in chapter 5, studying the causes of inflation we paid special attention to the principle difference between Keynesians and monetarists concerning the problem of money circulation speed: the former regard it as unstable and unpredictable, the latter – vice versa. This disagreement causes different assessments of credit and monetary policy opportunities.

However, despite all differences in approaches and assessments, most economists agree that credit and monetary policy is an integral part of the national stabilization policy. Credit and monetary regulators are regarded as efficient instruments of macroeconomic stabilization. Together with fiscal and budgetary ones they make the background of contemporary macroeconomic regulation.

RESUME

1. Money is a generally accepted means, used to pay for any goods and services. Money supply is a sum of generally accepted means of payment in the economy of the country. It consists of cash and credit money. Credit money is payment liabilities of certain economic subjects.

2. Commercial bank is a financial institution, taking deposits and giving commercial loans. Contemporary banking system follows the principle of partial reserves. Reserves of a commercial bank are its assets which can be used to satisfy the demands of depositors. The degree of assets liquidity is determined by the speed and the costs these assets can be sold with. The bank system of partial reserves provides the commercial banks with the opportunity to create credit money and potentially threatens with the mass flow of depositors' demands.

3. Taking deposits bank pays an interest – payment for the right to use the monetary means. The interest can be nominal (the sum of money received) and real (exceeding the losses of inflation). Depositors invest money in order to fulfill transactions, earn income, and accumulate the monetary means.

4. Credit – represents lending the monetary means for temporary use and on a certain charge. Apart from banks crediting services can be provided by insurance companies, financial foundations, and other non banking financial crediting institutions. Credit stimulates more efficient distribution of investments, increases the investment resources of the enterprises, promotes their concentration, accelerates the enterprise funds circulation, and broadens exchange operations.

5. Apart from mobilization of temporarily free monetary means and granting of credits the commercial banks provide a range of other operations: exchange of currency; mediatory operations with securities; discounting of promissory notes; factoring; trust operations; consulting etc.

6. The functions of the Central bank include the credit and monetary regulation, control over commercial banks activity, credit and monetary servicing of government, formation and storing of official foreign-currency reserves of the state.

7. The instruments of credit and monetary stabilization policy of the Central bank are: the change of discount rate, change of reserve requirement, and open market operations. Credit and monetary policy of restriction is fulfilled by decreasing of the money supply and is targeted at the reduction of inflation. Credit and monetary policy of restriction is fulfilled by increasing of the money supply and targeting at growth of production and employment.

Main terms and notions

Money
Money functions
Money supply
Cash money
Credit money
Types of money
Current deposits
Time deposits
Liquidity of payment means
Commercial bank
Commercial bank reserves
The reserve requirement

The degree of liquidity of assets
Depositary policy of commercial bank
Types of deposits
Major goals of depositors
Interest
Nominal and real interest rate
Interest rate policy
Credit
Creditor (lender) and debtor (borrower)
Credit role
Monetary multiplier
Promissory note
Factoring
Trust
Consulting
Non bank financial and credit institutions
Central bank functions
Discount rate
Open market operations
Credit and monetary policy of restriction
Credit and monetary policy of expansion

Exercises

Exercise 1. For each statement listed below choose the right term or concept.

1. Index which is inverse to the norm of obligatory reserve.
2. Generally accepted means that is accepted as payment for any goods or services.
3. The set of cash and noncash money.
4. A financial institution which is engaged in taking deposits and providing commercial loans.
5. The difference between the index of the nominal interest and inflation index.
6. The ability of the assets which is associated with the time and costs, to turn into the real resource payment.
7. State policy, which is implemented by restricting the money supply and is aimed at inflation curbing.

8. Provision of the funds for temporary use for the fixed payment.

9. Components of the money supply, grouped on the basis of their degree of liquidity.

10. The ratio of the value of the required reserves to the total accepted bank deposits.

11. Purchasing and selling of the government bonds by the central bank in order to increase or decrease the money supply.

12. State policy, which is implemented by expanding of the money supply and designed to stimulate the growth and employment.

13. The role of money in the economic system.

14. The interest for the use of money, which not take into account the price index.

Terms and concepts:

a) money;
b) the functions of money;
c) the money supply;
d) the monetary aggregates;
e) the assets liquidity;
f) a commercial bank;
g) the rate of the mandatory reserves;
h) the nominal interest rate;
i) the real interest;
j) the loan;
k) the money multiplier;
l) open market operations;
m) restrictive monetary policy;
n) expansionary monetary policy.

Exercise 2. Find the only one right answer.

1. Money is:

a) any product which is accepted as payment for all other goods and services by all economic agents;

b) the special paper and metal signs, which are issued as money by the state;

c) the special paper signs that are accepted in a particular country and at a certain period of time as the universal medium of exchange.

2. As part of the money supply it is accepted to provide such aggregates in the international practice: M0, M1, M2, and M3. Which components of the aggregates are the most liquid:

a) M0; b) M1; c) M2; d) M3?

3. The direct functions of the credit market do not include:

a) mobilizing of the household savings and temporary free funds of the enterprises;

b) the monetary offer to the companies;

c) the transfer of the funds between the areas of economy, and territories;

d) establishment of the effective use of labor conditions at the factories;

e) there is no right answer

4. The functions of the central bank do not include:

a) the money issue;

b) formation of the state's currency reserves;

c) regulation of money circulation;

d) determination of standards of the commercial banks' activity;

e) administration of the state's budgetary funds;

f) there is no right answer

5. Deposit policy of the bank is:

a) activity concerning attraction of the free funds of individuals and legal entities;

b) the bank's activity related to definition of the interest relatively to loans which are available;

c) the bank's activity with securities;

d) the bank's activity at the stock exchanges;

e) there is no right answer

6. What does not affect the loan rate of the commercial banks:

a) the rate of inflation;

b) the ratio of the supply and demand of money;

c) the unemployment rate in the country;

d) the central bank's policy;

e) there is no right answer?

7. What does not refer to areas of the direct impact of credit on the economic processes:

a) an increase of the investment resources of the enterprises;

b) an increase of the sources of the investment resources;

c) acceleration of the commodity turnover;

d) reduction of the depreciation period;

e) there is no right answer.

8. Methods of the monetary control, which are implemented by the central bank do not include:

a) the change of the obligatory reserve norm;

b) the changes in the interest rates;

c) open-market operations;

d) reallocation of the state's budgetary resources;

e) correct answer is indicated in c, d.

9. The change of the required reserves norm:

a) reduces the credit resources of the commercial banks;

b) does not affect the volume of the real credit resources of the commercial banks;

c) increases or decreases the credit resources of the commercial banks;

d) increases the credit resources of the commercial banks.

10. Operations of the central bank in the open market are:

a) the purchase or sale of the government bonds (in the form of securities);

b) the purchase or sale of foreign currency;

c) exclusion of unreliable securities from circulation in the stock market;

d) the means of regulation activities of the securities traders'.

11. Consequences of restrictive policy do not include (in accordance with the Keynesian concept):

a) acceleration of inflation;

b) reduction of unemployment;

c) an increase in investment expenditures;

d) the correct answer is indicated in a, b, c;

e) the correct answer is indicated in b, c;
f) the correct answer is indicated in a, b.

12. What is the goal of the central bank, when it changes the discount rate:
a) to increase the incomes of the state budget;
b) to impact the general level of prices in the economy;
c) to stimulate foreign economic operations;
d) to stimulate an increase of the number of commercial banks;
e) there is no right answer?

13. A customer has made a deposit in a bank for the sum of $ 500 USD. In accordance with the contract the compound interest will be charged – 10% from the amount for every six months. Determine the value of his deposit at the end of the year:
a) 550 UAH
b) 605 UAH,
c) 600 UAH,
d) 565 UAH
e) there is no right answer.

Exercise 3. Define which statements are true, and which are false.
1. Aggregate M1 includes cash, cheque deposits, and time deposits.
2. The value of money is inversely related to the price level.
3. Paper money is included in M3 aggregate.
4. Aggregate M2 exceeds aggregate M1 by the value of the deposits.
5. Paper money appears as the highly liquid means of payment.
6. The Central bank is called the bank of banks, as it provides loans to the commercial banks and stores all their deposit funds.
7. To curb inflation, the government needs to follow expansionary monetary and credit policies.
8. The sale of the state bonds in the open market by the state reduces the money supply in the economy.
9. The main function of the norm of the required reserves is to maintain banking liquidity.
10. The commercial banks create money through loans.

11. The actual reserves of the commercial bank are equal to the sum of the required and excess reserves.

12. If the norm of the required reserves is 100%, then the money multiplier is 0.

13. If the central bank buys government securities, then the monetary resources of the financial market decline.

14. The main function of the central bank is to achieve a stable national currency.

15. The central bank can increase the amount of money in circulation increasing the norms of the required reserves.

16. The essence of the open market operations designed to increase the money supply is to buy the government bonds.

17. The discount rate is the interest rate at which the commercial banks provide loans for the largest borrowers.

18. An increase in the money supply does not affect the price level.

Exercise 4. Solve the tasks.

Task 1. Will the balance in Fisher equation of exchange be broken, if because of the influence of the money multiplier (the norm of the required reserves is 20%, and additional investments into the bank – 10 000 USD.) the money supply will increase, while maintaining the previous velocity of the turnover (5 turns per year), and the cost of the additional products in the market will increase by 240 000 UAH?

Task 2. What will be the maximum increase in the money supply at an initial investment into the bank 100 000 UAH due to the money multiplier influence, if the norm of the required reserves on deposits is 10%?

Task 3. Due to growth of the deposits into the bank for the amount of 4000 UAH influenced by the money multiplier, the money supply in circulation has increased by 16 000 UAH. Calculate the rate of the obligatory reserves.

Task 4. The norm of the required reserves has increased from 10 to 15%. How much will the growth of the money supply increase or decrease because of the additional deposit into the Bank for the amount of 30 000 UAH. under the initial and new conditions?

Task 5. The bank has deposits of its customers for the amount of 250 million UAH and pays 20% per annum on them. However, it has provided a loan for the amount of 200 million UAH for 2 years with the interest rate of 35%. What profit or loss will the bank receive for two years?

Task 6. Carrying out its expansionist policy, the central bank buys bonds for the amount of 10 million UAH, among them from commercial banks 5 mln. and from population 5 million UAH. One-fifth of the money received from population it turns into cash and stores outside the banking system. The norm of the required reserves is 15%. Define the change of the money supply, if the banking system ability related to creation of money is used completely.

Unit 11. FOREIGN TRADE POLICY

Economy of Ukraine, as of any other country, is not a closed system. One can easily prove it. Look at the products we use and consume every day. Where are they produced? There are a lot of goods of foreign origin among them. Together with this a lot of Ukrainian commodities are used by households and enterprises in other countries. Our life would not be like this and the level of consumption would be lower, if our country was not integrated into economic cooperation with different countries of the world. The way and extent of this cooperation is of great importance.

In economic analysis on micro and macro level we, as a rule, abstract ourselves from a foreign factor. However, in real life the role of this factor is so great, that one should speak about one more aspect of economic theory – mega economics. Mega economics is a branch of economic science, studying world economy, which appeared as a result of interaction of different national economies. This unit is dedicated to the study of backgrounds of international economic cooperation together with foreign economic policy of the government.

11.1. UKRAINE IN THE WORLD ECONOMY

World economy essence

Nowadays no country can provide adequate economic development without cooperation with other countries. The level of connections and dependency allows coming to a conclusion about the existence of some specific economic formation – the world economy. **The world economy – is a combination of interconnected national economies interacting on the basis of international division of labor.**

World economy appeared as a result of **economic life internationalization**, which means the process of arranging and deepening connections between enterprises of different countries and between countries. On the one hand, internationalization optimizes conditions of production, allows reducing costs per unit of production by means of specialization and cooperation, improves satisfaction of consumers' needs in different commodities, and increases productivity of labor and total volume of production. On the other hand, the **dependence** of national economy on the world economy is also **increased.** As sales conditions are now determined not only by internal circumstances but also by demand bias in different countries. Besides, national economic subjects buy considerable amount of resources and commodities in external markets. Such a dependence in a greater extent characterized Ukraine in the first half of the 90-s. The destruction of economic relations of the former USSR came out to be one of the causes of economic crises in Ukraine. This led to a reduction of the sales markets and import which were extremely important and necessary. The contradictions of economic internationalization are described in the following diagram in fig. 11.1.

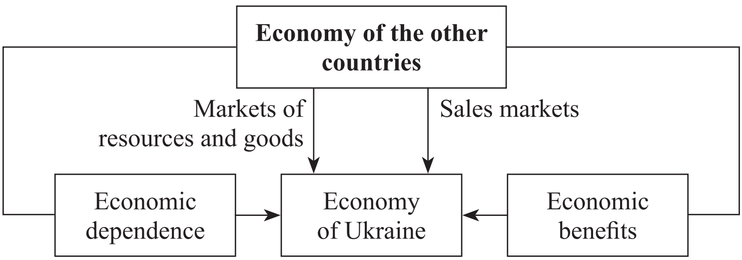


Fig. 11.1. Contradictory character of production internationalization

International division of labor is the basis of internationalization of economic activity. International division of labor – is a specialization of different countries in terms of the world economy on the production of different types of goods and services for their sale in external markets. Factors of specialization of countries are:

1. Geographical position and natural and climate conditions – access to the sea, proximity, remoteness, availability of different markets, peculiarities of climate, quality and relief etc.

2. Resource possibilities – provision with mineral resources, labor and other types of resources.

3. Historical and cultural peculiarities – availability of historical places and monuments, cultural traditions, of everything that is attractive for tourists.

4. Historical traditions, experience – specific types of production, peculiar technologies etc.

In modern conditions international division of labor is still developing. It is under influence of such circumstances: growing deficit of national natural resources or deterioration of geological conditions of their production. Countries facing this problem try to solve it by means of: the increase of import of mineral and energetic resources; intensification of competition in the national market that stimulates the search for new foreign sales markets; possibility to reduce costs of production using the cheaper labor force or using foreign capital, technology and managerial experience; search for ways of increase of products competitiveness by means of organizing their production abroad aimed to avoid transport costs and tariff payments.

Globalization

Globalization is the most important notion characterizing processes in the world economy of the new millennium. The word is often used in scientific articles and political speeches, that is why one can say for sure that no one is indifferent to the processes of increased interconnections in international economy.

