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LEVEL OF WELLBEING IN THE COUNTRIES OF V4 GROUP ACCORDING TO THE DIFFERENT ASSESSMENTS

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РІВЕНЬ ДОБРОБУТУ У КРАЇНАХ ВИШЕГРАДСЬКОЇ ГРУПИ ЗА РІЗНИМИ ОЦІНКАМИ

The level of well-being in Ukraine is a complex and multifaceted issue that has been the subject of discussions and debates for many years. Ukraine, like many post-Soviet countries, has experienced a period of significant socio-economic changes over the past few decades, which affected the level of well-being of the population.

Organizations and state institutions monitor the socio-economic development of countries in order to analyze and assess the standard of living of citizens. The assessment of the socio-economic state of the country includes a wide range of parameters that reflect various aspects of human life and the country's economy as a whole. The article analyzes the level of well-being in Ukraine and the countries of V4 Group (Czech Republic, Hungary, Poland, Slovak Republic,) and examines the factors affecting it. An analysis of socio-economic indicators characterizing public welfare in Ukraine in 2017-2022 was carried out. The following macroeconomic indicators and socio-economic indicators were compared: GDP per capita, GDP per capita by PPP, Human Development Index (HDI), Legatum Welfare Index (LPI),

World Happiness Index (HPI), Ecological Footprint, Green GDP, Inclusive Wealth Index (IWI), Better Life Index (BLI).

Research determined spheres which need to be reformed in Ukraine for the development of the state: Safety and Security, Investment Environment, Infrastructure and Market Access, Economic Quality, Living Conditions, Health, Natural Environment. Reforming can be based on the experience of those countries of the European Union with which Ukraine closely cooperates. The V4 Group can act as such countries: the V4 Group policy towards Ukraine has been developing since 2004 and is part of the process of supporting and developing the EU's Eastern Partnership.

The article is carried out as part of the scientific research work "The use of intelligent technologies in the analysis of economic risks of the regions of Ukraine. and V4 countries" (state registration number: 0121U114593), the customer of which is the State Tax University.

It was determined that the Czech Republic, which is the leader among the V4 countries in terms of all indicators of well-being, can be an example of successful reform of the country for Ukraine.

Рівень добробуту в Україні є складним і багатогранним питанням, яке вже багато років є предметом дискусій і дебатів. Україна, як і багато пострадянських країн, за останні кілька десятиліть пережила період значних соціальних та економічних змін, які вплинули на рівень добробуту населення.

Державні установи та міжнародні організації проводять моніторинг соціально-економічного розвитку країн з метою аналізу та оцінки рівня життя громадян. Оцінка соціально-економічного стану країни включає в себе широкий спектр параметрів, які відображають різні аспекти життя людини та економіки країни в цілому.

У статті аналізується рівень добробуту в Україні та країнах Вишеградської групи V4 (Чеська Республіка, Угорщина, Польща, Словачька Республіка) та досліджуються фактори, що на нього впливають. Проведено аналіз соціально-економічних показників, що характеризують суспільний добробут в Україні у 2017-2022 роках. Порівнювались такі макроекономічні

показники та соціально-економічні індекси: ВВП на душу населення, ВВП на душу населення за ПКС, Індекс людського розвитку (ІЛР), Індекс процвітання (LPI), Індекс світового щастя (HPI), Екологічний слід, Зелений ВВП, Інклюзивний індекс добробуту (IWI), Індекс кращого життя (BLI).

Дослідження визначило сфери, які потребують реформування в Україні: безпека та захист, інвестиційні умови, інфраструктура, якість економіки, житлові умови, здоров'я, природне середовище. Реформування може базуватися на досвіді тих країн Європейського Союзу, з якими Україна тісно співпрацює. Такими країнами може виступати Вишеградська група: політика групи V4 щодо України розвивається з 2004 року і є частиною процесу підтримки та розвитку Східного партнерства Європейського Союзу. Визначено, що Чеська Республіка, яка є лідером серед країн V4 за різними показниками добробуту, може бути для України прикладом успішного реформування країни.

