

# STUDY OF INDICATORS OF THE LEVEL OF DEVELOPMENT OF MATERIAL WELL-BEING OF THE POPULATION, THE PROBLEM OF INEQUALITY AND POVERTY IN UKRAINE IN THE CONTEXT OF STATISTICAL EVALUATION

Oleksandr Cherep<sup>1</sup>, Valentyna Helman<sup>2</sup>, Evgeniya Makazan<sup>3</sup>

**Abstract.** The wealth gap between rich and poor countries, which is growing, causes poor countries to be pushed to the margins of the world economy, the growth of unemployment in them, and the impoverishment of the population. The income inequality that exists in Ukraine has negative economic and social consequences. Currently, there is a need to use statistical analysis to study the dynamics of indicators of the level of well-being of the population, the problems of inequality and poverty in Ukraine in the context of the performance by the state of its functions as a subject of social policy in the face of modern challenges and risks. The purpose of this article is to study inequality, assess the extent and trends of this phenomenon in Ukraine, determine the relationship between economic development and socio-economic inequality and develop proposals to reduce it. The dynamics and structure of the main indicators of the level of development of material well-being of the population in the context of statistical evaluation for the period 2000–2020 were analyzed. To analyze the dynamics of the Gini coefficient in Ukraine, the quintile coefficient of differentiation of aggregate income of the population and the quintile coefficient of funds (by aggregate income), the average annual growth/decline in the indexes of physical volume of GDP, real wages, employment and the number of unemployed population, the dynamics of the share of spending on social protection and social welfare in the structure of total budget expenditure and in the GDP of the country. An in-depth statistical analysis of the relationship between average monthly disposable income and the number of people with an average per capita equivalent gross monthly income below the legal subsistence minimum was conducted. In developing the state targeted social program to overcome and prevent poverty in Ukraine, the focus is on ensuring economic growth, stimulating employment and others, increasing money incomes, conducting anti-inflationary policies, investments and targeted assistance for the economic development of certain sectors of the economy.

**Key words:** inequality, poverty, Gini coefficient, income and expenditure of the population, social protection, low-income family, living wage, real wages.

**JEL Classification:** I14, I32, E24

## 1. Introduction

In the two decades leading up to the COVID-19 pandemic, emerging and developing economies grew steadily, making much-needed progress in reducing poverty and increasing life expectancy (Cugat, Narita, 2020). The coronavirus pandemic has made its mark on global inequality, exacerbating pre-existing trends of poverty and income imbalance that were already increasing in

many advanced economies, emerging markets, and developing countries (Ventura, 2020). The Oxfam research group report "Inequality Kills" (2022) asserts that since the beginning of the quarantine period, the incomes of 99% of humanity have declined rapidly and that inequality contributes to the death of at least one person every four seconds (Ahmed, Marriott, Dabi, Lowthers, Lawson, Mugehera, 2022).

<sup>1</sup> Zaporizhzhia National University, Ukraine (*corresponding author*)  
E-mail: [cherep2508@gmail.com](mailto:cherep2508@gmail.com)

ORCID: <https://orcid.org/0000-0002-3098-0105>

<sup>2</sup> Zaporizhzhia National University, Ukraine

E-mail: [karollinza@gmail.com](mailto:karollinza@gmail.com)

ORCID: <https://orcid.org/0000-0002-2227-3865>

<sup>3</sup> Zaporizhzhia National University, Ukraine

E-mail: [e.v.makazan@gmail.com](mailto:e.v.makazan@gmail.com)

ORCID: <https://orcid.org/0000-0001-5855-0476>

According to the World Inequality Report 2022, today's income and wealth inequality is very high, close to the level of the early 20<sup>th</sup> century (at the height of Western imperialism). The gap between the average income of the richest 10 percent of countries and the average income of the poorest 50 percent has narrowed from about 50 times to just under 40 times. Although inequality within most countries has increased, global inequality between countries has decreased over the past two decades. Growing imbalances within countries mean that, despite economic backwardness and high growth rates in emerging economies, the world today remains particularly unequal, and inequalities within countries are now even greater than the significant inequalities observed between countries (Chancel, Piketty, Saez, Zucman, et al., 2022).

Inequality negatively affects the life of the population, affects human development, is a source of social tension and state instability, and has a pessimistic effect on the development of the national economy. At the same time, on the other hand, it is a driving force of economic activity of the population (Markina, Kalinichenko, Lesiuk, 2019).

Inequality is caused both by objective differences between different people and by different political values and priorities. Undoubtedly, people differ in their abilities, aptitudes, success, ability to use available chances, and, ultimately, in their ability to realize their labor potential. Today science recognizes inequality as a key problem of our time and almost the main factor of social instability: the higher and more diverse the inequality, the higher the demands for redistribution and the higher the risks of social tensions and social conflicts. This is due to its enormous impact both on the socio-psychological climate in society and on the economic situation.

Globally, the number of people living in extreme poverty has been declining for decades: from 1.94 billion in 1982 to 696 million in 2017. This decline is particularly encouraging because the world's population has grown significantly over the same period, from an estimated 4.5 billion people in 1981 to more than 7.8 billion in 2021.

At the same time, the overall level of poverty has improved considerably in recent decades, but a number of individual countries have seen an increase in poverty. Many countries where poverty is rising suffer from political instability or conflict, including military conflicts. Others are hampered by frequent natural disasters or persistent environmental stresses (in particular the intensification of drought) caused by climate change (Poverty Rate by Country 2022).

After analysing the works of domestic and foreign scientists, including R. Barro, N. Birdsong, E. Libanova, B. Milanovich, A. Moskvina, S. Berveno, O. Nazarova, O. Chuprina, T. Chatchenko,

A. Nadtochii, A. Smahliuk, M. Naumova, R. Wilkinson, K. Pickett, G. Yurchyk, N. Samoliuk and others, who are devoted to the issues of theoretical, methodological and practical aspects of the foundations of the formation of socio-economic inequality, establishing links with economic development, it becomes clear that today there is a need for more in-depth research using statistical analysis in order to study the dynamics of indicators of the level of well-being of the population, the problems of inequality and poverty in Ukraine in the context of the state's performance of its functions as a subject of social policy in the context of modern challenges and risks.