Globalization should be considered, first of all, as a modern stage of the world economy development. In the evolution of the world economy such stages are determined:

1. The stage of international trade. It started in the period of geographical discoveries of the XVth–XVIth centuries, when world economy as a social phenomenon appeared and first economic relations between countries were observed. The stage is characterized by:

– prevalence of external trade in international economic relations;
– inequality of relations and exchange;
– absence of steady international economic relations and their legal regulation;
– often use of violence in international economic relations.

International division of labor appears as the result of development of international trade. One of the first forms of international division of labor is specialization, which is based on unequal location of natural resources and peculiarities of climate conditions.

2. The stage of international investment starts in the second half of the XIXth century. This stage is characterized by:

– active development of foreign investment as a form of international economic relations. Investments indicate the higher extent of stable and long standing relations between countries, meaning that states trust to each other;

– improvement of international trade forms. Intellectual property (patents, licenses), know-how, information and many others become the objects of buying and selling;

– appearance of new forms of external economic relations – international migration of labor, science-technical cooperation etc..

Increased economic relations between national economies created the necessary prerequisites for the transition to the new stage.

3. The stage of economic integration. It started in the middle of the XXth century. Economic integration – is the process of interconnected production of different countries, the process requires coordinated policy. You can say about the following features of this policy:

– active development of production abroad on the basis of vertical and horizontal integration;

– creation of international economic organizations, coordinating economic activity of different countries having one goal to be achieved;

– appearance of highly integrated regional groupings of countries.

4. The stage of globalization. It started in the second half of the 80-s in the XXth century. Economic integration was implemented on the level of separate regions (Western Europe, Latin America, countries of South-Eastern Asia etc.), and globalization becomes a phenomenon of the world scale. This could be clearly observed, first of all, in standardization of all the aspects of the world community. Globalization exceeds the limits of the usual phenomenon. It is characterized by interconnection and interdependence of economic, social, political and spiritual spheres of life in different countries. The interdependence of different sides of human activity appears to be. This phenomenon is called universummization.

The basic ***features of globalization*** include:

– general interdependence of national economies. It is impossible for any country to develop efficiently outside the world community, and the world community is incomplete and inefficient if, for some reason, some country does not take part in general processes;

– closing in the level of national prices for the most important commodities (especially energy resources and raw materials);

– formation of the world market of investment resources;

– creation of the world infrastructure of financial markets. This brings to life the possibility for rapid transition of financial resources from one country to another, thus, threatening the world security through export of the financial crises. The examples of this are financial crisis's in 1997–1999 and in 2008–2009;

– recognition by the majority of countries of the same human values as primary ones (human rights, the right of nation for self-determination.).

Globalization is objectively based on internationalization of production, logical development of productive forces. However, direct causes of globalization were the following ones:

– information revolution, providing technical base for creation of global information network;

– internationalization of capital and strengthening of competition in the world market;

– deficit of natural resources and increased control of their use;

– demographic explosion;

– the increase of technological burden for nature and distribution of weapon of mass destruction, all of the above mentioned increases the risk of general disaster.

Globalization is connected with homogeneity; this means the intrusion of corporate standards and single rules into daily life. Establishment of international standards of the type GAAP and ISO is the prerogative of national and supra national economic and financial institutes, participants of different agreements, professional accounting firms and organizations.

Globalization effects

Among the scientists and politicians from all over the world there is no single opinion about globalization effects for certain countries and for the mankind in general. There is a point of view that the globalization shows unprecedented possibilities for distributing of the high technologies all over the world and for removing of economic and social contradictions, that is why new economic order should be introduced. This could be done through financial markets, credits and investment, global firms, and informational technologies. The second point of view is based on the constant discussion of negative effects of globalization. The supporters of this point of view (antiglobalization movement) call for every possible restriction of this process, for a search for protection from it.

One should admit that globalization is an objective process and neither a separate country nor a union of countries can cancel it. Together with this it is worth noting that the globalization effects for different countries are essentially different. Thus, the countries' interest in promoting or opposing globalization varies.

Usually it is the developed countries from the so-called Center that are interested in promoting the globalization. Less developed countries (from the so-called Periphery), as a rule, are reserved towards globalization or even oppose it. World economy shows examples of an economic success in the country's development being the result of both supporting the globalization (new industrial countries) and contradicting it (China).

To work out optimal policy towards globalization one should evaluate the possible surpluses and losses arising from it for a specific country. Table 11.1 shows arguments «pro» and «contra» of globalization for Ukraine. It clearly proves that the situation is rather complicated due to the fact that, on the one hand, Ukraine can benefit from globalization as the developed countries of the Centre (e.g. entry into the world market with competitive products), on the other hand, Ukraine can lose as less developed countries do. It is difficult to identify Ukrainian economy because the elements of all technological modes are intermixed. Aerospace industry, aircraft manufacture, and tank-construction are the leading industries in Ukraine and capable of competing with the best world producers. Black metallurgy, mining industry, and heavy engineering – these are typical branches of the industrial economy. Judging by the level of GDP per capita and general standards Ukraine belongs to the group of underdeveloped countries. That is why a real place Ukraine is taking in the world community depends on its ability to preserve and develop the advantages it has.

Table 11.1

Possible effects of globalization for Ukraine

Arguments «pro»	Arguments «contra»
1. Possibilities to fully use the advantages of the International division of labor 2. Financial aid from international financial organizations for internal problems solution 3. Entry into the world markets with competitive knowledge intensive products 4. Application of practical experience of other countries economic reforms to transform the economy of Ukraine	1. Narrowing of the free choice for economic and political actions 2. Admitting country's position as one on the periphery, preserving of periphery position. 3. Degradation of non competitive industries, increase of unemployment 4. Loss of national peculiar nature, partial loss of national culture 5. Loss of chances for search mistake, and possibly success.

Ukraine's policy towards globalization

Everything mentioned above determines the specific policy of Ukraine towards globalization for better implementation of its national interests. Major directions of Ukraine's national policy within globalization are:

1. In the sphere of economy:

– The state support of the industries capable to compete with the leading world manufacturers for the entry into the world market and get benefits form absolute advantages;

– protection of national producers non capable to compete with foreign companies with simultaneous stimulation of their competitiveness;

– transition to the economic growth based on innovations using scientific, technological and educational potential existing in the country;

– creation of **equal** investment conditions for both national and foreign investors; encouragement of international investment in money form to achieve internal multiplier effect;

– an increase of chances for better application of internal sources for investment activity and state borrowing; usage of external state credits for such investment projects which can lead economy to the Centre of the world.

2. In the sphere of politics:

– consequent growth of political independence of the country, its sovereignty. It is possible as one can clearly see that the globalization processes in economic, informational, cultural spheres are closely connected with the processes of national self-identification. This phenomenon is called Naisbitt paradox;

– transformation of national legislation according to the norms of the developed countries;

– consequent implementation of the policy of non joining the military blocks together with close cooperation with international organizations within the frameworks of UN, Europe etc.

3. In the sphere of international initiatives:

– cooperation with the world community in order to solve the vital problems of the monetary-financial sphere, in the spheres of ecology, health care, fight with crimes and terrorism;

– application of regionalization tendencies, characteristic for the modern society in order to implement the national interests, partially restore the sales markets in the CIS countries, deepening of two sided relations with the neighboring countries; in the distant future – joining the European Union.

Thus, the optimal policy for Ukraine is the one allowing full implementing of the possibilities rising from globalization for its own interests and minimizing the negative consequences of the process. It is possible only if the government has active balanced participation in such policy.

11.2. INTERNATIONAL ECONOMIC RELATIONS

International trade

As the division of labor among enterprises causes the introduction and development of commodity production, the international division of labor results in **international trade**. This is the oldest form of international economic relations. The volume of international trade has annually grown by 7–8 % recently. The leading world trading countries today are the China, Germany, and the United States of America. The first top ten also comprises Japan, France, the Netherlands, South Korea, Italy, Great Britain, and Russia.

Every time making decision on international trade relations the country has to choose the commodity for export and import. The problem is easily solved when the country has absolute advantages in production of certain commodities. For instance, one can observe the lowest costs in oil production in the Middle East countries.

But it is not always that the specialization is based on the principle of absolute advantage. Countries' participation in international division of labor can be based on comparative advantages in production of certain types of goods. D. Ricardo traced this fact in 1817. The benefit from foreign trade in this case will be the result of specialization and exchange of the larger volume of commodities and their better quality in comparison with the possibilities of their production within the country with the same costs.

Foreign trade activity of the country is often characterized by means of the quantity comparison of export and import or trade balance. The sum of export and import is **foreign turnover**, and their difference or **export surplus** – is **net export.** Positive export surplus means that export exceeds import, and negative export surplus means that import exceeds export. Which condition is more preferable for the country?

One cannot give a definite answer. Considerable positive export surplus shows that a part of GDP produced in the country is consumed abroad, and import does not compensate the reduction of domestic consumption. Besides, money earned from export which also is not used to pay for import could become one of the factors of intensification of inflation as the money supply increases without a corresponding commodity support.

If for a while import exceeds export the problem of import payment arises. Quite often the credits can become the source of import payment. That is why the negative export surplus of trade balance can lead to an increase of external debt of the country and have negative impact on its development. However, as goods export is not the only the source of currency and import is not the only direction of its usage, then the trade balance could be regarded as the component of the general balance – the balance of payment.

Government foreign trade policy

The government regulation of foreign trade relations is to great extent predetermined by the type of foreign trade policy of the country. Since mercantilism (XV–XVIII) two types of policy have been known – protectionism and liberalism. **Protectionism** – is a type of economic policy aimed at the development of national economy by means of restriction of foreign competition. Quite often in this policy the government uses the following instruments:

– implementation of tariffs. *A tariff* – is a special state tax on commodities, imported into or exported out of the country. As a rule, tariffs are used to get income into the budget, to protect national producers from international competition, to regulate commodity supply in domestic market, to apply anti-dumping measures, and to regulate the balance of payment of the country;

– use of special quotas. These are quantitative restrictions on export or import of certain types of goods for a certain period of time. So-called voluntary quota allocation has been gaining popularity in the world practice. For instance, Japan «volunteers» to restrict the quantity of automobiles exported to the USA, and the latter in return does not introduce the excessive taxes on import;

– licensing of export and import. That means special sanctions on external trade operation with certain goods.

Liberalism or **free trade** presupposes «free trade» or restriction of a government regulation of foreign economic activity. Thus, tariffs restricting export or import are minimized, and free export and import are established. Liberalization of foreign trade can be regarded as one of the tendencies of the modern world economy. There are unions of countries (e.g. European Union) that practice trade without restrictions.

Protectionism has also been changing. Within the policy much attention is paid not to the restriction of import, but to encouragement of national commodities export.

The choice of certain foreign trade police by a country is predetermined by the level of competitiveness of its national products as well as by the state of foreign trade balance. Underdeveloped state of national economy and negative export surplus leads to necessity of protectionism. Confidence in national production possibilities and high level of national competitiveness encourage free trade.

International migration of resources

Every national economy has certain set of resources: capital, land, labor, and entrepreneurship. To certain extent this also includes financial capital, the existence of which is the prerequisite for attraction of production resources. Modern stage of international economic relations is characterized by dynamic nature of resources and their ability to be moved between countries on the large scale. This brought to life such notions as foreign investment and labor migration.The final goal of investment is to get profit. That is why entrepreneurs are in constant search for the spheres where they can get higher returns on the capital. The development of foreign economic relations constantly broadens business horizons, breaking the limits of national economy. As there is steady interstate difference in the price on resources, in taxation, in the levels of industry development, state of competition, etc., then there is certain difference in profitability of investment. Everything mentioned above together with the level of international trade and political stability, promotes the capital migration from one country to another aimed at maximizing the profit which is the content of foreign investment.

Foreign investment exists in different **forms** (fig. 11.2). Depending on the subject of investment they could be divided into ***private*** and ***government*** investment. The latter, as a rule, is not aimed at maximizing the profit, and it is not because it faces inefficient application within the country this type of investment takes place. Government foreign investments are mostly aimed at achieving of the political goals or defending national interests.

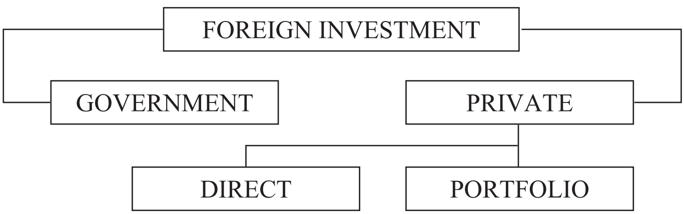


Fig. 11.2. Forms of foreign investment

Private investment can be divided into *direct* and *portfolio investments*. Direct investment gives investor the possibility to control the activity of foreign enterprise; portfolio investment does not give such a possibility. The ratio of direct and portfolio investment shows the role that foreign capital plays in the economy of the country.

Foreign investment has different impact on the economy of the base and receiving country. The effects for countries-exporters are the following:

1. high average profitability of investment is achieved due to the flow out of less profitable industries in the country and to more profitable industries abroad.

2. favorable conditions to increase export of certain commodities are created. Organization of production abroad encourages the export of equipment from the country-exporter.

3. the economic growth rates slow down. The movement of capital into other countries reduces the growth of potential production possibilities of the country-exporter, which has general negative impact on the economic development.

The receiving country, as a rule, is influenced by the foreign investment in the following directions:

1. Modern equipment and high technology flock into the country together with the foreign investment. But one has to admit that these are not the latest options but the ones which have been used in the country-exporter for quite a long time. Thus, it seems a rather difficult task to find oneself among the world leaders being guided only by foreign capital import.

2. the economic growth rate is accelerated on the first stage with the risk of its slowing down. Foreign investment – is a dope for the national economy. It starts to develop faster. But in the course of time a share of country's GDP will move abroad as a foreign investor's income that will, in its turn, have a negative impact on the economic growth rate.

3. Inner competition grows, which, on the one hand, makes the national manufacturers to work in a more efficient way, and, on the other hand, – may lead to their bankruptcy in case of their competitive weakness.

Thus, the receiving party has to take a specially balanced approach to the formulation of government policy in the sphere of foreign investment. The comprehension of the contradictory nature of the foreign investments impact on Ukraine, which has become a receiving country since the 90s, is of vital importance.

Apart from capital migration in the modern conditions one can also observe a considerable migration from one country into another of such an important resource as labor on a large scale. Contemporary **labor migration** – is a consequence of a rather high stage of development of the processes of business activities internationalization, when together with the world commodity markets the world labor markets come into existence.