Статтю підготовлено в рамках науково-дослідної роботи «Використання інтелектуальних технологій в аналізі економічних ризиків регіонів України та країн V4» (номер держреєстрації: 0121U114593), замовником якої є Державний податковий університет.

Keywords: *public wellbeing, level of citizens' life, macro index, social and economic index, V4 countries.*

Ключові слова: *суспільний добробут, рівень життя громадян, макроіндекс, соціально-економічний індекс, країни Вишеградської групи.*

Statement of the problem in a general form and its connection with important scientific or practical tasks. Ukraine signed the Association Agreement with the European Union, which entered into force on September 1, 2017. In addition, on June 22, 2022, Ukraine received the status of a candidate for EU membership. The conditions for Ukraine's accession to the EU are reforms that would ensure the coordination of common values in all spheres of social life:

- implementation of European standards of justice, freedom and security with the view to ensure the rule of law and fundamental freedoms;

- completion of transition to market economy by adapting existing Ukrainian legislation to the EU standards;
- approximation of Ukrainian policies to the EU in accordance with the fundamental principles of macroeconomic stability, coordination of state finances and balance of payments;
- creating conditions for closer cooperation in other fields of mutual interest of Ukraine and the EU.

Reforming can be based on the experience of those countries of European Union with which Ukraine closely cooperates. The V4 Group (Czech Republic, Hungary, Poland, Slovak Republic,) can act as such countries: the V4 Group policy towards Ukraine has been developing since 2004 and is part of the process of supporting and developing the EU's Eastern Partnership [1].

Chapter 21 of the EU-Ukraine Association Agreement is devoted to cooperation in the sphere of social policy. Article 420 of Chapter 21 reveals the objectives of such cooperation, where the priority is given to the improvement of quality of life [2].

Quality of life, or well-being, reflects economic and social welfare of the population and involves a wide range of aspects: production, defined by property relations, level of material outcome of society, services and social labor productivity. It also covers various lifestyles, needs for life benefits and possibilities to meet those needs by supplying goods and services on the market, household income of the citizens. Thus, the people's well-being depends on a number of economic, social, political, cultural, innovative, environmental and other factors.

Organizations and government agencies conduct monitoring socio-economic development of the countries in order to analyze and assess the level of citizens' life.

By monitoring we mean a set of tools used to collect and process information for assessing the social and economic status of the country, for predicting forthcoming events, and identifying threats to its sustainable development [3].

Monitoring of the country social and economic status provides the government with data to develop sustainable policy and rational decision making. Basic data for monitoring is furnished by official statistics.

Assessment of the country's social and economic status involves a wide range of metrics which show diverse aspects of human life and of economics of the country on the whole.

In the European Union, different approaches for measuring well-being are used, therefore the study of these approaches and the analysis of measurement results are relevant for Ukraine as a potential EU member.

International Monetary Fund (IMF), founded in 1945, for quite a long time had been using Gross National Product (GNP), i.e. the total value of final goods and services developed by the country within a year, as the main macroeconomic indicator of welfare regardless of the geographic location of its enterprises.

Since 1991, the United Nations (UN) has recommended IMF to use Gross Domestic Product (GDP) as main macroeconomic indicator, i.e. the total value of final goods and services produced by residents irrespective of the ownership of the consumed economic resources. The high level of GDP was considered a key indicator of welfare in the country.

The method of calculating GNP and GDP and countries ranking, based on the values of these indicators, are published on the official website of the UN and in other sources [4, 5].

In addition to GDP other important macroeconomic indicators are: national production volume, the overall price level in the country, interest rate, employment.

While not denying the importance of macroeconomic indicators to measure quality of life, modern scientists, politicians and public figures maintain that traditional metrics is not perfect, and suggest new approaches to estimating the public welfare. Those approaches are disclosed in the following documents [6, 7]: the Istanbul Declaration adopted by the World Forum on Measuring and Fostering the Progress of Societies, the Communication from the Commission "Beyond GDP - Measuring Progress in a Changing World"; a global project "Measuring Social Progress" of the Organization for Economic Cooperation and Development (OECD); the recommendations of Stiglitz-Sen-Fitoussi Commission on Measuring Economic Performance and Social Progress etc.