The purpose of this paper is to study inequality, assess the extent and trends of this phenomenon in Ukraine, determine the relationship between economic development and socio-economic inequality and develop proposals to reduce it.

The methodological basis of the study consists of general scientific methods of analysis and synthesis, logical generalization to achieve the set goal and solve the problems of research, formulation of conclusions. Empirical, comparative and statistical methods are used to describe the problem of economic inequality, analyze the dynamics and study the trends of the main indicators of the level of development of material well-being of the population. To deepen the statistical analysis we used methods of correlation and regression, in particular, we smoothed the series of dynamics of indicators of the share of expenditures on social protection and social welfare in the expenditures of the consolidated budget of Ukraine and the country's GDP, as well as the study of the relationship between the average monthly disposable income and the number of population with average monthly equivalent total incomes below the legal subsistence minimum.

## **2. The study of inequality and income differentiation of the population**

The biggest and most controversial problem, characteristic not only for Ukraine, but for the whole world, is economic inequality, which accompanies humanity throughout its existence. Income inequality, which can and usually causes imbalance in access to basic social benefits (quality health care, level of education, comfortable housing), resources (financial, including loans, land, etc.), and realization of their basic rights in general for life, security, cultural development, social activity and participation in political life, etc.). But at the same time, income inequality itself is a consequence of other types and manifestations of inequality. For example, the lack of opportunities for quality education reduces the chances of children from poor families finding work, earning

a decent income for it, and ultimately condemns them to poverty in adulthood.

Social stratification and poverty of a large part of the country's population is primarily the result of low income from employment due to the weak adaptation of the national economy to globalization, the lack of competitiveness of entire industries and manufacturers, low labor productivity and poor organization, low-wage jobs and lack of necessary skills, and socio-economic stratification of regions.

Income and expenditures of the population always occupy an important place in the life of the population and the country as a whole. The increase in the income of the population and the decrease in its expenses is one of the most important economic issues addressed by the state. After all, the socio-economic condition of the country and the development of society directly depend on these indicators. As incomes rise, the quality of life increases and the consumption of life's goods raise. The standard of living characterizes the pace of economic development in Ukraine this problem is particularly acute. According to official data, the income of the majority of the population today does not meet a sufficient standard of living (Nazarova, Chupryna, Chatchenko, 2021). Thus, in 2021, the average adult earns € 16.7 thousand (USD 23,380) per PPP per year and has a fortune of € 72.9 thousand (USD 102.6 thousand) (Chancel, Piketty, Saez, Zucman, et al., 2022). The highest income in the world is earned in Monaco – \$ 186,080. Afghanistan has the lowest per capita budget – \$ 500. In the ranking of 69 countries Ukraine ranks 53<sup>rd</sup> with an average income of \$ 3570 (Average income around the world, 2020). Behind these averages are significant differences both between and within countries.

The presence of income distribution leads to the formation of consumer structures that differ and are divided into social groups with different income levels, which leads to population stratification and changes in the socio-labor development of the country.

Currently, the richest (10% of the world's population) earn an average of € 87.2 thousand (USD 122.1 thousand) per year and receive 52% of world income, while the poorest part of the population (50% of the world's population) earns an average of € 2.8 thousand (USD 3.9 thousand) per year and receive 8.5% of this income, respectively, the middle class (40% of the world's population) earn 39.5% of world income (Chancel, Piketty, Saez, Zucman, et al., 2022).

The Gini coefficient (inequality index or equity index) measures the distance between the richest and the poorest sections of the population, the reduction of which is one of the many indicators of economic success of any country. The higher the coefficient is, the greater is the gap – 1% means equality of income,

100% – all income is concentrated in one hand. Interestingly, in Ukraine the Gini coefficient is one of the lowest in the world – 25.36%. We are in the company of such countries as Azerbaijan (22.45%), Moldova (24.5%), Belarus (24.75%), Slovenia (24.84%), Czech Republic (25.43%), Slovakia (25, 77%). In Poland, the Gini 2020 index was 30.19%, in Denmark – 28.5%, in Switzerland – 32.25%, in Germany – 32.33%, in France – 32.55%, in Britain – 33, 12 %. The deepest income gap between rich and poor is in South Africa (62.73%), Namibia (59.17%), Zambia (58.09%), Lesotho (54.43%), Mozambique (53.87%), Botswana (53.35%), Brazil (52.44%) (Indeks Dzhyini-2020 u sviti).

Analysis of the degree of social inequality in Ukraine by the Gini coefficient (Figure 1) shows a general downward trend (29% in 2020, 29% in 2005, 24.8% in 2010 and in 2015 – 25.5%, in 2020 – 25.4%), which is quite positive, but for the population it does not play an important role, as the poor remain poor, and the rich only get richer.

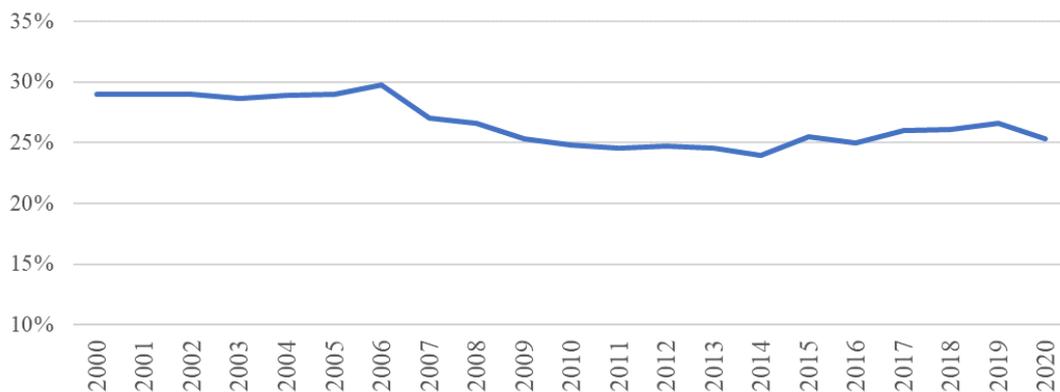
In addition, the Gini coefficient is an aggregate measure that describes the overall degree of inequality without a deeper understanding of the distribution of income among households. The accuracy of the indicator depends on reliable data on GDP and income, taking into account the shadow economy and informal economic activities present in each country.