The causes of the labor migration can be:

– national differences in the wages and salaries. Considerable differences of the countries in the development level, social guarantees, historical traditions, etc. lead to difference in the level of payment for the same labor in different countries. It is well-known that an unskilled worker in the USA earns several times more than a number of people in the countries of Latin America;

– national peculiarities in the unemployment level and employment patterns. Unemployment rises up to 30–40% in a number of underdeveloped countries, while in the developed ones it usually equals 6%. Besides there are a lot of job vacancies in the developed countries as they are regarded as not prestigious. Immigrants are often applicants for these vacancies;

– employers' preference of foreign laborers. This is explained by the fact that immigrants, as a rule, cannot account for labor rights, social guarantees, available for national workers. Thus, a foreigner employment is more profitable for the employee.

International economic links coordination

The scale of foreign economic relations, their intensity, variability and importance for national economies call for introduction of the special international legal regulation. Just as within any country its government works out the «rules of the game» for the business units, different interstate agreements to regulate the operations of the subjects of the world economic relations in the world economy. One should specify the major functions of the regulation of the world economic relations:

– protection of the market and competition. The threats, first of all, come from multinational corporations, growing into the world monopolists and suppressing competition. Besides, unethical competition is not a rare case; one of its forms is dumping. **Dumping** – means selling goods in other countries' markets at giveaway prices, i.e. at lower level than the prices characteristic for these countries. In this case the importing country has a right to impose the so-called *antidumping charges* on the goods.

To prove the fact of dumping the most difficult problem is to be overcome – determining the standard level of the price. The usual way is to compare and contrast the possible dumping prices with the prices on the same or similar product, which were prevailing for a definite preceding period in the country where dumping is observed, or in the markets of other countries. The fact of selling goods at the prices lower than the production costs is also a weighty argument proving the dumping;

– efforts coordination in common tasks solution. The examples of the common problems for the countries – members of the international relations are, for instance, stability of the international currency system, solution of the global ecological problems, etc.;

– interstate guarantees for the private enterprise. This, in particular, deals with measures to protect foreign investments, cancelling of the double taxation, etc.

International economic organizations play an essential part in the world economic relations regulation. In the beginning of the XXth century there were about 400 of them. The most influential ones are following:

– **International Monetary Fund** (IMF) founded in 1944. to stimulate the international trade development and monetary cooperation by setting the norms of exchange rates regulation and control of their observation, multilaterally payment system and monetary restraint elimination as well as credit resources provision for its members in case of monetary difficulties;

– **International Bank for Reconstruction and Development** (IBRD) founded in 1945 to stimulate the economic development of the member countries, promote the development of the international trade, and maintain the balance of payments;

– **European Union** (EU) founded in 1957 by six European countries (Belgium, France, Federal Republic of Germany, Italy, Luxembourg, the Netherlands). Later Denmark, Ireland, Great Britain, Greece, Portugal, Spain and other European countries joined it. In the sphere of economy EU is moving towards single European market and single banking system with the common currency.

11.3. THE EXCHANGE RATE

The exchange rate and foreign trade

International economic operations are marked by minimum two currencies used in the process. The buying party, for instance, Ukraine, is ready to pay for the goods with its own currency, but the selling party, for example Russia, keeps in view to receive eventually the currency of its own country. Thus, the deal will take place only in case the buyer of the goods initially buys the seller's currency and then pays for the goods delivery, or if the seller agrees to receive the payment of the delivery in the buyer's national currency with its succeeding selling. In any case one cannot deny the necessity of one more market – the currency market.

The notion «currency» is generally used to denote the monetary unit of a definite country. The US dollar, Russian ruble, Japanese Yen are currencies. The first problems of currency exchange relations in the international settlements were connected with the external trade. In the gold-coin system the exchange took place according to the coins' weight content. Later when the sphere of national currency exchange was much broadened, and their connection with gold became vicarious, the currency markets started to form where different currencies became the purchase and sale subjects. Their specific prices were formed – the exchange rates. The **exchange rate** – is a price of the national currency which is expressed in monetary units of the other country or the price of a foreign currency, expressed in the national monetary units.

Different ratio of foreign and national currencies influences a lot the country's foreign economic activity, most of all the foreign trade. We can illustrate this by the following example. Supposing, in a certain base period one Ukrainian monetary unit (UAH) corresponded to four Russian monetary units (rubles), or 1 UAH = 4 rbl. Let us analyze how the export of the Ukrainian and import of Russian products will be influenced by the rise of the UAH rate by 1.5 times, or 1 UAH = 6 rbl. It means that if in the base period a sugar factory, having received 6 million rubles for its product on the Russian market, could get 1,5 million UAH for it, then now this sum turns into 1 million UAH only. To preserve the previous earnings in UAH, the exporter will have to raise the prices that may have a negative impact on his products competitiveness in the Russian market. On the contrary, under these circumstances it is more profitable to import from Russia. Russian exporters exchanging the same earnings, received in UAH, into Russian currency will get 1.5 times more. That makes them interested in selling the products in Ukrainian market and even lets them lower the prices, increasing the competitiveness of their product this way. The contrary situation will take place in case the UAH rate falls against Russian national currency.

Thus, the rise in the exchange rate of the national currency makes export less profitable and stimulates import; a drop in the rate – interests the exporters and limits the import into the country.

Government regulation of exchange rates

The influence of a number of factors in the exchange rate makes its dynamics difficult to predict. If the exchange rate is unstable, foreign partners face the higher risks in signing the contracts and may tend to domestic trade. The uncontrollable changing of the exchange rate restrains the foreign investments. It was brightly exemplified by the dynamics of foreign investment into the economy of Ukraine in the 90-s. As having received the planned income in the national currency, when you change it into dollars you may not have the desirable level of profitability. Thus, the unstable exchange rate (and floating currencies do not provide this stability) restrains the development of trade connections. Besides, the exchange rates with the tendency to the fast change may destabilize the national economy, causing inflation or deflation processes. It is special characteristic of the countries with the considerable specific share of the foreign trade volume of GDP. That is why a lot of states try to influence the currency exchange rate using the available impact levers on foreign currency supply and demand.

Government regulation of exchange rates has a number of *advantages*: it provides stable conditions of foreign trade activity, lowers the currency risks, and lets more accurate prediction of the results of trade and investment operations. Overall the problem of certain exchange rate maintenance can be reduced to the problem of foreign currency supply and demand maintenance on the fixed level. If in case of favorable balance of payments the demand for foreign currency surpasses the supply, threatening with the national currency rate raise, the government plays as the buyer thus enlarging its official supplies. Under conditions of national currency rate decrease the government implements the currency intervention: starts selling of the foreign currency, raising of the supply and reducing of the official supplies.

Manipulating the official supplies is a major way of government maintenance of the national currency rate. But its implementation presupposes enough official reserves. They may be formed mainly by surplus of balance of payments in the preceding years. But if there has been a passive balance of payments for a long time negative balance, then even the largest official reserves will be over.

The trade policy is another wide-spread way for the government to maintain the exchange rate. Promoting or restraining export or import activity, the government may increase or decrease the demand and supply in the foreign currency market, trying to preserve the former coordinates of their graphs intersection. To regulate the exchange rates the government can get use of strict administrative measures. The **method of rationing of foreign currency usage** stands out among them; one of its variations is used in Ukraine. According to this method all the subjects of foreign economic activity have to sell to the government fixed part of earnings in foreign currency, and the government, in its turn, redistributes it determining the most important items of import. In such case the import is restricted by the factual export earnings. Part of the demand in foreign currency remains unsatisfied.

However, in real life the strict currency control has certain negative effects. In particular, the subjective factor in determining the required import becomes more important. Market mechanism is almost left aside and definition of economic subjects (the importers of products) becomes the matter of consideration for state authorities. It leads to discriminations and voluntarism. Besides, the entrepreneurs really in need of currency become willing to pay more than established fixed rate. The «Shadow» currency market comes into existence, and it is out of government control.

Government has also the possibility to control the exchange rate by means of certain domestic macroeconomic policy. For instance, in case of threat of national exchange rate depreciation and due to faster the national income growth rate than in other countries and corresponding foreign currency demand, the government may increase the level of taxes and thus restrict the accumulation of purchasing power of population.

The regime and sphere of application of national currency are some of the most important aspects of the government regulation of currency relations. In this case currency could be divided into **inconvertible, partially convertible and convertible**.

If currency is used only to service domestic economic processes and is not exchanged into foreign currency, it is called inconvertible or soft. Such regime is used, as a rule, in less developed countries.

Many states use the so-called partially convertible currency. Within this regime the foreign currency use is still prohibited and allowed to be applied to fulfill certain operations by certain subjects. For instance, currency exchange could be freely used to pay current operations (export-import operations, private transactions, etc.), but foreign currency applied for investment is prohibited.

Partial convertibility is considered to be *internal,* if the government does not limit the foreign currency operations for residents, i.e. individuals living on the permanent basis, and legal parties, registered in the country, but prohibits currency operations for non-residents, i.e. all other subjects. Partial convertibility is considered to be *external,* if the right to fulfill the operations with foreign currency is granted to non-residents, but is prohibited to residents.

Convertible currency could be freely exchanged into foreign currency in all the operations: current ones connected with everyday external economic activity, credit and foreign investments. The US dollar, Canadian dollar, national currency of the European Union countries, Switzerland, Sweden and Japan are such currencies. Freely convertible currency forms the basis of the modern international currency system.

RESUME

1. Modern world economy is developing in terms of globalization which is characterized by overall economic dependence of national economies, closing of the prices level for the most important goods, creation of the world infrastructure, the world financial markets, acknowledgement by the majority of countries of the same human values as the priority. While elaborating government foreign economic policy one should aim at maximum use of globalization advantages and at its annul possible disadvantages.

2. Foreign trade based on international division of labor is the oldest form of international economic relations. International division of labor is grounded on not only absolute but also comparative advantages of specific country in production. The benefit of foreign trade for the country is to get more goods of better quality by means of specialization, than in terms of domestic production with the same costs.

3. Protectionism is a type of state economic policy used to develop national economy by means of restriction of international competition. Liberalism presupposes free trade and limited government control of foreign economic activity.

4. Foreign investment and labor migration are modern forms of the movement of resources as well as financial resources from one country into another. Foreign investment represents injections into economies of different countries in two forms: government and private investments. The latter ones are subdivided into direct and portfolio investments.

5. National differences in the level of wages, national peculiarities of unemployment and the structure of employment, privileges for foreign workers when hired are the causes of labor migration.

6. In the world economy «the rules of the game» are prescribed in different interstate agreements. Major directions in international relations regulations are: protection of market and competition; cooperation in problems solution; the interstate guarantees for private entrepreneurships.

7. The exchange rate is the price of national currency expressed in monetary units of other countries or the price of foreign currency expressed in national currency. The appreciation of exchange rate of national currency makes the export less profitable and encourages import. The depreciation of exchange rate of national currency makes the export more profitable and restricts import.

8. Government regulation of exchange rate could be carried out by means of official reserves manipulation, corresponding foreign trade policy implementation, foreign currency rationing application and domestic macroeconomic policy performance.

Main terms and notions

World economy
Internationalization of economic activity
International division of labor
Stages of the world economy development
Economic integration
Globalization
Foreign trade
Absolute advantage
Comparative advantage

The balance of payment
Foreign trade turnover
Export surplus
Protectionism
Tariffs
Liberalism
Foreign investments
Direct and portfolio investments
Labor migration
Dumping
International economic organizations
Currency
Exchange rate
State regulation of exchange rate
Currency convertibility

Exercises

Exercise 1. For each statement listed below choose the right term or concept.

1. The price of any currency, expressed via a certain amount of other currency.
2. Government economic policy aimed to protect the national economy from foreign competition.
3. The sale of goods and services abroad.
4. Relation of the credit and debit balance of payments items.
5. Currency of a specific country.
6. Institutions involved into regulation of interstate and international economic relations.
7. Goods and services of foreign manufacturers, which are imported into the territory of the state.
8. The sale of goods in the foreign markets of other countries at unreasonably low prices.
9. The relationship between exports and imports of goods and services.
10. Relation of the money claims and liabilities, receipts and payments of one country relatively to others.
11. Free trade and limited government intervention into foreign trade.

12. The system of international monetary relations, according to which each national currency was provided by a certain weight of gold.

Terms and concepts:

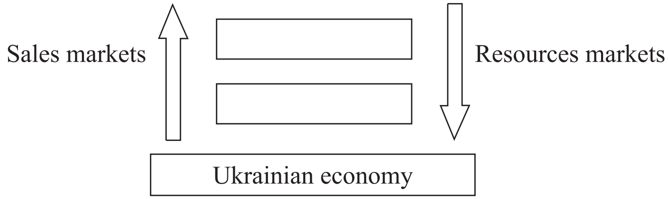
a) currency;
b) the exchange rate;
c) the balance of international payments;
d) the balance of the payments surplus;
e) gold standard;
f) export;
g) import;
h) the balance of trade;
i) protectionism;
j) liberalism;
k) dumping;
l) international economic organizations.

Exercise 2. Find the only one right answer.

1. International economic relations do not allow:

a) to overcome the narrow national market;
b) to overcome the limitations of the national resource base;
c) to carry out specialization of production, making it more efficient;
d) to improve quality of the goods produced;
e) to conduct effective counter-cyclic policy;
f) there is no right answer.

2. What couple of categories should be put in the empty boxes of the central part of the figure to demonstrate the main characteristics of these processes more precisely:



a) the benefits, dependency;
b) protectionism, isolation;
c) liberalism, efficiency;
d) export, specialization;
e) imports, the relative advantages?

3. The international division of labor is:

a) the pattern of trade that prevailed in certain temporal and spatial frameworks;

b) specialization of individual countries in the world economy in certain types of products in order to sell them in the national market;

c) the system of various forms of international economic cooperation, which provides an open economy and free movement of labor;

d) placement of the individual stages of the production process in different countries which are most suitable for this purpose;

e) there is no right answer.

4. What can not be referred to the factors of specialization of individual countries in the world economy:

a) geographic location;
b) climatic conditions;
c) resource capabilities;
d) historical tradition;
e) the correct answer is indicated in a, b, c, d;
f) there is no right answer?

5. The forms of the foreign trade regulation do not include:

a) the customs duties;
b) the quota;
c) the license;
d) the subsidies to producers of the corresponding goods;
e) restrictive monetary policy;
f) there is no right answer.

6–8. How are ad valorem (6), specific (7) and combined (8) customs duties set:

a) as a sum of money from the weight, volume, or unit price;
b) as a percentage of the customs value of goods;

c) in the form of a sum of money from the weight, volume and unit price or as a percentage of its customs value;

d) as a percentage of the value of the added price for the exported or imported goods;

e) there is no right answer.