The relevance of such research is confirmed by the fact that in October 2015 Angus Deaton was awarded the Nobel Memorial Prize in Economic Sciences for his analysis of consumption, poverty and welfare. Deaton's works help to solve complex practical problems for economists - to determine the poverty line in developing countries. Calculation of the average income is one of traditional ways to determine the level of welfare and poverty, but this approach is not exact, since it ignores the shadow incomes and their seasonal fluctuations. Deaton proposes to determine the level of well-being and poverty through the calculation of consumption (costs) at the individual level.

Analysis of recent research and publications. The first official attempt to change the traditional method of measuring the quality of life was Human Development Index (HDI), introduced by Amartya Sen and Mahbub ul Haq.

HDI is understood as generalizing relative index, calculated on the basis of other parameters, by a particular formula or methodology. Thus, it is a composite index that takes into account such indicators of social and economic development, as life expectancy, level of education, level of income. Methodology of HDI calculation, and countries' ranking according to its value, are published under the United Nations Development Programme annual report [5] starting from 1990.

HDI is a complex index, which is calculated by statistical averages of each country. It does not adjust for internal inequality of certain citizens. Later the 2010 Human Development Report alongside with HDI introduced three new indices: Inequality-Adjusted Human Development Index (IHDI), Gender Inequality Index (GII), Multidimensional Poverty Index (MPI).

Further efforts to improve the methodology of assessing well-being resulted in introducing alternative socio-economic indices. Among them are [2, 5, 8-10]: The Legatum Prosperity Index, Happy Planet Index, Happy Life Index, Green GDP and others. These socio-economic indices vary in statistical data and scoring techniques.

Innovative scoring of certain indices alongside with statistical data also involved the use of data from current opinion polls.

Ukrainian scientists [1, 3, 11] explore the level of prosperity in Ukraine on

certain macroeconomic indicators and indices provided by international statistical institutions and the State Statistics Service of Ukraine. However, in order to analyze the quality of the implemented reforms, the State Statistics Service of Ukraine needs to introduce socio-economic indicators that are used in the EU.

Formulation of the purpose of the article. We will review the current socio-economic indicators that are used in the EU and analyze the level of wellbeing in the countries of V4 Group in 2017-2022 according to these indicators. As a result of the study, it is planned to establish a leader among the V4 countries to adopt the experience of public administration. The article is carried out as part of the scientific research work "The use of intelligent technologies in the analysis of economic risks of the regions of Ukraine and V4 countries" (state registration number: 0121U114593), the customer of which is the State Tax University.

Presentation of the main research material.

1. Legatum Prosperity Index (LPI) is a composite index that highlights social and economic achievements of 167 countries. It has been published since 2006 by the Legatum Institute (Great Britain). According to Jeffrey Gedmin, the director of the Institute, Prosperity Index is the only tool that measures national prosperity based on both wealth and wellbeing.

LPI considers 89 different variables [10], systematized and selected into twelve groups according to the following social and economic areas: Safety and Security, Personal Freedom, Governance, Social Capital, Investment Environment, Enterprise Conditions, Infrastructure and Market Access, Economic Quality, Living Conditions, Health, Education, Natural Environment. Statistical data for scoring indices are obtained from official sources of international statistics: the UN Human Development Report, the World Bank report on "The World Development Indicators", OECD, World Trade Organization (WTO), World Intellectual Property Organization (WIPO), International Data Corporation, and from authoritative sources that continually study public opinion: Gallup Institute, Economist Intelligence Unit, etc.