Analysis of income differentiation in Ukraine for 2000–2020 showed that the quintile coefficient of differentiation of total income of the population, which determines the ratio of the minimum level of income among the most affluent 20% of the population to the maximum level of income among the least affluent 20% of the population, ranked by the average per capita equivalent income, averaged 2 times and practically did not change in recent years, and the coefficient of funds (by total income), which shows that the total income of the most affluent citizens exceeds the income of the least affluent 20% of citizens more than three times, in particular, since 2016, this indicator has tended to increase. However, given the shadowing of the economy, the quintile coefficient of differentiation of total incomes of the population and the quintile coefficient of funds (on total incomes) are probably much higher (Figure 2).

The analysis of a number of distributions of the population by total income is characterized by heterogeneity (Figure 3).

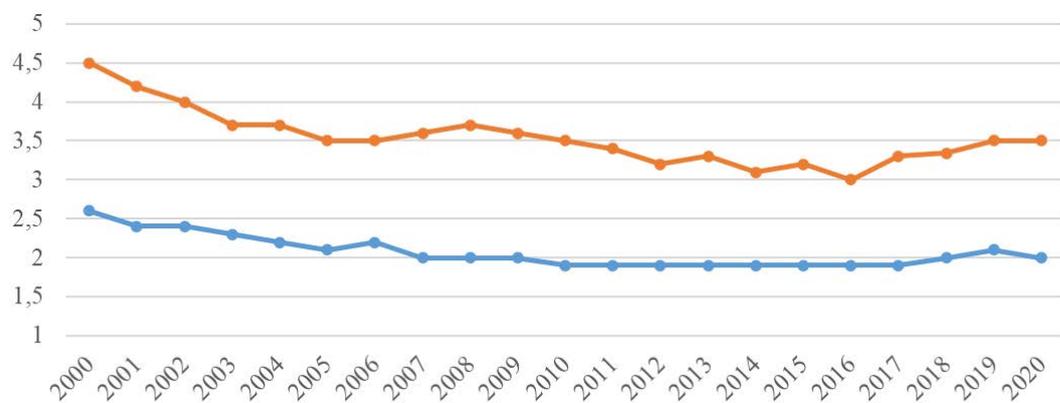
### 3. Structure of expenditures, social orientation of the budget and economic development

In 2020, the equivalent total income per person was 2,888 UAH. 61 UAH per month. The share of modal average per capita income of 21.6% indicates that the most common population strata



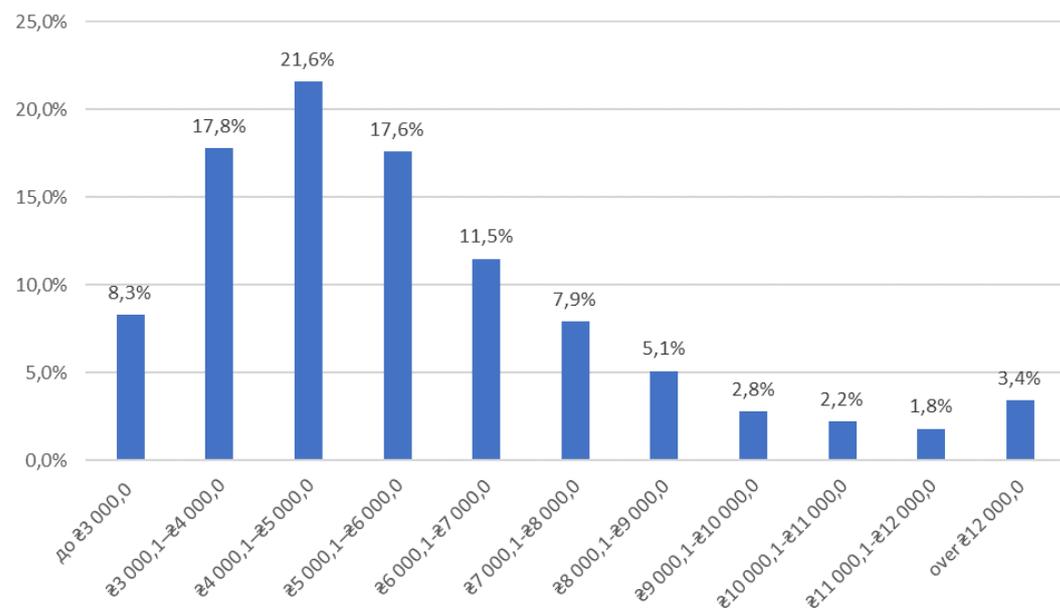
**Figure 1. Dynamics of the Gini coefficient in Ukraine, %**

Source: (GINI Index, 2021; Ukraine – GINI Index: 2010–2020)



**Figure 2. Dynamics of quintile coefficient of differentiation of aggregate income of population and quintile coefficient of funds (by aggregate income), in rases**

Source: (Derzhavna sluzhba statystyky Ukrainy)



**Figure 3. Distribution of the population of Ukraine (%) in 2020 by the level of total average per capita income per month, UAH**

Source: (Derzhavna sluzhba statystyky Ukrainy)

in the country are those who have an average monthly income of 4,000.1 to 5,000 UAH per person. Third, the median income was 2,622 UAH, that is, half of the population had an average monthly per capita total income of less than 2,622 UAH, while the other half had more. But note that the size of the median per capita aggregate income is below the average for Ukraine, indicating that the vast majority of the population has incomes below their average value.

Incomes of the population of Ukraine (in 2021 – 86016 UAH, in 2020 – 73355 UAH, in 2019 – 67528 UAH per person) are formed at the expense of:

– wages paid to hired employees (in 2021 – 45.4%, in 2020 – 45.3%, in 2019 – 47.0%), which remains the main type of monetary income of the population and a determining factor in the material well-being of the population;

– social benefits and other current transfers received (pensions, allowances, scholarships, insurance payments and other payments) (in 2021 – 33.3%, in 2020 – 33.8%, in 2019 – 31.8%), which are no less significant components of the population's income and indicate that on average a third of the population's income is replenished by cash payments and benefits from the state;

– profit and mixed income (in 2021 – 19.09%, in 2020 – 18.3%, in 2019 – 18.1%), property income received in the form of interest on deposits, securities, dividends and other income (in 2021 – 2.3%, in 2020 – 2.6%, in 2019 – 3.1%), which on average accounts for a fifth part of the population's income (Derzhavna sluzhba statystyky Ukrainy).