9. Quantitative restrictions on imports or exports of the goods imported or exported for some time are:

a) the general license;

b) the quota;

c) the one-time license;

d) ad valorem duty;

e) there is no right answer.

10. The negative balance of trade is:

a) the export surplus over import;

b) concentration of primary commodities in exports structure of the raw materials;

c) low export potential of the state;

d) protectionist policies of the state complicating the foreign trade development;

e) there is no right answer.

11. An anti-dumping policy of the state is:

a) activities of the state, which prevent the sale of goods at the prices significantly lower than the market value;

b) activities of the state associated with the subsidy of the respective manufacturers of the export goods;

c) activities of the state directed at the active support of the export sector of the economy and restrictions on import transactions;

d) activities of the state associated with restriction of foreign competition in the national market.

12. Calculations based on current operations, which are included into the balance of payments, do not include:

a) the balance of trade;

b) the balance of services;

c) profits from foreign investment;

d) attracted foreign investment;
e) there is no right answer.

13. Russian oil companies have increased the price for oil sold into the other countries, including Ukraine. Could this cause acceleration of inflation in Ukraine:
a) may, if NBU will not reduce the discount rate;
b) No, if the increase in the price for oil will meet the same or greater reduction of the Russian ruble rate relatively to the currency of Ukraine;
c) may if the fixing of the currency rate will not be carried out;
d) may, if Ukraine has positive (negative) balance of payments;
e) there is no right answer?

14. The exchange rate is not affected by:
a) the balance of payments of the country;
b) the rate of inflation in the country;
c) relation between the supply and demand of foreign currencies;
d) political stability;
e) there is no right answer.

15. An increase in the dollar exchange rate relatively to the yen creates favorable conditions for:
a) the increase of the U.S. exports to Japan;
b) an increase of the Japanese exports to the U.S.;
c) the mutual reduction of the foreign trade;
d) expansion of trade with the third countries.

Exercise 3. Define which statements are true, and which are false.

1. Protection of the number of branches in order to ensure national security is one of the arguments in favor of establishing of the trade barriers.
2. Economic well-being of the country in terms of free international trade is always lower than at introduction of the customs duties on imports.
3. The exchange rate depends on the ratio of the real interest rates in different countries.

4. To regulate foreign trade the state may use introduction of the special quotas.

5. A system of the fixed exchange rates has been presented in the global economy since 1971.

6. The loan granting to other countries is fixed as debits in balance of payments of our state.

7. A country can change the overall level of the internal prices in order to restore the balance of payments equilibrium.

8. If the price of UAH in dollars drops, we can say that the dollar has depreciated against the UAH.

9. The system of the flexible exchange rates can make a destabilizing influence on the domestic economy, and lead to reduction of the foreign trade and investment abroad.

10. If an American company buys the plant in Ukraine, then the operation is displayed in the debit balance of payments of Ukraine.

11. The Bretton Woods system provided the use of gold and the dollar as the international reserves.

12. The result of balance of payments is always zero.

13. The gold standard system provided automatic balancing of exports and imports because at a decrease of the country's gold reserves the price level increases in it.

14. The exchange rate is not influenced by political instability in the country.

15. Presence of the deficits can lead to reduction in the foreign exchange reserves of the country.

16. The balance of payments surplus will increase if the country will increase the rate of inflation.

17. Imports of goods and services leads to an increase in the domestic prices and causes inflation.

18. The purpose of introduction of the import duty is the defence of the national areas and workplaces from foreign competition.

19. A country that has chronically active balance of trade, faces the increasing level of unemployment.

20. The main forms of protectionism include the low tariff rates on imports.

Exercise 4. Solve the tasks.

Task 1. The following foreign economic operations between country A and the other countries took place:

Purchase by residents of country A securities

– Securities of foreign companies – $ 60 billion;

– import of goods and services into the country – 110 billion dollars;

– exports of goods and services around country A

– foreign countries – $ 70 billion;

– Gold imports to country A – $ 70 billion;

– Remittances from other countries into country A – $ 40 billion

Create a balance of payments of country A.

Task 2. The cost of consumer basket of goods in Russia was 21 thousand rubles last year, and in Ukraine – 4 ths.UAH. Determine the purchasing power parity of the ruble to UAH.

Task 3. An export contract for $ 10 000 U.S. was made. The exchange rate is 5.40 UAH / USD. Determine the currency savings or a loss, if UAH exchange rate has decreased to 5.60 UAH / USD.

Task 4. The exchange rate of Mexican pesos is 12.5 pesos / dollar, UAH – 5.4 UAH / USD. Determine the UAH exchange rate relatively to the peso.

Task 5. On the basis of the balance of payments for 2002, listed in the table, calculate:

a) the balance of the capital flows;

b) the balance of trade;

c) the current account registered.

Type of transaction	Billion dollars
exports of goods	40
import of goods	30
export of services	15
imports of services	10
Net income from foreign investments	5
Net cash transfers abroad	10
The inflow of capital from abroad	10
The outflow of capital abroad	40
The changes in the official gold and currency reserves	10

Task 6. The use of labor (in hours) for production of cheese and a jersey in countries A and B is the following:

Country	Use of labor for production	
	cheese	jersey
A	6	2
B	1	4

Does any country have the absolute advantages in production of both goods? Calculate for each country the opportunity costs for production of cheese, which are expressed in the cost of production of jersey. Which country has a comparative advantage in the production of jersey?

Unit 12. SOCIAL GUARANTEES

The participants of economic life should, first of all, rely on their own forces. This is the requirement of economic activity.

Possibilities and achievements of households and enterprises are expressed in the course of economic cooperation. Market interaction could be regarded as a mechanism that in terms of stable economy defines the results and condition of economic subjects objectively and quite exactly. The market presupposes the development of competition which determines the receiver of income, the type of income, the doer of peculiar work, etc.

Does it mean that society should completely agree with such economic condition of household that is predetermined by market? Does it mean that people are left to their economic destiny? No, the government corrects the market «table of ranks» on behalf of the society. As in any society there are millions of people who due to objective reasons have no possibility to compete equally with other people. The state cannot let the incomes of a certain group of people fall below the determined level, cannot let people volunteering and able to work have no chances to find jobs, cannot let retired people or those on the sick leaf or disabled be left without any income. The government gives the members of society certain guarantees in the sphere of incomes, employment, medical care, education, etc.

This unit dwells upon the government social policy, analyzes the guarantees applied in Ukraine.

12.1. SOCIAL GUARANTEES: FUNCTIONS AND WAYS OF IMPLEMENTATION

Functions of social guarantees

Social guarantees – are obligations of the government to the members of society concerning the following problems: incomes formation, conditions of certain goods and services consumption, and workplaces.

The government plays the role of the guarantor, and the households play the role of social guarantees receiver. «Provision» with social guarantees surely differs for different households. Such differentiation is considered to be quite logical as it is aimed at accounting of different possibilities of people. For instance, retired people have fewer possibilities; laborers at the age of 30–40 have more possibilities. Thus, in general not taking into consideration other aspects of the problem, pensioners should be more active consumers of the social benefits, subjects to more intensive social protection, than people in the prime of life. The income of pensioners should usually be provided from the government sources, the income of an active laborer – by the supply of labor to the labor market or by entrepreneurship. Although in the sphere of active laborers' incomes the government may use specific guarantees, for instance, establish the lower limit of wages.

Social guarantees represent the reaction of the state on the economic problems caused by market self-regulation. Solving them the state helps the market and economy in general reproduce and develop.

Major functions of social guarantees are the following:

1. Material support for people unable to provide themselves (pensioners, disabled, etc.) due to objective reasons.

2. Creation of conditions for reproduction of labor resources in the required social-economic level. It includes education, professional training, culture, ecology, etc. The quality of labor is not the problem only for certain people, but for the whole society. That is why the social guarantees should be aimed at definite standards of education, medical care, etc.

3. Support of incomes and implementation of other forms of social protection towards people who are involuntarily out of work – unemployed.

Ways of social guarantees implementation

The ways of the government social guarantees implementation – conditions, mechanisms – depend on many circumstances. The following are among them:

а) peculiarities of social and economic system of the country;

б) the stage of economic cycle, influencing such macroeconomic indicators as volume of national production, inflation rate, and unemployment rate;

в) world perception, party membership of the people representing parliament and government, and local authorities;

г) historical traditions.

These factors are characterized by different extent of mobility. The changes in the actions of some of them (for instance, lifestyle, historical traditions) are usually slow to happen, though «revolutionary turns» are not totally excluded, and the changes in the actions of the others (cyclic development, party membership of the government) – happen more intensively. Principle approaches to social guarantees are considered to be quite stable, unlike treatment of their specific elements, scales, conditions.

Major ways of social guarantees implementation could be represented in such a way:

1. Forced social insurance and transfer payments fulfillment.
2. State financing of social sphere (education, medicine, culture and some other branches).
3. Definition of the poverty line and the minimum level of income.
4. Regulation of employment.

The following paragraphs include detailed description of these ways of social guarantees implementation, analysis of specific social programs.

12.2. SOCIAL PROGRAMS

Pension fund scheme

This scheme is intended for elderly people and aimed at formation of their incomes. The fact that Ukraine accounted for about 14 million pensioners in 2011 exemplifies the scale of the problem. The payment of pension is made by the Pension Fund of Ukraine with the means formed mainly by the compulsory contributions of employers. As far as the employees are concerned, the share of compulsory contributions in their income comprises about 1.5% (contribution percentage depends on the size of the wages).

Of course, people have possibility to think in advance about their retirement age. To do this, in particular, they have to save during the period of their economic activity. However, there are a lot of reasons (lack of foresight, unforeseen circumstances, economic crises, etc.) which prevent people from preparing economically to the elderly age. That is why the state forms compulsorily a special fund.

Specific contributions of employers and employees are not accumulated on their personal accounts. They are impersonal and used for pension payments.

Together with the system of compulsory pension contributions there are also voluntary private contributions to special non-state pension funds. Here people make voluntary payments which are surely personal and add interests. In the mid-90s in Ukraine such private pension funds appeared and then soon disappeared together with accumulated contributions. This discredited the whole system of non-state pension insurance to a certain extent. In general the pension system in Ukraine of the 90-s was criticized a lot concerning the fact of leveling the pensions, its being unable to maintain decent income for pensioners in the long-lasting economic crisis.

This caused the necessity of the pension system reformation. In the end three level system of pension support should be formed. Firstly, solidary system which is in operation now and which guarantees minimum level of pensions for all retired people will be modernized. Secondly, system of compulsory state insurance with introduction of personal pension accounts will be created. In this case pension will depend on the sum of accumulated payments and the period of contributions. Thirdly, system of optional non-state insurance will be formed.

Social security program in case of disease

This program allows people to get certain incomes (up to 100% compensation of middle earnings) in case of disease. Payments to this fund in Ukraine are made only by employers. Employees do not finance this program from their personal incomes. Such order leads to a lack of interest on part of employees to maintain their physical abilities to live a healthy lifestyle. Those on the sick leaf more often use the given social fund more often too. Of course, people get ill due to different reasons, but the system should be organized in the way to create an economic interest of taking care of their health and to make being on sick leaf economically unprofitable. If someone is alcohol and smoking addicted, does not go in for sport and as the result is often on sick leaf, then the question arises – why should such people be paid by the taxes of the employees living a healthy life?

Society should guarantee an access to medical care for any person, but at the same time the system of social security should not be impersonal and irresponsible in economic sense for the health of employee, making it a problem of other payers.

In many countries this problem is solved by means of an insurance medicine. On the one hand, the amount of insurance payments depends on the state of health of the payer, his probability to get ill. This makes both an employer and an employee more interested in taking care of their health, in taking preventive measures, all this leads to sanitation of the whole society. On the other hand, by paying the insurance, an employee creates stable and reliable source of financing medical services in case of disease.

Unfortunately, insurance medicine in Ukraine is not yet popular. However, taking international practice into account one can say for sure that introduction of insurance medicine is inevitable.

Social support of disabled

Surely, people, suffering from different physical defects, need monetary and other type of support on the part of the state. Disabled people have no possibility to compete equally with other economic subjects. They are entitled to the state financial benefits. The state supports the disabled by means of taking certain measures in the sphere of employment: reservation of workplaces for disabled; establishment of individual tax privileges as well as privileges for enterprises using labor of disabled in a great extent; provision with the possibility to buy cheaper vehicles, etc.

Attitude of the society towards the disabled and elderly people is considered to be one of the indicators of its humanity.

Other types of social security

The system of social measures taken by the government in Ukraine includes some other types of social aid. They are: financial and other types of support of elderly low-income people, privileges to pensioners by means of paying some goods and services, (state transportation, medicines, municipal services, etc.). Financial aid is given to the families where mothers take care of children underage. Certain financial compensation is given to people living in the territories polluted by Chernobyl disaster.

Considerable social program is represented by the state measures in the sphere of employment. This includes unemployment benefit, payment for education and retraining, etc. These measures of social support will be studied in detail in paragraph 12.3.

Apart from state support of certain layers there are also non-state, private charity contributions received from charity organizations or from individuals and enterprises. Private charity activity is usually encouraged by the state by means of tax privileges. Private contributions are, of course, important but should not be overestimated. Considerable burden in the sphere of social security is still taken by the state because it has more possibilities (financial, organizational, etc.) in solving this problem. Charity contributions could be used to add the state support but not to replace it.

Social programs and problem of incentives

It is difficult to find an economist who would oppose social programs in general. Together with this the state social policy is criticized a lot, is the matter of heated debates, where the representatives of different political parties, trade unions, and government participate. In Ukraine the problem of social protection is the burning point in different discussions. On the one hand, this is connected with the considerable decrease in the level of real income of millions of people, caused by a long-standing economic crisis, on the other hand, with the necessity to change essentially the social policy of the state in terms of Ukrainian economy transformation.

Destimulating effects of the social policy are considered to be its major problem. The matter is that the social support measures lead in general to a certain loss of efficiency of economic activity of society. What does it result in?

Firstly, the system of social support influences the supply of labor in economy. Some examples have already been given proving that in some cases the employees are interested in being on sick leaf, which in turn, leads to a decrease of labor supply. Terms and conditions of retirement established by the state also influence the quantity of supply of labor. In many developed countries the economists touch upon the problem that a lot of people get used to living on social benefits, loose desire and will to choose economically more decent lifestyle.

Secondly, if a small differentiation is applied when paying pensions or different benefits (characteristic problem for Ukraine of the 90-s) then it should be regarded as anti-incentive for labor activity, advancement of qualification, the extent of intensiveness of the labor use. People understand that their future (in the part determined by the system of social security) does not really depend on the quality and quantity of their labor, and this has a negative effect on labor motivation.