Thus, the main part in the structure of household incomes occupies the labor payment, which is mainly used for the purchase of goods and services (in 2021 – 92%, in 2020 – 89%, in 2019 – 92.1% of the total amount of expenses), the rest is paid by the population in the form of current taxes on income, property and other paid current transfers (Table 1).

Wages and salaries are the main source of income, so consider the dynamics of nominal wages for the

analytical period 2000–2020. Nominal wages characterize the level of wages regardless of changes in prices for goods and services, so they are one of the factors for improving the well – being and standard of living of workers. In 2020, the average nominal salary of a full-time employee increased by 10.4% compared to 2019 and amounted to UAH 11,591. In December 2020, the average nominal salary of a full-time employee was UAH 14,179, which is 2.8 times higher than the minimum wage (UAH 5,000) (Derzhavna sluzhba statystyky Ukrainy).

It should be recognized that the level of wages in Ukraine remains one of the lowest in Europe. However, on the one hand, it should be taken into account that for 30 years Ukraine has gone through an extremely difficult path of formation and trials, which led to significant losses of a socio-economic nature. On the other hand, despite internal and external constraints, Ukraine's socio-economic environment has developed at a very significant pace. Although few people today are satisfied with their own incomes and well-being, there is nevertheless considerable evidence of quite positive trends in the strengthening of the economic vitality of Ukrainians.

In negotiating real wages, employers and employees respond in some way to labor market conditions. If, for example, the level of GDP and employment are high, then real wages tend to grow (2000–2004, 2010–2012, 2016–2017), which ensures an increase in the purchasing power of the population. Conversely, if GDP and employment levels decrease, real wages grow slowly or even reduce (2005–2009, 2013–2015, 2018–2020) (Figure 4).

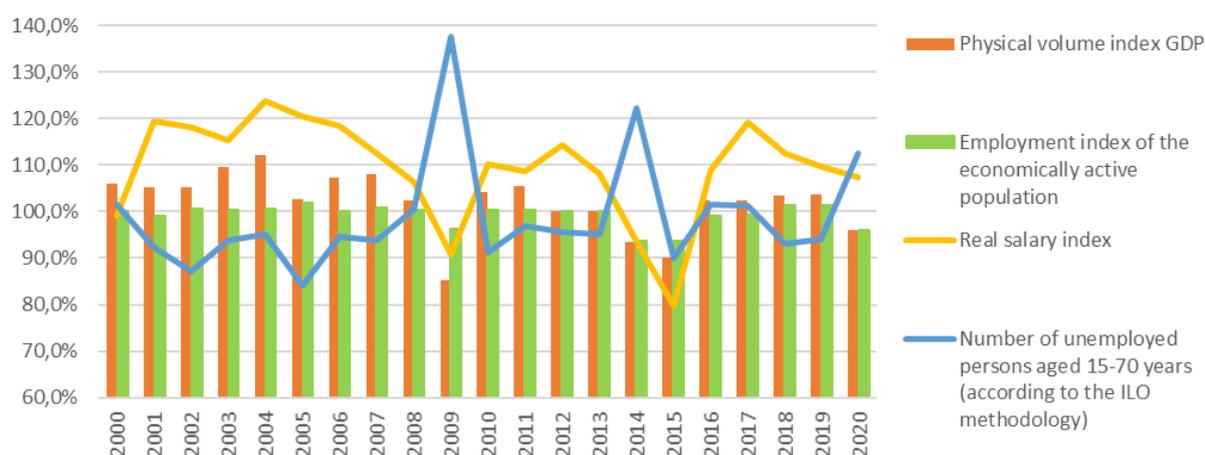
The dependence of the number of unemployed on the value of GDP is demonstrated by comparing the annual growth rates of the corresponding indicators (Figure 4). In 2000–2020 the Ukrainian economy showed stable, sometimes very high rates of GDP growth, but the vulnerability of GDP formation, as well as crisis phenomena led to the fall of GDP in Ukraine (2009, 2014–2015, 2020). Thus, in Ukraine,

Table 1

**Expenditures of the population of Ukraine for 2019–2021 (million, UAH)**

	2019	2020	2021
Expenses and savings – total	<b>3699346</b>	<b>3 972 428</b>	<b>4 698 611</b>
including			
purchase of goods and services	3406202	3 535 377	4 324 187
property income (paid)	39273	45 678	47 679
current taxes on income, property, and other paid current transfers	370036	408 390	504 104
including			
– current taxes on income, property, etc.	295767	313 366	377 108
– social insurance contributions	3842	3 882	5 298
– other current transfers	70427	91 142	121 698
accumulation of non-financial assets	-21148	-30 118	-21678
growth of financial assets	-95017	13 101	-155681

Source: (Derzhavna sluzhba statystyky Ukrainy)



**Figure 4. Average annual growth / decline rates of indices of physical volume of GDP, real wages, employment and the number of unemployed population (percent compared to the previous year)**

Source: (Derzhavna sluzhba statystyky Ukrainy)

the unemployment rate is related to the phases of the economic cycle: it decreases during the boom phase and increases during the decline phase.

Even periods of relative economic growth in Ukraine have not contributed to a radical reduction in inequality, the increase in income has only stimulated the growth of imbalance, which is explained, in our opinion, by systemic problems, the existing mechanisms of distribution and redistribution within the current economic model. Thus, the Ukrainian situation is not unique, but rather reflects general trends typical of developing, or transforming, countries.

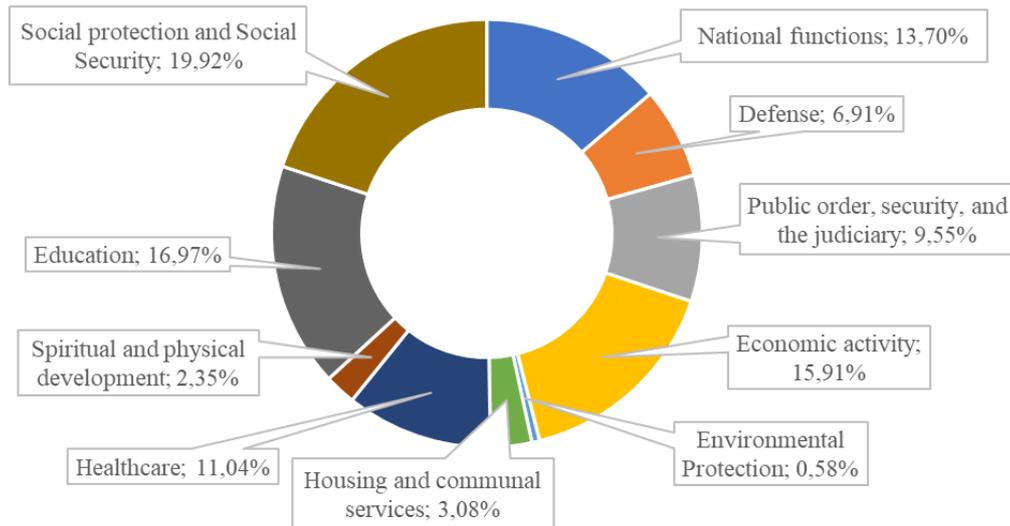
In Ukraine, to combat poverty, the "Poverty Reduction Strategy" was adopted, which was valid until 2020 (Stratehiia podolannia bidnosti). The strategy was adopted as part of the association agreement between Ukraine and the EU and to implement the Sustainable Development Goals. Among the strategic directions of poverty reduction: increasing incomes, providing access to social services regardless of place of residence, minimizing the risks of social isolation of the rural population. A separate task in the strategy is to prevent the emergence of pockets of chronic poverty and social isolation among internally displaced persons.

In September 2015, the UN Sustainable Development Summit in New York adopted the "Sustainable Development Goals 2030" – key directions for the development of countries and the world as a whole. As a result of this work, the national report "Sustainable Development Goals: Ukraine" (2017) was published in 2017, which adapted 17 Global Sustainable Development Goals taking into account the specifics of national development. In 2020, the decree of the President of Ukraine "on the Sustainable Development Goals of Ukraine for the

period up to 2030" was adopted, which outlined the key directions of the country's development, which consist of 17 Sustainable Development Goals, the first of which is the overcoming of poverty in all its forms (Pro Tsili staloho rozvytku Ukrainy na period do 2030 roku).

Ukraine pays considerable attention to the policy of redistribution in order to reduce the level of poverty. The largest part of the state budget is traditionally spent on social support (health care, spiritual and physical development, education, social protection and social security) (in 2021 – 50.28%, in 2020 – 50.55%, in 2019 – 52.59%, in 2018 – 53.14%, in 2017 – 55.85%, in 2016 – 57.45%, in 2015 – 55.57%, in 2014 – 59.09%), although it tends to decrease due to a rise in spending on economic activity (in 2021 – 15.91%, in 2020 – 16.47%, in 2019 – 11.26%, in 2018 – 11.26%, in 2017 – 9.74%, in 2016 – 7.92%, in 2015 – 8.27%, in 2014 – 8.34%). Thus, it is possible to note the government's policy to create opportunities for sustainable economic development. Let's consider the structural features of expenditures of the consolidated budget of Ukraine: social protection and social security are the largest expenditure item of the consolidated budget of Ukraine – 19.92%, which in terms of volume outstrips expenditures on education – 16.97%, economic activity – 15.91%, national functions (including public debt servicing) – 13.7% and healthcare – 11.04% (Figure 5).

During 1990–2021, annual expenditures on social protection and social security averaged 21.3% of the total expenditures of Ukraine's consolidated budget and, consequently, averaged 6.9% of the country's GDP (Figure 6). As can be seen from Figure 6, the data on the indicators of the share of expenditures on social protection and social security of the



**Figure 5. Structure of expenditures of the consolidated budget of Ukraine (functional classification) in 2021**

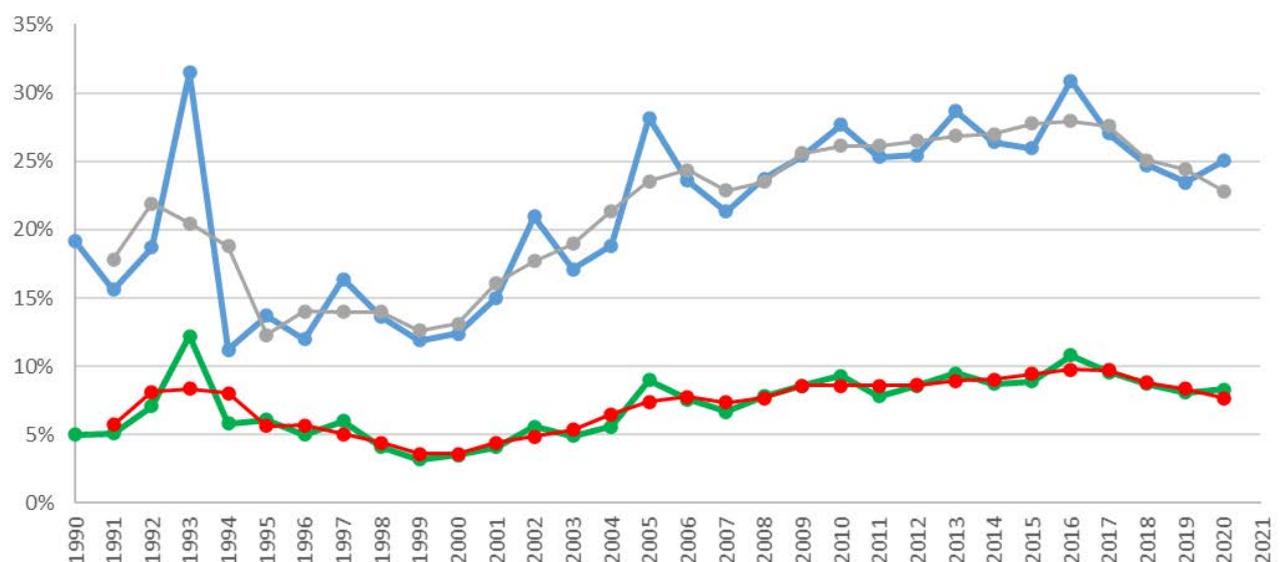
Source: (Vydatty zvedenoho biudzhetu Ukrainy)

population in the expenditures of the consolidated budget of Ukraine and, respectively, the share of expenditures on social protection and social security of the population in the GDP of the country are uneven and with fluctuations.