Thirdly, some economists consider that the system of social support objectively reduces the volume of aggregate savings of society. In case this system did not exist, then each member of society should take care of their elderly age or get unemployment insurance by saving money. Obviously, considerable part of these savings could be accumulated by financial and credit institutions, enterprises to implement investment programs. This would lead to the increase in productions possibilities of society. In existing system of social support the accumulated money is one of the elements of an aggregate consumer spending.

Thus, given arguments point out to the fact that social support programs in general have certain destimulating effect, they decrease labor incentives to some extent. But this does not place in question the necessity of the programs themselves. But together with this the society has to be aware of the costs of implementing the programs aimed at social support of certain layers and should intend to solve the problems of social support with the lowest economic efficiency cost. Social programs should help people solve some of their economic problems and should not make people lose interest in finding efficient solution of their economic problems.

12.3. INEQUALITY OF INCOMES AND THEIR MINIMUM STANDARDS

The reasons of inequality of incomes

It seems quite obvious that people cannot receive the same incomes. Difference in incomes is the fact of our life. Such inequality existed, exists and one should not expect that it will disappear in the foreseeable future. What are the reasons of inequality of incomes?

1. Difference in individual abilities. People differ according to their intellectual, physical, creative and other abilities. These peculiarities presuppose different aptitude to efficient fulfillment of certain activities.

2. Differences in qualification and experiences. People acquire different level of education including the professional one and obtain different experiences in the fulfillment of certain tasks. As a rule a higher educational qualification is required for more complicated labor. For instance, no one can deny the difference in qualification requirements to engineering designer and the sales assistant, school teacher and a slinger at the industrial enterprise. More complicated labor limits the number of applicants able to fulfill such type of work. As a result those able to do more complicated work, as a rule, receive higher income in a stable society.

3. Differences in the will and ability to work under specific conditions. In 2002 in Ukraine among the industries with the highest wages one could name, in particular, mining industry and nuclear power generation industry. The work of miners is connected with the highest risks, with the high level of physical intensiveness of labor. The work at the nuclear energy stations requires the high level of responsibility as really complicated technological systems are in use there and any violation may lead to serious damages. Speaking about entrepreneurship it also requires aptitude and ability to take risks and work a lot.

4. Difference in proprietorship. In the late of the 20th century in Ukraine more people got right to receive an income from their capital and funds. Entrepreneurs were among them. In this period the stock market was founded, a circle of shareholders was formed. The distribution of capital, shares and other securities is one of the factors causing the differentiation of incomes. Besides our life is also characterized with such important factors as good luck, acquaintances, family ties, ability to feel the change in the situation and to choose the sphere of economic activity application with the highest incomes.

Inequality and redistribution of incomes

The level of inequality of incomes characteristic for any society is usually illustrated by Lorenz curve (fig. 12.1). Bisector shows the situation of absolute equality in incomes distribution, for instance, when 25% of families receive 25% of the sum of personal incomes in the society. It never happens in the real life, as we have already stated. Factual distribution of incomes is always characterized by a certain level of inequality which is demonstrated by some curve below the bisector. The higher the real inequality of incomes is, the deeper is the slope of this curve. The closer Lorenz curve is to the bisector, the more equal the distribution of incomes is.

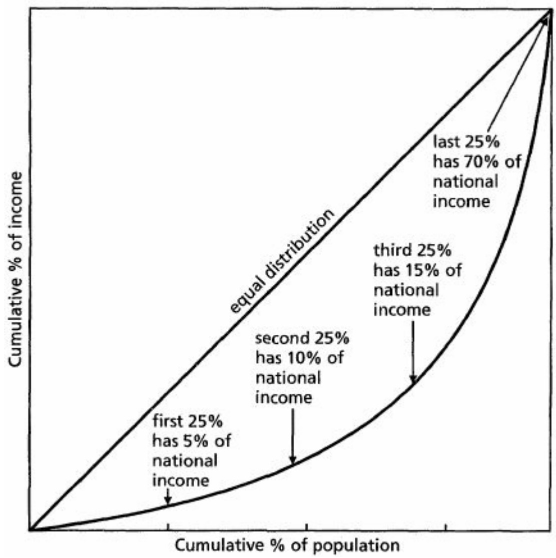


Fig. 12.1. Lorenz curve (hypothetical data)

Absolute equality in the incomes is to be treated as unreal and harmful phenomenon for the economy. But should there be some acceptable limits of inequality and how deep the slope of the curve should be?

Economics has not answered this question yet. But as we have already learnt in chapter 9 (pay attention to fig. 9.2), any state fulfils the redistribution of incomes aiming at decreasing inequality through taxation and transfer payments. Most social programs are grounded on the principle of redistribution. Thus, the state in fact acknowledges the necessity of control on the level of inequality in incomes.**Arguments for the redistribution of incomes**, aimed at decreasing inequality, are the following:

1. Low primary incomes or even their absence are connected with the reasons beyond the control of certain social layers. The examples of these are low competitive possibilities of disabled in the labor market, the state of people who lost the jobs in result of enterprise bankruptcy, etc. It is obvious that society should demonstrate certain humanity to such people, and support them socially.

2. Low incomes of certain people may have negative impact on the quality of labor force reproduction, its educational and qualification levels. At the same time one can observe the fast technical changes in the economy causing new requirements to the quality of labor.

3. Uncontrolled differentiation of incomes can become one of the factors causing instability in the society. Rich and poor can peacefully coexist only within certain limits.

Indicators of low incomes

One of the major aspects of inequality of incomes is to determine the indicators of low income or poverty. Who can be defined as poor and which criteria should be used? What is the lowest limit of low income? What measures should the state take to regulate the incomes of the poorest members of the society? These and other problems are rather difficult and in many cases have still remained unanswered not only in Ukraine where they are discussed a lot but in other countries as well.

First of all it should be noted that poverty is a relative notion. It changes both through time and space. For instance, a family without TV, fridge, etc. we will call poor. But at the beginning of the preceding century even royal families did not have these possessions. The problem could be treated in the geographical aspect a well. In the USA according to official statistics in the mid 90-s about 15% of the population (over 30 mln. people) were regarded as poor. But many of those poor Americans might seem even rich if compared to the citizens of some countries where people starved, died from poor living conditions, and lack of medical care.

The ground to refer the person to the group with low income or poor is the level of his income. The system of low income indicators, taking into consideration the world experience and the latest tendencies in Ukraine, can be demonstrated by means of three elements reflecting different levels of income (fig. 12.2). They include:

1. The level of income reflecting the upper limit of low income. This is the level of income which prevents from regarding its receivers as the middle class, putting aside the higher income class. Such income indicator can be called in a number of ways: minimum consumer budget, poverty line, poverty boundary, etc. In the world practice its exact meaning is usually defined in percentage from middle income in this society. So, according to the methodology of International Labor organization the population with the income of 2/3 and lower of the average income in the country is regarded as poor. European Union recommends to define the upper poverty line at the level of 60% of average income. One should take into account that different social demographic groups of the population have different poverty lines and that is connected with peculiarities of consumption.

2. The level of income showing the lowest limit of poverty line. This is the minimum level of income, allowing its receiver to satisfy elementary, first of all, nutrition needs in the minimum acceptable level.

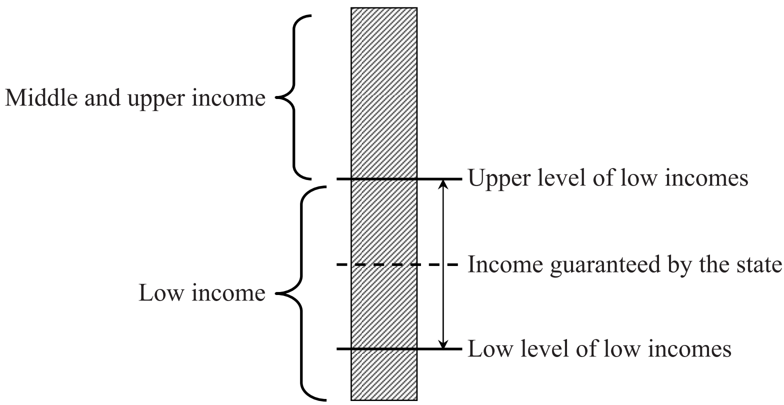


Fig. 12.2. Low income indicators

This is the level of income which should be provided for every member of society by a modern civilized state under any conditions. This indicator is often called the social-physiological minimum of subsistence. In the countries of European Union the lowest limit of poverty line is recommended to be set at the level of 40% of the country's average income.

3. The level of income guaranteed by the state. This guaranteed minimum of subsistence cannot exceed the upper limit of poverty line but at the same time should not be below its lowest limit that is below physiological minimum (fig. 12.2). Specific forms of guarantees are officially determined minimum levels of pensions, wages, application of different financial payments or other types of aid.

The location of a guaranteed minimum of the upper and lower levels of poverty line depends on certain factors: the economic condition of the country, peculiarities of the social policy of the state, etc. Longstanding crisis in economy of Ukraine made it really difficult for the state to maintain guaranteed income at the level of physiological minimum not to mention the driving of guaranteed income closer to minimum consumer budget for different social-demographic groups.

12.4. GOVERNMENT EMPLOYMENT POLICY

In unit 4 a range of problems connected with employment was studied. In particular, such problem as unemployment together with its types, causes and effects was investigated. It is obvious that unemployed have certain difficulties in life. This problem also creates certain losses for the society. Now it is time to study the peculiarities of state regulation in the sphere of employment, social support of unemployed.

Major principles of employment policy

Firstly, government in contemporary Ukraine aims at policy of **efficient employment**. It should be emphasized as for a long period of time in our country – till the early 90-s – the state declared the policy of **guaranteed employment**. This was possible in terms of centrally planned economy, but under conditions of mixed economy such intention cannot be regarded as the one corresponding to the real possibilities of the state. Aspiration to the full employment is necessary, but without the work places guaranteed for everybody for any period of time.

Secondly, the government sticks to the principle dominating personal responsibility of an individual for the development of their abilities, the level of their competitiveness in the labor market.

Thirdly, guarantees in equal access to general and, to large extent, special education. Educational system has changed as a lot of private educational institutions have come into existence recently; state education on a paying basis has become more wide-spread. Together with these, major part of educational services is not paid straight by its consumers.

Fourthly, the government supports unemployed in different ways as well as those unable to equally compete in the labor market due to different reasons.

Social guarantees

We have already mentioned that unemployed is someone able to work. As it has already been mentioned, such an individual is defined as unemployed, who is able to work, is willing to work and is in search for a job. Unemployment is characterized by considerable costs not only for unemployed but for a society in general. **What kind of aid is given to unemployed** by the government of Ukraine?

1. Officially registered as unemployed are entitled to *unemployment benefit*. According to a legislation in a fact minimum level of unemployment benefit in Ukraine comprises 75% of officially determined level of wages, and maximum one (redundancy payment) – 75% of average salary the employee had in the period preceding the unemployment. The period of unemployment benefit payment accepted in Ukraine comprises: up to 6 months – for those seeking job for the first time, up to 18 months – for those about retired age, up to 12 months – for the rest.

2. Possibility to get professional *training or retraining* with the help of state financing, scholarship in the period of training included.

3. Possibility to take part in the paid *community services* specially organized by the government.

4. The right for *early retirement* (1,5 years earlier than stated by law) for the people about retirement age, fired because of the reduction of stuff, reorganization, etc.

Beside the government provides additional guarantees in the sphere of employment to those with status of insufficient competitiveness. This group includes: women, with children under age; the youth under 21; people about retirement age; those unemployed for longer than one year and some other categories. The government secures a certain percentage of working places at the enterprises for them.

Benefits and other forms of social support to a certain extent ease the burden of unemployment for people in this situation. This depends a lot on the conditions of their payment. These aid characteristics are determined by economic possibilities of the government, its social priorities. The scales of aid should be enough not to let people suffer from unbearable material conditions but to make them want to seek job and increase their working qualifications. The workers in any social protection system must have strong personal responsibility for their position in the labor market; they should not take their working places for granted. Competition requires everyday proves of workers efficiency for the enterprise.

RESUME

1. Social guarantees – are obligations of the state to the society members to form their incomes, secure access to definite goods and services, working places. The major functions of social guarantees include: a) financial support of people with no ability to do it themselves; b) creation of conditions for labor reproduction on a certain level; c) maintenance of incomes and implementation of other forms of social protection for unemployed.

2. Pension fund scheme is aimed at people of retirement age and is one of the major social programs. Its financial source is created by compulsory contributions of employers and employees, used to pay pensions to those with the status of pensioners.

3. Social security program in case of disease is formed by means of compulsory contributions of the employers. Absence of personal contributions and special personal accounts which is characteristic for Ukraine decreases the employees' intension to constantly maintain their physical abilities, live a healthy lifestyle. The program of disabled support provides with financial payments, working places reservation, introduction of tax privileges, discounts on certain goods, services and some activities.

4. Social programs, being necessary, have at the same time certain destimulating impact. They may reduce labor supply, decrease interest

in efficient use of labor, in an improvement of qualification, and cause the reduction of aggregate savings of society.

5. Inequality in incomes is an objective phenomenon. It is caused by differences in individual abilities, qualifications and experiences, aptitude and abilities to work under peculiar conditions and other reasons. Factual inequality of incomes may be illustrated with the help of Lorenz curve. The state redistributes incomes, aiming at reducing inequality of incomes.

6. The system of indicators of low income usually comprises the levels of incomes, reflecting: a) upper limit of low income; b) lower limit of low income; c) guaranteed security level. The latter is achieved by means of minimum levels of pensions and wages, special benefits implementation and cannot break the upper level of low income, but at the same time cannot fall below the lower limit of low income

7. Implementing the policy in the sphere of employment the government follows several principles: a) the policy of not guaranteed but efficient employment; b) focus on the dominating personal responsibility of employees for their position on the labor market; c) the guarantees for equal access to general and to a large extent special education; d) support of those who cannot equally compete with others in the labor market due to objective reasons.

8. The government provides unemployed with the following types of aid: a) unemployment benefits; b) financing of professional training and retraining; c) organization of paid community services; d) the right for earlier retirement. The government additionally supports those with the status of insufficient competitiveness in the labor market.

Main terms and notions

Social guarantees
Social programs
Pension fund scheme
Social security program in case of disease
Program of social support of disabled
Destimulating effect of social programs
The causes of incomes inequality
Lorenz curve
Redistribution of incomes
Indicators of low income

Major principles of government employment policy
Types of social aid for unemployed.