To determine the general trend, the dynamics series was smoothed (indicators of the share of expenditures on social protection and social welfare in the expenditures of the consolidated budget of Ukraine and, respectively, the share of expenditures on social protection and social welfare in the GDP of the country) by a three-term moving average (Figure 6).

In the average values it is possible to see more balanced fluctuations in the levels of the primary series, resulting in a more clearly distinguishable trend of development, in particular, we can distinguish periods: a trend of increasing levels of the indicator (from 1990 to 1993, from 1999 to 2016) and a trend of decreasing levels of the indicator (from 1993 to 1999, from 2016 to 2021).

In particular, in recent years, during 2016–2021, with an actual increase in the volume of expenditures on social protection and social security from UAH 258,326.1 million, in 2016 to UAH



**Figure 6. Dynamics of the share of expenditures on social protection and social security in Ukraine during 1990–2021**

Source: (Derzhavna sluzhba statystyky Ukrainy)

367,346.6 million in 2021, we observe a tendency to slow down their share in expenditures of the consolidated budget of Ukraine from 30.92% in 2016 to 19.9% in 2021, and, accordingly, in GDP – from 10.8% in 2016 to 6.7% in 2021.

At the same time, given external and internal risks and uncertainties, structural changes in social protection and social security expenditures show a downward trend, but their forecasting is still difficult in the context of the Russian-Ukrainian war.

#### **4. The problem of overcoming poverty and the need to increase the level of average per capita total income**

Studies by international organizations have shown an increase in the level of poverty in Ukraine in 2020 by 50% and currently amounts to more than 19 million people. Poor Ukrainians are characterized by the following features: lack of higher education (among citizens with higher education, the poverty rate is 11%, among citizens with only secondary education – 29%); part-time work; wages bordering on the minimum; many children in the family (Instytut demohrafi ta sotsialnykh doslidzhen imeni M. V. Ptukhy Natsionalnoi akademii nauk Ukrainy).

Not only do the poor not benefit from the country's economic growth, but they are also unable to contribute to society because of limited access to major markets.

The State Statistics Service of Ukraine indicates who is most often in the category of relatively poor people in Ukraine:

- families with three or more children – among them, 60.9% receive an income per capita below the real subsistence minimum;
- families with children where there is at least one unemployed person – 46.1%;
- single person over 65 years of age – 40.2%.

When assessing material security in Ukraine, the concept of absolute and relative poverty is used. The concept of absolute poverty is closely related to the concept of the poverty line or the level of income below which a person is considered poor and cannot meet basic needs. The World Bank has set the poverty line at \$1.9 a day. There are also National thresholds of poverty: in Ukraine, the indicator of the "poverty line" can be represented either in the form of a natural set of goods of primary necessity, or in the form of a cost expression of this set of goods. The basic, official poverty line in Ukraine is based on the living wage budget. The average annual statutory living wage in Ukraine in 2020 was 2078.4 UAH. Income below the legal living wage in 2020 was 1.6% or 0.6 million people, in 2019 1.1% or 0.4 million people, in 2018 1.3% or 0.5 million people, in 2017 2.4% or 0.9 million people, in 2016 3.8% or 1.5 million people,

in 2015 6.4% or 2.5 million people, in 2014 8.6% or 3.2 million people (Nazarova, Chupryna, Chatchenko, 2021), which have a declining trend. Relative poverty in Ukraine is the level of income below the real poverty line. According to the State Statistics Service of Ukraine, the actual living wage in 2020 per person (excluding the amount of mandatory payments) was equal to 3,847.2 UAH per month. Income below the actual living wage in 2020 had 23.2% of the population, or it is 8.8 million people, in 2019 – 23.1% or 8.9 million people, in 2018 – 27.6% or 10.6 million people, in 2017 – 34.9% or 13.5 million people, in 2016 – 51.1% or 19.8 million people, in 2015 – 51.9% or 20.2 million people, in 2014 – 16.7% or 6.3 million people (Derzhavna sluzhba statystyky Ukrainy). Accordingly, the increase/decrease of this indicator depends on the economic situation in the country.

But the full scale of the existing problem becomes clear if we take into account not the indicators of inequality, but how the existing imbalance is perceived by the population. The State Statistics Service of Ukraine published a report in which Ukrainians assess their well-being. 67.1% of Ukrainians consider themselves poor and only 1% of Ukrainians consider themselves middle class. Responding to a question about the income, which allows us to consider ourselves a representative of the middle class, 71.3% of respondents said the amount of more than 22 thousand UAH per month. The report also states that only 1.6% of Ukrainians believe that over the past year their financial situation has improved, 4.4% – rather improved, 43.6% – remained unchanged, 29.2% – rather worsened, 21.2% – worsened (Shumylo, 2021).

Poverty has always been a pressing problem. Now a large part of the population is poor or close to the border of the "social bottom. By early 2020, 24.4% of the population have incomes below the actual subsistence minimum. This is especially noticeable against the background of strong stratification, when the difference in incomes of the poor and the rich is tens, hundreds and thousands of times. And this process is dynamic, with the poor becoming poorer and the rich becoming even richer.

The relevance of this issue is that social polarization, the stratification of our society into poor and rich is its main characteristic at the moment and in our time.

The largest share of Ukraine's consolidated budget expenditures on social protection is represented by expenditures on social protection of pensioners (over 50%). This is due to the aging of the population and the low retirement age, which accounts for the large number of people over the working age, as well as the existence of a significant number of benefits for pensioners (for example, all pensioners are entitled to free travel in public urban and suburban transport).

The state of Ukraine provides free secondary education, guarantees a basic package of medical services and specialized care for groups designated as vulnerable by the government, and provides benefits for low-income families.

Social payments and services financed from the state budget include the following types of state social programs:

- social assistance (assistance to families with children, low-income families, disabled people from childhood, disabled children);
- benefits (for war veterans, labor veterans, people affected by the Chernobyl disaster, for individual professions);
- housing subsidies (to pay for housing and communal services and gas) and social services (mainly for single disabled people).