Exercises

Exercise 1. For each statement listed below choose the right term or concept.

1. A decrease of the effectiveness of the society's economic activity due to introduction of the social programs.
2. State's obligation to the members of the society regarding formation of their income, conditions for obtaining of certain goods and services, and jobs.
3. The minimum level of income, enabling the person who receives it to meet the basic needs at the minimum level.
4. The system of the state measures regarding implementation of the social guarantees.
5. Graphic model which is used to determine the extent of income inequality in society.
6. The level of income which has not given the opportunity to include those receiving it to the middle-class yet.

Terms and concepts:

a) the social guarantees;
b) the social programs;
c) the Lorenz curve;
d) the upper limit of poverty;
e) the lower limit of poverty;
f) the disincentive effect of the social programs.

Exercise 2. Find the only one right answer.

1. The social guarantees are:

a) the fundamental principles governing relations between members of society and providing its stability;

b) economic conditions of the business entities, which are provided by the State;

c) regulatory obligations of the state to certain categories of population on their income ensure, conditions for obtaining certain goods, services and jobs;

d) policy of the state in education, medicine, shelter, which provides appropriate loans to the public;

e) activity of the state related to ensuring the stability of the national economy.

2. The recipients of the social guarantees in income are

a) all members of society;

b) pensioners, disabled and all unemployed in the economy;

c) all students, housewives, pensioners and the disabled;

d) retirees, some families with children, the unemployed;

e) there is no right answer.

3. Transfer payments are:

a) the state expenditures for the purchase of certain goods and services;

b) payment of the state to certain categories of people according to their social status;

c) financial assistance of the enterprises to their workers;

d) the state expenditures for services;

e) money received by the state enterprises.

4. Is there the tight relationship between the value of individual payments made for social insurance and other payments from the different social funds in Ukraine:

a) does not exist;

b) there is in the most cases;

c) there is relatively to pensions only;

d) there is relatively to the unemployment benefit only;

e) there is for the temporary disability benefits only?

5. What is logically odd:

a) the nominal income of the households, and b) the prices for consumer goods, c) the taxes which are paid by individuals, and d) the taxes which are paid by the legal entities, and e) the prices for the consumer services?

6. Factors simultaneously affecting the nominal and real incomes are:

a) the consumer prices;

b) wages;
c) dividends received by individuals;
d) the deposit interests received by individuals;
e) the taxes which are paid by individuals;
f) the correct answers are in a, b, c, d, e;
g) the correct answers are indicated in b, d.

7–9. To the concepts contained in column A, select the relevant characteristics in column B:

A	B
7. The minimum subsistence basket 8. Socio-physiological subsistence minimum 9. The guaranteed minimum of the wage	a) the minimum wage approved in the country; b) a specific list of consumer goods and services; c) the bottom line of the wage and various benefits recommended by the government for the private and public enterprises; d) a certain level of income which the state must provide for every unemployed person; e) the amount of consumption that provides life and labor potential of the person at the desired social and economic level for the given society.

10. Inflation will redistribute income in favor of:
a) those entrepreneurs, whose product prices are increasing faster than the prices for the used resources;
b) those employed in the public sector;
c) the civil servants;
d) those employed in services;
e) the correct answer is in a.

11. Unexpected inflation can benefit:
a) pensioners, students, housewives;
b) the debtors, creditors, government employees;
c) the debtors, investors, shareholders;
d) persons with the fixed incomes, food industry workers, some businessmen;
e) there is no right answer.

12. Who made the required contributions to the Employment Fund of Ukraine:
a) enterprises regardless their form of ownership;

b) non-state enterprises;
c) enterprises and workers;
d) enterprises and trade union committees;
e) enterprises, workers and trade union committees?

13. The directions of the state activity in the employment area do not include:
a) creation of infrastructure of the labor market;
b) regulation of migration processes;
c) social insurance;
d) determination of the limit of dismissals for businesses;
e) there is no right answer.

14. Persons with the status of a lack of competitiveness does not include:
a) Persons with disabilities;
b) engaged in budget organizations;
c) the youth of the appropriate age;
d) women who have young children;
e) persons of the retirement age.

15. Which of the listed below is not directly related to unemployment:
a) organization of the paid public works;
b) scholarships for the period of retraining;
c) provision of the additional safeguards for people with the status of a lack of competitiveness;
d) social insurance;
e) there is no right answer?

Exercise 3. Define which statements are true, and which are false.
1. Market self-regulation can provide a decent life to all members of society.
2. Pension Fund of Ukraine is formed basically from assessed employer contributions.
3. Social benefits to consumers are equally serve of for all members of society.
4. A program of social security in case of temporary disability is funded by personal incomes of workers.

5. Social Policy of Ukraine reduces the efficiency of the society's economic activity in the some way.

6. There is no objective reason for income inequality in society.

7. The closer the Lorenz curve is to the bisector, the less uniform the distribution of income is.

8. Absolute equality in incomes is harmful to the economy.

9. Differentiation of incomes should not be controlled by the state.

10. The specific value of the upper limit of the poverty is usually defined as a percentage of average income, which is characteristic for the given society.

11. Government must ensure the income level, which displays the upper limit of poverty, to every member of society under any circumstances.

12. An increase in unemployment benefits promotes an increase of its level.

Unit 13. THEORIES OF ECONOMIC GROWTH

Paraphrasing famous statement that «champion title is easier to win than to keep», one can say for sure: bringing an economy to equilibrium – is one problem, and holding long-term equilibrium – is another more complicated problem.

Earlier, in unit 8, we studied the mechanism of holding equilibrium in various markets in the short-run. Under such circumstances production potential remains unchanged. In this very chapter we are going to analyze the long-term models, to study economic regularities in terms of changed potential. In this chapter such economic notions as growth indictors, its factors as well as basic theories of economic growth are the matter of discussion.

13.1. INDICATORS AND FACTORS OF ECONOMIC GROWTH

Indicators of economic growth

Economic growth is defined by increase of volume of production. In chapter 3 we ensured, that volumes of production, depending on the goals of analysis, could be determined by means of various macroeconomic indicators. However, the fundamentals of the system of national production indicators are represented by gross domestic product (GDP). That is why measurements of economic growth are made by means of GDP. The following indicators are the most important among all indicators of economic growth:

a) Real GDP growth index. Is calculated by dividing real GDP of the given period by the real GDP of the basic period:

$$I_{GDP} = (GDP)_1 \,/\, (GDP)_0;$$

b) GDP growth rate. If GDP growth index shows how many times GDP changes, then the GDP growth rate measures how fast the economy is growing. Technically, it is the percentage increase or decrease of GDP compared with the previous period. It is calculated in such a way:

$$I_{\Delta GDP} = [(GDP)_1 - (GDP_0)] \cdot 100 / (GDP)_0;$$

c) GDP per capita change. The value of this indicator is influenced not only by physical volume of GDP, but also by the number of population:

$$I_{GDP\ per\ capita} = (GDP / population)_1 : (GDP / population)_0.$$

Each of the above-mentioned indicators could be used in the analysis of economic growth. Reasonability of certain indicator depends on the goals of analysis. For instance, if one wants to determine changes in economic potential of Ukraine the best choice will be to use the first two indicators. If it's necessary to evaluate dynamics of standards of living in Ukraine it's preferable to use calculations of GDP per capita change.

Economic growth rate in many ways determines dynamics of the rest of economic indicators. One should keep in mind, that changes in volumes of production per capita creates material conditions for better satisfaction of human needs. Getting additional GDP makes it possible to diminish acuity of contradictions between unlimited needs and limited resources. Only dynamically developing economy gives opportunities for the country to take an appropriate place in the world society. It is high economic growth rate that in after war period made Japan and Germany (FRG) leading countries of the world. Thanks to the rapid growth and dynamic development of the countries of South Eastern Asia (Taiwan, Singapore, South Korea etc.) the world has seen new industrial countries. These countries are known as «East-Asian tigers» for their staggering achievements in economic development. Meanwhile due to economic crises of the 90-s Ukraine was moved back in the world economic ranking. Thus, the problem of economic growth is the burning question of the modern macroeconomics.

Economic growth factors

Real economic growth depends on the change in production possibilities of society and ways of their implementation. Factors of production possibilities are usually determined as **«supply factors»**. They are:

– quantity and quality of natural resources;
– quantity and quality of labor resources;

– basic capital available;

– technology.

In general these factors could be shown in the shape of production possibility curves (fig. 13.1). They reflect maximal quantity of variants of different goods, which could be produced in terms of given quantity and quality of natural resources, labor resources and basic capital on the ground of certain technology.

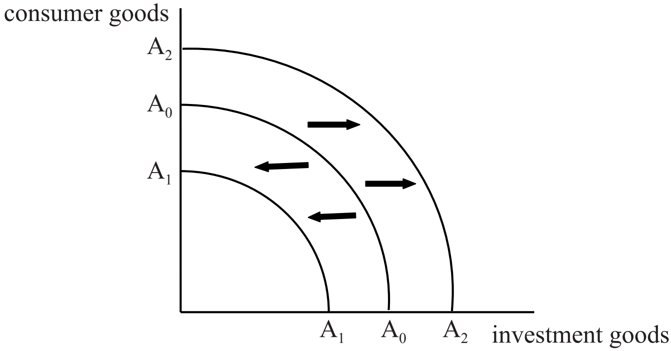


Fig. 13.1. Production possibility curve

The changes in supply factors can shift the basic production possibility curve (A_0A_0) in the graph both to the left (A_1A_1), and to the right (A_2A_2). For instance, depletion of natural gas stores in the North East of Ukraine, or deterioration of mining conditions of mineral coal production in Donbas shifts the curve A_0A_0 to the left A_1A_1. Together with this, upgrading of oil-refining enterprises, introduction of modern equipment and technologies make it possible to increase production possibilities of Ukraine and shift the curve to the right A_2A_2.

However, the actual volumes of production do not always correspond to maximum possible ones. The extent of implementation of potential is determined by **factors of demand and distribution**. In order to achieve the certain rate of economic growth in real life it is necessary to increase aggregate spending, in other words the aggregate demand. Otherwise new potential possibilities of economy will not be asked for. Discovery of new deposits of oil or an increase of the quantity of able to work can fail in achieving GDP growth, if the level of consumption and investment remains unchanged. In this way the point corresponding to the real GDP will be not on the production possibilities curve but inside the area shaped by this curve. This means, that society is not using its production possibilities.

The same conclusion could be done having analyzed the effect of the distribution factors. The production possibilities curve is drawn in terms of ideal distribution of resources between branches and enterprises, providing their optimal use. However in real life it's impossible to achieve such level of distribution. As frictional unemployment, connected with the search for a better job, could be taken as an example. Thus, in the country one almost always has the possibility to observe insufficient usage of such resource as labor.

While classifying factors of economic growth some other criteria could be taken into account. Thus, on the one hand, GDP growth is determined by an increase of the quantity of the used resources, on the other hand – by an efficiency of their usage. Factors connected with an increase of the quantity of the used resources are called extensive factors, and factors causing growth by means of an increase of resources efficiency are called intensive factors. Scheme in figure 13.2 shows some extensive and intensive factors of economic growth. Certainly, given classification is a little bit conventional. For instance, technical progress (intensive factor), as a rule, is accompanied by the growth of investment (extensive factor). That is why economic growth always takes place together with combination of both factors – extensive and intensive. Characterizing this correlation, usually **mainly extensive** or **mainly intensive economic growth** is said to be.

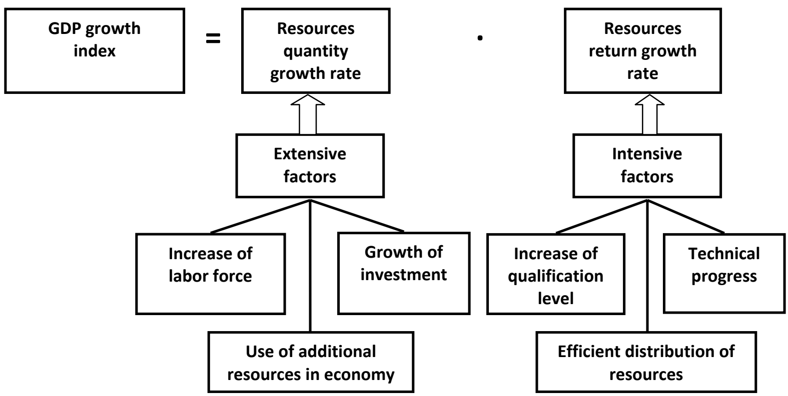


Рис. 13.2. Extensive and intensive factors of economic growth

Possible negative effects of economic growth

The role and effects of the economic growth for the mankind could be evaluated in different ways. No matter how strange it may seem, but there are considerable arguments against economic growth. The arguments are based on the statement that, economic growth causes destruction of biosphere and human environment. Because production process constantly involves new resources. And resources are limited; some of them are almost depleted. That is why a group of scientists, who in 60–70-s founded «The Club of Rome», came out against economic growth and required the achievement of zero rates of economic growth.

In addition, people not only use natural resources, but also return them to the nature in the form of waste products, which, in their turn, cause environmental pollution. The followers of the «Club of Rome» prove that, the problem of high economic growth rates is not actual, as obtained GDP growth is meant to satisfy less important needs. That is why, probably, it would be reasonable for a mankind to restrict its consumption wants not to appear once in an empty and spoiled nature.

Reports published by the Club of Rome attracted much attention. The problems of nature saving production became the matter of active concern. Economic development of last years showed that there's not only a threat for ecology on the part of production, but the hope to solve this problem as well. Economies of scale give possibility to a society to use more resources for nature saving programs implementation. Technical progress in terms of economic growth allows to turn the production process to use waste less technologies. That is why the majority of scientists nowadays is worried not about the achievement of zero rates of economic growth but about the solution of the problem of long standing and sustainable economic growth.

13.2. KEYNESIAN MODELS OF ECONOMIC GROWTH

Domar model

Having studied indicators and factors of economic growth, we can start investigating approaches of different economic schools to interpretation of the economy transition mechanism. The model elaborated by an American scientist Evsey David Domar is the starting point for the modern theory of economic growth. Keynesian short-term model of general equilibrium that we have already studied in unit 8 is completed with new elements by Domar. These elements are: studying the problem of dynamic equilibrium, i.e. supporting full employment in the long-run together with an increase of production capacities.

Evidently, if economic system in equilibrium is taken as a starting point, then to maintain this equilibrium in term of production possibilities growth one should increase the aggregate demand. This statement can be represented in the form of such formalized expression:

$$P_{t+1} - P_t = Y_{t+1} - Y_t,$$

where P – production possibilities of society;
Y – aggregate income, determining the aggregate demand.

Which conditions should be kept to follow this equation? Both production possibilities growth and aggregate income increase can be regarded as a function of investment I_t, increasing capital they lead to a corresponding growth of production possibilities. It is possible to calculate production potential growth rate provided by a pure investment unit (α):

$$\alpha = (P_{t+1} - P_t) / I_t.$$

However, we already know that distribution factor doesn't make it possible to use fully potential possibilities created by supply factors. That is why the actual unit investment return will be lower than a coefficient. Let us express this new coefficient (Domar called it potential social average investment productivity) by β. Now the left part of our initial equation has the following form:

$$P_{t+1} - P_t = I_t \beta.$$

Proceeding from Keynesian multiplier theory one can clearly see that the right part of the equation can be expressed by investment and corresponding coefficients:

$$\Delta Y = M \, \Delta I = \Delta I / s,$$

where M – multiplier;
s – marginal propensity to save.

Changing last expression we can get the following:

$$P_{t+1} - P_t = (I_{t+1} - I_t) / s.$$

Having compared the changed parts of an initial equation, the condition for dynamic equilibrium can be represented in such a way:

$$I_t\, \beta = (I_{t+1} - I_t) / s; \qquad \beta s = (I_{t+1} - I_t) / I_t.$$

Assume that β and *s* are constant, then the production capacities growth rate and aggregate income growth rate will be equal to an investment growth rate 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, if we proceed from full employment, then its support will be provided only when the production possibilities growth rate, aggregate demand and investment growth rate will be equal to a product of potential social average investment productivity and marginal propensity to save. For instance, with $\beta = 0{,}5$, and $s = 0{,}1$ the economic system growth rate, providing equilibrium support, should be 5% per year ($0{,}5 \cdot 0{,}1 = 0{,}05$).

Harrod model

English economist Sir Henry Roy Forbes Harrod was one of the first economists who was interested in elaboration of the general theory of economic growth. In 1939 he published an article «An Essay on Dynamic Theory».

Domar model does not explain the way the investment growth rate is set in the level, providing equilibrium. Harrod model to a certain extent offers solution of this problem. First of all, Harrod analyzes the mechanism of aggregate supply decision made by producers. While choosing the certain changes in production possibilities producers take into consideration the events of the previous periods. If previous forecasts of producer were not proved and with his production possibilities growth rate the demand and supply equilibrium is hold, he (producer) behaves in the same way; otherwise the behavior of producer should be changed and corrected. Initial equation of Harrod model is represented in the following way:

$$(P_t - P_{t-1}) / P_{t-1} = b\, [(P_{t-1} - P_{t-2}) / P_{t-2}],$$

where P – supply;

b – coefficient, the size of which depends on the ratio of supply and demand in the previous period:

$b = 1$, if demand was equal to supply in the period $(t-1)$;
$b > 1$, if demand in period $(t-1)$ was greater than supply;
$b < 1$, if supply in period $(t-1)$ was greater than demand.

The volume of investment is determined by producers in terms of the desired production growth rate and specific costs of capital per unit of production (C_r):

$$I_t = C_r (P_t - P_{t-1}).$$

Using multiplier one can determine the aggregate demand for a certain period of time t:

$$Y_t = I_t / s = C_r (P_t - P_{t-1}) / s.$$

Then demand and supply equilibrium is achieved when the following equation is held:

$$C_r (P_t - P_{t-1}) / s = b [(P_{t-1} - P_{t-2}) / P_{t-2} + 1] P_{t-1}.$$

If in previous period economy was in equilibrium, then entrepreneurs preserve former growth ($b = 1$), and changing the last equation one can get 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 $s / (C_r - s)$ is called by Harrod **warranted growth rate**, because this is the rate of expectations of producers that maintains economic system equilibrium. All other variants of growth rate lead to a destruction of equilibrium. Furthermore, Harrod comes to a conclusion that once deviated from equilibrium economic system is going to reproduce this deviation again in greater scales. That is why equilibrium should be regarded as volatile in dynamic model.

Harrod also introduces the notion of natural growth rate. It is determined as a maximum rate which is possible due to the growth of labor force and technical progress.

An important component of the Harrod model is the analysis of correlation between warranted, natural and real growth rate. If the warranted growth rate exceeds natural one, meaning that possibilities of achieving dynamic equilibrium are restricted by the growth of labor force and technical progress, then in such conditions economic system can be characterized by a constant lag between supply and demand, low growth rate and frequent depressions. If the warranted growth rate is lower than natural one, then favorable conditions for economic development exist and the equilibrium of aggregate demand and supply is held. But inefficient use of production possibilities will cause the boom of economic activity leading to overproduction. Equilibrium between aggregate demand and supply will be achieved on a certain level of forced unemployment.

Ideal development of the economic system can be observed when the real growth rate corresponds to a warranted growth rate, and the latter corresponds to a natural growth rate. In this case equilibrium of aggregate demand and supply is maintained in terms of full use of additional labor force. However representatives of Keynesian school think that such coincidence is unlikely to happen. The destruction of equilibrium appears to be more typical.

13.3. NEOCLASSICAL MODELS OF ECONOMIC GROWTH

Production function

Introduced by Harrod distinction between the warranted and natural growth rate was criticized by the part of economists supporting classical views. Their main argument in the criticism of Keynesian models – is possibility of substitution of production factors that in the long-run allows to provide economic growth together with coincidence of the warranted and natural growth rate

The basis of the modern neoclassical models of economic growth is the production function showing the dependence of production under certain stage of technological development on the quantity of capital (K) and labor (L):

$$Y = f(K, L).$$

In neoclassical theory of production function one assumes that the same volume of production can be achieved with different combinations of capital and labor. Such production function is called function with variable coefficients. It is described graphically in figure 13.3.

The curves Y_1, Y_2, Y_3, known as **isoquants**, show the volume of aggregate production in terms of different combinations of capital and labor.

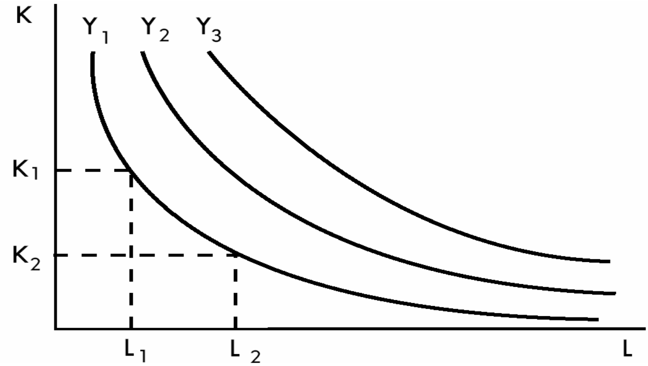


Fig. 13.3. Isoquants in production function with variables

Thus, aggregate income Y_1 is achieved at K_1 and L_1, as well as at K_2 and L_2. The increase of production volume connected with the use of additional labor ΔL is equalized by their reduction through capital decrease on ΔK. In other words, according to their effect ΔL and ΔK are substituted.

The correlation ΔK / ΔL is called the **marginal rate of substitution of factors of production**. Suppose that the labor and capital markets function in terms of perfect competition (and this is the starting point for all the classical models), then the surplus of one factor of production will cause the decrease of price of this factor in comparison with marginal efficiency. It will lead to a new combination of factors of production but in the way to warrant the full use of both labor and capital.

Solow Model

American economist Robert Merton Solow in 1956 offered simple model of economic growth which caused different investigations in the sphere of the so called neoclassical models, that is, models using hypothesis of perfect competition and assuming the possibility of capital and labor to be constantly substituted.

The full characteristics of Solow model can be given 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. $\Delta I = \Delta K$ – pure investment – nothing else but the capital growth rate.

4. $I = S$ – there is a mechanism equalizing investment and savings.

5. $L = L_0 e^t$ – there is a constant growth of labor force.

6. $\Delta Y / \Delta L = W$ – real wage is equal to the marginal productivity of labor.

As in Solow model technical progress is not taken into account the labor growth rate plays the role of the natural growth rate. If labor supply increased in the result of natural growth of population, then with existing «labor-capital» combination a part of labor would be unemployed. However, the unemployment causes the wages decrease and producers have to choose another combination with relatively small use of capital, thus, renewing equilibrium. This combination and production function determines the level of aggregate income, and it, in its turn, determines the volume of savings. As savings are equalized by investments, which are equal to the capital growth rate, then economy moves to another condition where all above mentioned equations are held. New cycle of economic growth is caused by a natural growth of labor force.

Thus, Solow states that there's a possibility of an equilibrium economic growth, which means development with full employment and use of capital and with correspondence of aggregate demand to aggregate supply. Solow also states that such condition of economy is stable and long-standing. When the system deviates from equilibrium, some internal mechanism should come into life. This mechanism is based on the substitution of factors and equilibration of their marginal efficiency and is able to renew equilibrium.

Meade model

Solow model does not explain real cycling in economic systems which are easy to observe. There is an attempt to correct this imperfection in the following neoclassical models. English economist *James Edward Meade* completed Solow model by an analysis of economic growth in terms of technical progress. First of all, he classified the types of technical progress. There are three of them:

– **Neutral technical progress** – causes the equal growth rates of both capital ($\Delta Y / \Delta K$) and labor ($\Delta Y / \Delta L$) marginal productivity, that is why, the marginal rate of substitution of factors of production remains unchanged;

– **Capital intensive or labor saving technical progress** – marginal productivity of capital grows with increased speed in comparison with marginal productivity of labor;

– **Labor intensive or capital saving technical progress** – causes the higher growth rate of marginal productivity of capital.

One or another type of technical progress, prevailing in given conditions, changes somehow the process of equalizing capital and labor, as the value of marginal rate of substitution is changed. However, independently on directions of technical progress, its rates and character, a mechanism of achieving a long-standing economic growth rate and full employment, described in Solow model, is preserved. Much attention in Meade model is paid to the analysis of factors, determining the economic growth rate in terms of technical progress. They can be grouped in such a way:

1. Capital accumulation rate. It is calculated as the ratio of capital growth rate to the amount of capital in the base period:

$$K = \Delta K / K.$$

If technical progress shifts the production possibilities curve (fig. 13.1), then the value of capital productivity increases (Y / K). That is why, income growth rate Y will exceed the capital growth rate.

2. Increase of propensity to save. It takes place as a result of income growth (basic psychological law of Keynes), and as a result of income distribution in favor of subjects prone to save. For instance, if technical progress is capital intensive, then the higher growth rate of marginal productivity of capital increases the profit with higher speed than wages. It is not difficult to observe, that, as a rule, a share of savings in profit is higher than in wages. Propensity to save even with a fixed income increases, in the end, the volume of savings transformed later in investment. As pure investments are equal to the capital growth, the mechanism of increasing economic growth (described in the first paragraph) becomes activated.

Practical use of macroeconomic models

From brief description of economic growth models in this chapter one can come to a conclusion about long and difficult study in this sphere of economic theory. Starting with static models of general equilibrium researchers little by little came to a dynamic analysis. The models came to include new factors: technical progress, income distribution, «labor-capital» ratio, «capital-product» ratio etc. First models represented one product models. Later on the basis of linear programming the multiproduct models were elaborated. Wide application of economic and mathematic methods allowed to raise a problem of economic growth optimization.

A lot of economic decisions have current effects, not only immediate but also distant, that is why, there is a necessity to forecast future conditions. This is the function of models of economic growth. But whereas mechanisms of transformation of immediate and distant effects are different, among the models of economic growth, used for forecasting there are three major groups of models:

Long-term investigations (from 15 to 25 years);

Middle-term forecasting (4–5 years);

Short-term study (one year, a quarter, a month).

Forecasting on the basis of macroeconomic models was rather popular in the majority of European countries: Great Britain, France, The Netherlands, and Norway. Japan and Canada also elaborate forecasts and plans. This gives possibilities of better regulations of a state economy. However, comparison of forecasts and real results shows that nowadays any elaborated models are considered to be ideal. Search for models adequately reflecting real economic processes still takes place in modern economics.

RESUME

1. Economic growth is characterized by an increase in the volume of production. Basic indicators of economic growth are: real GDP growth index, GDP growth rate, changes in GDP per capita.

2. Economic growth factors could be classified into supply factors, demand and distribution factors. Quantity and quality of natural resources, basic capital available and technology are the supply factors. Their effects are demonstrated by a shift of production possibilities curve in the graph. The extent of implementation of potential production possibilities of society depends on the corresponding aggregate demand and distribution of resources between enterprises.

3. Economic growth takes place with a certain combination of extensive and intensive factors. Extensive factors include an increase of quantity of labor, growth of investment, application in production process of additional natural resources; intensive factors include an in-

crease of quality of labor, technical progress, and efficient distribution of resources.

4. In correspondence with Domar model of economic growth full employment in the base period could be provided only if the growth rates of production possibilities, aggregate demand and investment were equal to the production of potential social average investment productivity and marginal propensity to save.

5. In Harrod model ideal development of economic system is achieved when the real growth rate corresponds to the warranted growth rate and it, in its turn, corresponds to the natural growth rate. In this case equilibrium of aggregate demand and supply is held together with the full use of additional natural resources. However this coincidence is unlikely to happen. The destruction of equilibrium is more probable.

6. Production function is the basis of modern neoclassical models of economic growth. This function shows dependence of the level of production in terms of given technological development on the quantity of capital and labor. There is an assumption that the same volume of production could be achieved within different combinations of capital and labor. Such production function is called a function with variable coefficients.

7. In correspondence with Solow model there is possibility of equilibrium economic growth, meaning development with full employment, complete use of capital, correspondence between aggregate supply and demand. Such condition of economy is long-standing. If there are deviations of the system from its equilibrium condition, then internal mechanism based on production factors substitution and their marginal efficiency equalizing comes into life. This mechanism is capable to renew equilibrium.

8. Macroeconomic models are widely used in forecasting of certain economic decisions effects in the long-run (15–25 years), for a middle period of time (4–5 years) and in terms of short period of time (till one year).

Main terms and notions

Economic growth indicators
Real GDP growth index
Real GDP growth rate
GDP per capita change

Factors of supply, demand and distribution
Production possibilities curve
Extensive and intensive factors of economic growth
Domar economic growth model
Potential social average investment productivity
Harod model
Warranted, natural and real growth rate
Production function with variable coefficients
Marginal rate of substitution of factors of production
Solow model
Neutral, capital intensive and labor intensive technical progress
Forecasting

Exercises

Exercise 1. For each statement listed below choose the right term or concept.