For example, in Ukraine, targeted financial support is provided to families whose combined monthly income is below the level of the calculated indicator "total family income for all types of social assistance". This indicator is calculated annually and approved by the law on the state budget.

Amounts of social assistance to low-income families (2021):

- for able-bodied citizens – UAH 832.65;
- for persons who have lost their ability to work – UAH 1 854;
- for children under 6 years – UAH 2 616.9;
- for children aged 6 to 18 years – UAH 3 263;
- for children aged 18 to 23 years (if they are studying) – UAH 3 092.7 (Pro Derzhavnyi biudzheth Ukrainy na 2021 rik; (Pro derzhavnu sotsialnu dopomohu malozabezpechenym simiam).

Identify the close relationship between two variables – the population size with average per capita equivalent total income per month, below the legally established subsistence minimum (in particular,

their share) and the value of the average monthly disposable income per person (reduced to the prices of the base year) according to the obtained statistical data (table 2). Calculated indicators:  $X = 1.042$ ,  $\bar{Y} = 0,883$ , variance:  $\sigma_x^2 = 0,013$ ,  $\sigma_y^2 = 0.071$ , standard deviation:  $\sigma_x = 0,1146$ ,  $\sigma_y = 0,2664$ , correlation coefficient:  $r_{xy} = -0,118$ , coefficient of variation:  $V_x = 11\%$ .

Thus, since the coefficient of variation (V) is 11% and slightly greater than 10%, the degree of data scattering is considered average. The correlation coefficient ( $r_{xy}$ ) has a value of -0.118, which indicates (according to the empirical rule (Cheddock scale) for assessing the tightness of the relationship) a moderate relationship between indicators.

Moreover, it is inverse, as it has a negative value. That is, when the number of the population with an average per capita equivalent total monthly income below the legally established subsistence minimum increases, the average monthly disposable income per person (in prices of the basic period) decreases and vice versa.

## 5. Conclusions

Undoubtedly, poverty is a consequence of imbalances in the social reproduction of heterogeneous types of labor, the presence of employed and unemployed, which determine the differentiation of the population in terms of welfare, access to basic social benefits, and so on. Thus, reducing inequality and fighting poverty is becoming an increasingly acute problem for the whole world because of the consequences of the pandemic, while at the same time remaining very important for Ukraine. Now Ukraine needs to adopt a strategic state-targeted social program to overcome and prevent poverty, which should be based on a labor rather than

Table 2

**Dynamics of indicators of the population with an average per capita equivalent aggregate income per month, below the legally established subsistence minimum and average monthly disposable income per person**

Year	The number of people with average per capita equivalent total income per month below the legally established subsistence minimum		Average monthly disposable income per person, UAH
	million persons (X)	in percentage of the total population (Y)	
2010	3,6	8,6	1528,9
2011	3,2	7,8	1770,8
2012	3,8	9	1994,3
2013	3,5	8,3	2180,6
2014	3,2	8,6	2232
2015	2,5	6,4	2650
2016	1,5	3,8	3090
2017	0,9	2,4	3939
2018	0,5	1,3	4870
2019	0,4	1,1	5762
2020	0,6	1,6	6224

Source: (Derzhavna sluzhba statystyky Ukrainy)

a socio-subsidiary basis. Effective poverty alleviation in Ukraine requires, above all, ensuring stable and rapid economic growth, anti-inflationary policies, investments and targeted assistance for the economic development of certain sectors of the economy, in particular, a wide range of measures aimed at

developing agriculture, stimulating employment and, consequently, increasing the money income of the population. If economic growth is to benefit all segments of the population, more must be done and more must be done to increase the productive capacity of the poor.

## References:

- Cugat, G., & Narita, F. (2020). How COVID-19 Will Increase Inequality in Emerging Markets and Developing Economies. *IMF Blog: official website*. Available at: <https://blogs.imf.org/2020/10/29/how-covid-19-will-increase-inequality-in-emerging-markets-and-developing-economies/>
- Ventura, L. (2020). Unemployment Rates Around the World 2020. *Global Finance Magazine*, October 22. Available at: <https://www.gfmag.com/global-data/economic-data/worlds-unemployment-ratescom>
- Ahmed, N., Marriott, A., Dabi, N., Lowthers, M., Lawson, M., & Mugehera, L. (2022). Inequality kills: The unparalleled action needed to combat unprecedented inequality in the wake of COVID-19: Report. *Research company "Oxfam America": official website*. Available at: <https://www.oxfamamerica.org/explore/research-publications/inequality-kills/>
- Chancel, L., Piketty, T., Saez, E., Zucman, G. et al. (2022). World Inequality Report 2022. *World Inequality Lab*. Available at: <https://www.wir2022.wid.world>
- Markina, I. A., Kalinichenko, O. V., & Lesiuk, V. S. (2019). Ekonomichna nerivnist: svitovyi dosvid ta osoblyvosti v Ukraini [Economic inequality: world experience and peculiarities in Ukraine]. *Ukrainian Journal of Applied Economics*, 4(3), 172–180. (in Ukrainian)
- Poverty Rate by Country 2022. *World Population: analytical portal*. Available at: <https://worldpopulationreview.com/country-rankings/poverty-rate-by-country>
- Barro, R. J. (2000). Inequality and Growth in a Panel of Countries. *Journal of Economic Growth*, 5(1), 5–32.
- Birdsong, N. (2015). The Consequences of Economic Inequality. *The second in SPI's series on Inequality*, February 5. Available at: <https://sevenpillarsinstitute.org/consequences-economic-inequality/>
- Libanova, E. M. (2017). Nadmirna sotsialno nepryiniatna nerivnist: holovnyi vyklyk dlia ukrainskoho suspilstva [Excessive social unacceptable inequality: the main challenge for ukrainian society]. *Journal of the National Academy of Sciences of Ukraine*, 5, 22–25. Available at: [http://nbuv.gov.ua/UJRN/vnanu\\_2017\\_5\\_6](http://nbuv.gov.ua/UJRN/vnanu_2017_5_6) (in Ukrainian)
- Milanovic, B. (2013). Global Income Inequality in Numbers: In History and Now. *Global Policy*, 4(2), 198–208. Available at: [https://www.scrip.org/\(S\(czeh2tfqyw2orz553k1w0r45\)\)/reference/referencespapers.aspx?referenceid=3168341](https://www.scrip.org/(S(czeh2tfqyw2orz553k1w0r45))/reference/referencespapers.aspx?referenceid=3168341)
- Moskvina, A. O., & Berveno, S. M. (2019). Instytutsiini faktory vplyvu na nerivnist dokhodiv: mizhnarodnyi dosvid [Institutional impact factors on income inequality: an international experience]. *Problems of a systematic approach in the economy*, 6(74), 49–55. Available at: [http://nbuv.gov.ua/UJRN/PSPE\\_print\\_2019\\_6%281%29\\_9](http://nbuv.gov.ua/UJRN/PSPE_print_2019_6%281%29_9) (in Ukrainian)
- Nazarova, O., Chupryna, O., & Chatchenko, T. (2021). Dokhody ta vytraty naseleння: analitychno-statystychnyi aspekt [Income and expenditure of population: analytical and statistical aspect]. *Economy and society*, 31. Available at: <https://economyandsociety.in.ua/index.php/journal/article/view/680> (in Ukrainian)
- Nadtochii, A. O., & Smahliuk, A. A. (2020). Nerivnist v ukrainskomu suspilstvi: pidkhody do yavyscha, otsinka masshtabiv, naslidky, propozyzii [Socio-economic development on the basis of overcoming inequality]. *Theory and Practice of Public Administration*, 2(69), 113–123. Available at: [http://nbuv.gov.ua/UJRN/Tpdu\\_2020\\_2\\_16](http://nbuv.gov.ua/UJRN/Tpdu_2020_2_16) (in Ukrainian)
- Naumova, M. A. (2018). Dyferentsiatsiia dokhodiv naseleння ukrainy: tendentsii i faktory [Income and expenditure of population: analytical and statistical aspect]. *Scientific View: Economics and Management*, 2(60). Available at: [http://scientificview.umsf.in.ua/archive/2018/2\\_60\\_2018/20.pdf](http://scientificview.umsf.in.ua/archive/2018/2_60_2018/20.pdf) (in Ukrainian)
- Wilkinson, R., & Pickett, K. (2009). *The Spirit Level: Why Greater Equality Makes Societies Stronger*. N.Y.; Berlin; London; Sydney: Bloomsbury Press, 374 p.
- Yurchyk, G. M., & Samoliuk, N. M. (2016). Otsiniuvannia dyferentsiatsii dokhodiv naseleння Ukrainy z urakhuvanniam yikh tinovoi komponenty [Income differentiation of residents of Ukraine under conditions of shadow economy]. *Demography and social economics*, 3(28), 133–145. Available at: [https://dse.org.ua/archive/28\\_en.html](https://dse.org.ua/archive/28_en.html) (in Ukrainian)
- Average income around the world (2020). *Worlddata.info: analytical portal*. Available at: <https://www.worlddata.info/average-income.php>
- Indeks Dzhyni-2020 u sviti: yakym buv rozryv mizh bahatym i bidnym naseleнням [Gini index 2020 in the world: what was the gap between the rich and poor population]. (2021). *Word and deed: analytical portal*. April 23. Available at: <https://www.slovoidilo.ua/2021/04/23/infografika/svit/indeks-dzhyni-2020-sviti-yakym-buv-rozryv-mizh-bahatym-bidnym-naseleнням> (in Ukrainian)
- GINI Index. (2021). *The World Bank: analytical portal*. Available at: <https://data.worldbank.org/indicator/SI.POV.GINI?view=map&year=2000>

Ukraine – GINI Index: 2010–2020 (2021). *Trading economics: analytical portal*. Available at: <https://tradingeconomics.com/ukraine/gini-index-wb-data.html>

Derzhavna sluzhba statystyky Ukrainy [State statistics service of Ukraine]: official website. Available at: <http://www.ukrstat.gov.ua/>

Stratehiia podolannia bidnosti [Poverty reduction strategy]: *Order of the Cabinet of Ministers of Ukraine* № 161-r, March 16, 2016. Available at: <https://zakon.rada.gov.ua/laws/show/161-2016-%D1%80#n10> (in Ukrainian)

Pro Tsili staloho rozvytku Ukrainy na period do 2030 roku [On the Sustainable Development Goals of Ukraine for the period up to 2030]: *Decree of the President of Ukraine* № 722/2019, September 30, 2019. Available at: <https://zakon.rada.gov.ua/laws/show/722/2019> (in Ukrainian)

Vydatky zvedenoho biudzhetu Ukrainy (funktsionalna klasyfikatsiia) v 2021 r. [Expenditures of the consolidated budget of Ukraine (functional classification) in 2021]. *Minfin.com.ua: analytical portal*. Available at: <https://index.minfin.com.ua/ua/finance/budget/cons/expense/> (in Ukrainian)

Instytut demografii ta sotsialnykh doslidzhen imeni M. V. Ptukhy Natsionalnoi akademii nauk Ukrainy [Ptoukha Institute for Demography and Social Studies of the National Academy of Sciences of Ukraine]. Available at: <https://www.idss.org.ua/index> (in Ukrainian)

Shumylo, K. (2021). Zlydennist zrostaie: 67% ukraintsiv vvazhaiut sebe bidnymi, a tilky 1% serednim klasom. Chy tak tse? [Poverty is growing: 67% of Ukrainians consider themselves poor, while only 1% consider themselves middle class. Is this true?]. *Ukrainian national news agency*. August 16. Available at: <https://www.unn.com.ua/ru/news/1940318-zlydennist-zrostaie-67-ukrayintsiv-vvazhayut-sebe-bidnimi-a-tilki-1-serednim-klasom-chi-tak-tse> (in Ukrainian)

Pro Derzhavnyi biudzhet Ukrainy na 2021 rik [On the state budget of Ukraine for 2021] *Law of Ukraine* № 1082-IX, December 15, 2020. Available at: <https://zakon.rada.gov.ua/laws/show/1082-20#Text> (in Ukrainian)

Pro derzhavnu sotsialnu dopomohu malozabezpechenym simiam [On state social assistance to low-income families] *Law of Ukraine* 1768-III, June 1, 2000 (Last updated on December 09, 2021). Available at: <https://zakon.rada.gov.ua/laws/show/1768-14> (in Ukrainian)