1. The curve showing different combinations of two goods or services which can be produced with the full use of the unchangeable resources, and technology.
2. The ratio of real GDP for the given period to the relevant index of the base period.
3. Economic growth, achieved through the factors connected with an increase in the quantity of the used resources.
4. Indicator characterizing the percentage change in real GDP.
5. Economic growth, achieved through increased efficiency of resources.
6. The growth rate under which the entrepreneurs' expectations are implemented the equilibrium state of the economy is maintained.
7. Indicator of the change in GDP, the value of which is influenced not only by the change in the physical volume of GDP, but by the number of population as well.
8. Improvement of engineering and technology, which allows producing more output for the given amount of capital.
9. Improvement of engineering and technology, which requires using more capital.
10. Improvement of engineering and technology, which does not change the optimum ratio of capital and labor.

11. An increase in output indicators of the national economy in one period compared to the other.

Terms and concepts:

a) the index of real GDP growth;
b) the rate of growth of real GDP;
c) the change in GDP per capita;
d) the production possibilities curve;
e) extensive economic growth;
f) intensive economic growth;
g) economic growth;
h) the warranted growth rate in Harrod model;
i) neutral technical progress;
j) capital-intensive technical progress;
k) labor-intensive technical progress.

Exercise 2. Find the only one right answer.

1. Which of the following does not characterize the possible effects of economic growth:

a) the growing economy has a greater opportunity to meet the new needs;

b) economic growth complicates solution of the problem of the limited resources;

c) economic growth creates material conditions for solution of the social and economic problems;

d) there is no right answer.

2. GDP of the country has increased by 4% for the year. Determine in how many years will GDP double, while maintaining the growth rate:

a) 25 c) 17
b) 50 d) 13.

3. Country would like to double GDP per capita for the next 10 years. Determine what should the annual growth rate of GDP be, if it is known that population increases by 1% a year:

a) 10% c) 9%,
b) 11% d) 8%.

4. The size of GDP in the current prices in 2002 is 7.2 billion UAH against 3.0 billion UAH in 1990. The general level of prices has increased by 20% during this period. What will the real GDP growth rate be:

a) 240% c) 220%
b) 200% d) 120%?

5. The production possibility curve shows:

a) maximum production of a product;

b) the maximum number of options for various products that can be produced with the given resources;

c) the possibility of the economic system to meet the real needs of population;

d) there is no right answer.

6. The GDP has increased by 1.6 times over a certain period; the number of the employed people has increased by 10%, while the average number of the worked hours has increased by 1.2 times. Determine the particle growth in GDP received through the growth of labor productivity:

a) 47% c) 28%
b) 53% d) 32%.

7. Based on the Domar model, we assume that the economy is in equilibrium. Determine what rate must increase production capacity for its preservation, if it is known that the marginal tendency to consume is 0.75, and the increase in power per unit of investment – 0.4:

a) 3.5% c) 15%
b) 10% d) 30%.

8. Based on the Domar model, determine what growth in the aggregate demand is necessary to maintain equilibrium in the base year if the aggregate demand was 40 billion dollars, «the average productivity of capital» – 0.3, and the marginal propensity to save – 0.2:

a) $ 2.4 billion
b) $ 9.6 billion;
c) $ 1.2 billion
d) $ 0.8 billion.

9. Which indicator allows you to calculate the rate of economic accelerator (I – investment; Y – total income, C – consumption):

a) $\Delta I / C$; c) $\Delta I / \Delta Y$;
b) $\Delta Y / \Delta I$; d) $\Delta C / \Delta Y$?

10. Calculate the warranted growth rate (in accordance with the Harrod model), if it is known that the marginal tendency to save equals 0.8, while the growth of investment needed to increase production per unit equals 2.2:

a) 3.7% c) 10%
b) 5.7% d) 4%.

11–12. Which of the given definitions disclosed the content of the concepts the guaranteed (11) and natural (12) growth rate used in Harrod model:

a) the most characteristic growth rate for the given economic system;
b) the maximum growth rate, which is allowed with an increase of the active population and technological progress;
c) the growth rate that preserves the achieved balance and the entrepreneurs' expectations;
d) the growth rate, which guarantees the maximum profit to industrial worker;
e) there is no right answer.

13. Production function, which is often used in neoclassic theory of economic growth, shows the relationship between:

a) the aggregate supply and aggregate demand;
b) the net investment and growth in the aggregate supply;
c) the level of production and the value of labor and capital used in production;
d) an increase in production capacity and growth in the aggregate demand.

Exercise 3. Define which statements are true, and which are false.

1. Economic growth sharpens the conflict between the unlimited needs and scarce resources.

2. If the rate of an increase of capital used in production exceeds the rate of an increase in labor force then the capital intensity decreases.

3. The increase in the number of workers is an extensive factor of the economic growth.

4. If GDP grows faster than population, the GDP per capita is declining.

5. Economic growth is the increase of nominal GDP for a certain period of time.

6. An increase in the number of the working hours is an intensive economic growth.

7. There is a direct relationship between GDP proportion used for investment, and an increase of the labor productivity.

8. The natural growth rate in Harrod model is defined as the maximum rate, which is allowed with an increase in the economically active population and technological progress.

9. The impact of the technological progress on economic growth is not taken into account in the Solow's model.

10. The progress, which leads to a more rapid increase in the marginal productivity of capital, is called neutral.

Exercise 4. Solve the tasks.

Task 1. What will the GDP in the reporting period be equal, if in the base period it was 40 billion UAH, and its growth rates responded to the maintained balance in the marginal propensity to consume 0.7 and the average returns – 0.4 (model of Domar)?

Task 2. Actual GDP is 100 billion UAH, and the actual growth rate is 1.05 times. The marginal propensity to consume equals 0.8, while the average capital-output ratio – 4.4 (in the base period in the economy the balance was, the model of Harrod). Determine what will the overproduction of the GDP be in the reporting period?

Task 3. Calculate the rate of growth of investments in the Domar model, ensuring the maintenance of general equilibrium, if the marginal propensity to consume equals 0.8, while the average increase in power per unit of investment is 0.3.

Task 4. Index of growth of production facilities, ensuring the maintenance of equilibrium in the economy, according to the Domar model equals 1.08. What is the marginal tendency to consume equals to, if the average productivity of public investment is equal to 0.4?

Task 5. What will the marginal tendency to consume be equal to, if the guaranteed growth rate in Harrod model is 6%, and the unit cost of capital per unit of an increase in the output equals to 2.2?

GLOSSARY

Added value – the difference between a particular product's final selling price and the direct and indirect input (the price of resources) used in making that particular product

Aggregate demand – is the volume of goods and services households, enterprises, and state are willing to buy at any level of price.

Aggregate supply – is the total supply of goods and services those firms in a national economy plan on selling during a specific time period.

Automatic regulators (stabilizers) – are tax and budget (fiscal) mechanisms, constantly aimed economic cycles easing.

Balance of Payments – is a record of all monetary transactions between a country and the rest of the world.

Budget deficit – is the amount by which some measure of government revenues falls short of some measure of government spending.

Classical (vertical) segment of aggregate supply curve – is vertical line of the aggregate supply curve, characterizing the economy by the full use of resources.

Commercial bank – commercial enterprise giving loans, mobilizing free monetary means and placing them on the principles of interest payment, maturity and collectability.

Commercial banks reserves – are banks assets which can be used for an immediate satisfaction of depositors' demands.

Consumption fund – is a part of net national product used to satisfy personal needs of population.

Credit and monetary policy of expansion – is carried out by increasing money supply and is targeted at the production and employment growth.

Credit and monetary policy of restriction – is carried out by restricting money supply and is targeted at the reduction of inflation.

Cyclical unemployment – is the unemployment caused by an economic recession.

Deflation – is a decrease in the general price level of goods and services.

Depositary policy of the bank – measures undertaken by the bank to accumulate temporarily free monetary means.

Depreciation – a noncash expense that reduces the value of an asset as a result of wear and tear, age, or obsolescence, this expense is reflected in a value of a good and is accumulated in a specific fund.

Discount rate – is a rate of interest on loans, given by the central bank to commercial banks.

Discretionary fiscal policy – is voluntary change in tax rates, tax structure and budget spending aiming at stabilizing the development of national economy.

Dividends – are payments made by a corporation to its shareholder members.

Dumping – in international trade, the pricing of a product below its cost of production.

Economic cycle – refers to economy-wide fluctuations in production or economic activity over several months or years. These fluctuations occur around a long-term growth trend, and typically involve shifts over time between periods of relatively rapid economic growth (an expansion or boom), and periods of relative stagnation or decline (a contraction or recession).

Economic expansion – is fulfilled by increase in money supply and targeted at growth of production and employment. It is connected with the decrease of interest rate, with more available loans.

Economic fluctuations – is an unstable, differently directed, changeable nature of macroeconomic indicators, characteristic for certain periods of time.

Economic integration – is an interconnection of production of different countries coordinated by governments of these countries.

Economic policy – is a set of measures intended to solve economic problems.

Exchange rate – is the price of national currency expressed in monetary units of another country, or the price of a foreign currency, expressed in national monetary units.

Extensive factors of economic growth – lead to an increase of production by means of increasing returns on resources.

Final product – is the product which is not to be completed, reworked or resold.

Foreign investment – represents the process of investing to the other countries aiming at higher profits than inside the country.

Foreign trade turnover– is the sum of export and import for a certain period of time.

Freely convertible currency – is the type of currency that can be freely exchanged into other currency in all operations.

Frictional unemployment – is the time period between jobs when a worker is searching for, or transitioning from one job to another.

Full employment – is the absence of cyclical unemployment

Gross domestic product – refers to the market value of all final goods and services produced within a country in a given period.

Gross income – is a volume of earnings from marketing of products.

Gross output – is the value of all goods and services produced by the residents (citizens and individuals registered in a country) for a certain period of time.

Hyperinflation – is inflation rate, when its annual level exceeds 1000%.

Inflation – increase in the general level of price in economy.

Intensive factors of economic growth – lead to an increase of production by means of increasing quantity of resources.

Interest bearing policy – is measures undertaken by the bank in the sphere of placing loans and getting corresponding profit.

Interest rate – is the ratio of the price of loan, expressed in monetary units, to its value, calculated in percents.

International division of labor – is the specialization of certain countries, within the world economy, in the production of certain goods and services in order to sell them in international market.

Internationalization of economic life – the process of establishment of steady relations between enterprises of different countries and countries in general.

Investment – the amount of money required to buy machines, equipment as well as other means of production, required for construction operations and increase of production stores.

Keynesian (horizontal) segment of aggregate supply curve – horizontal line of the aggregate supply curve, where the level of prices remains constant while real national product is changing.

Keynes Psychological law of consumption – states that, when aggregate income increases, consumption expenditure shall also increase but by a somewhat smaller amount.

Loan interest – is the price paid to use money.

Level of budget deficit – is expressed as a percentage, and is calculated as the ratio the volume of deficit to GDP.

Liberalism (free trade) – is the policy of free trade and of restricted government intervention into external economic activity.

Macroeconomics – is a branch of economic study investigating national economy in general.

Mixed economy – is a type of economic system in which economic processes are regulated by both market mechanism and state.

Money – is a means of exchange widely accepted in economic relations.

Monetary multiplier – is a numeric indicator, characterizing the ability of commercial banks to increase money supply in circulation. It ss equal to the value which is opposite to the reserve requirement.

National economy – is a combination of economic subjects and relations characterized by economic integrity within certain time and space framework.

Net export – is the difference between export and import.

Net product – is calculated by deducting amortization from GDP.

Nominal gross domestic product – is the volume of GDP that has not been adjusted for inflation.

Nominal interest rate – is interest rate showing the ratio of the price of loan to its value.

Nominal value of money – is determined by figures designated on it.

Okun's law – states that for every 1% increase in the unemployment rate, a country's GDP will be at an additional roughly 2,5% lower than its potential GDP.

Open market operations – is the process of securities (public bonds) buying and selling by the central bank in order to regulate credit and monetary.

Price index –the ratio of the price level of consumer goods and services of the given period to the corresponding price level in the base period calculated in %.

Production function – is a function that specifies the output of a firm, an industry, or an entire economy for all combinations of inputs.

Production possibilities curve – is a graph that compares the production rates of two commodities or services that use the same fixed total of the factors of production in terms of full employment, constant stores and unchanged technology.

Protectionism – is an economic policy of the state aimed at developing national economy by means of restricting foreign competition.

Public choice theory – is a section in economic study investigating the process of decision making by the state.

Real gross domestic product – is a macroeconomic measure of the value of output economy adjusted for price changes (that is, inflation or deflation).

Real GDP growth index – is the ratio of the real GDP at the end of a certain period of time to its value at the beginning of the same period of time, calculated in percents.

Real value of money – is the amount of goods and services which can be bought with existing monetary unit.

Reserve requirement – is the ratio of the amount of reserves of commercial banks to the amount of deposits taken by the bank.

Restrictive policy – is fulfilled by means of restricting money supply and is targeted at reduction of inflation.

Rule of «70» – is a method for estimating an investment's doubling time. The rule number is divided by the interest percentage per period to obtain the approximate number of periods (usually years) required for doubling.

Savings – are part of income left after payment of taxes, and not used to buy commodities.

Say's law – states that every supply creates the demand equal to it.

Side effect (externality) –is a transition of some production or consumption costs or benefits of certain goods to the subjects who are not direct buyers or sellers.

Social guarantees – are obligations of the state to form the incomes of the members of society, to create work places and favorable conditions of goods and services consumption.

Structural unemployment – is a form of unemployment resulting from a mismatch between demand in the labor market and the skills and locations of the workers seeking employment.

Subsidy – is an assistance paid by the government to compensate costs of production of certain types of products or to implement certain economic activity.

Tariff – is a list or system of duties imposed by a government on imported or exported goods.

Taxes – are compulsory payments of the households and enterprises to the budget of the state.

Transfer payments – is a special type of government spending, connected with the direct redistribution of incomes of the members of society.

Unemployed – are people without job, but able to work, willing to work and searching for a job.

Unemployment rate – is expressed as a percentage, and is calculated as the ratio of the quantity of unemployed to the amount economically active population.

United Nations System of National Accounts – is an international standard system of national accounts, a combination of interconnected indicators of major processes in economy: production, acquisition of income, consumption, movement of capital, etc.

World economy – is a combination of national economies interconnected and interacting on the basis of international division of labor.

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