2. World Happiness Index (HPI), the new index of socio-economic development of countries, was proposed in 2006 by the New Economics Foundation (NEF), British

research center. The majority of people want to live a long and happy life and the state (government) should ensure the welfare of the citizens, without compromising the environment. Bearing that in mind Nick Marx, the author of the index, offered alternative for assessing social and economic development. The formula for calculating HPI has the following form:

$$HPI \approx Experienced\ Wellbeing \cdot Life\ Expectancy / Ecological\ Footprint .$$

Data sets from the Gallup World Poll and World Values Survey are used to evaluate the well-being of the citizens. Sociological survey is based on the question "What is your level of well-being on the scale of 0 to 10 ?" and performed among 1000 respondents, aged from 15 years across over 150 countries. The result of the survey is the index Ladder Of Life (Scale of Life), which equals the index Experienced Well-being and reflects the welfare of citizens. According to the survey area of values of Ladder of Life index belongs to the segment [0; 10].

Data for Life Expectancy indicator were obtained from the UN Human Report. The area of values of the indicator belongs to the segment [20, 85].

Ecological Footprint is a quantitative indicator of the environmental burden which defines the area necessary for providing the population with food and neutralization of industrial wastes [11]. The planet Earth area is taken as unit of measurement for Ecological Footprint. Data for Ecological Footprint were obtained from Global Footprint Network.

Methodology for determining HPI index and ranking of 152 countries on this index were published online [8].

3. "Green GDP" (or Environmentally-Adjusted Domestic Product, Eco-Domestic Product) is a macroeconomic indicator of the environmental impact and social costs of economic production and consumption in a country.

Measuring "Green GDP" is especially important for the countries with resource-based economies. Although some scientists and scholars have proposed general methodological approaches to calculating "Green GDP" index [12], the unified method of measuring has not been offered.

4. The 2012 UN Inclusive Wealth Report first offered to use Inclusive Wealth

Index (IWI) as Green GDP. According to Achim Steiner, project manager of the UN Environment Programme (UNEP), IWI index tends to be more accurate indicator of the country's material wealth than GDP. It will promote sustainable development and elimination of poverty. UN Inclusive Wealth Report gives a list of countries with decreasing natural resources and recommends investing in reproducible natural resources. The last report "Inclusive Wealth Report" [13] of the UN was published in 2018.

5. Better Life Index (BLI) is a composite index that covers the social and economic achievements of 41 countries (38 members of OECD and 3 candidates for admission to the organization). BLI has been published since 2011 and accounts for 24 indicators being selected and assembled into eleven groups according to social and economic areas (life indicators): housing, income, jobs, community, education, environment, civic engagement, health, life satisfaction, safety, work-life balance [9]. Statistical data for calculating the indicators are obtained from OECD, UN, national statistical agencies, Gallop Institute. Innovation of Better Life Index is the realization of opportunity to set the weight of each of eleven areas. Information technologies allowed to make this index interactive. The methodology of calculation and index values are published [9] for 41 countries, where Ukraine was not included.

Table 1 - table 2 represents the result of monitoring the values of GDP [4, 14], for Ukraine and V4 countries for years 2017-2022.

Table 1. The result of monitoring values of GDP per capita, (current US \$)

Country	2017	2018	2019	2020	2021	2022
Czech Republic	20636.2	23424.5	23664.8	22992.9	26822.5	27638.4
Hungary	14621.2	16425.2	16786.2	16125.6	18772.1	18463.2
Poland	13815.5	15504.5	15700.0	15816.8	17999.8	18321.3
Slovak Republic	17585.2	19486.4	19381.6	19551.6	21782.9	21258.1
Ukraine	2638.3	3096.6	3661.5	3751.7	4827.8	4534.0

Source: formed on the basis of [4, 14].

**Table 2. The result of monitoring values of GDP per capita PPP,
(current international \$)**

Country	2017	2018	2019	2020	2021	2022
Czech Republic	38824.9	41143.8	44212.7	42827.1	45630.0	49945.5
Hungary	29496.2	31908.9	34645.6	34169.9	36773.3	41906.7
Poland	29958.1	32027.6	34976.0	35315.7	38134.8	43268.5
Slovak Republic	30142.4	31369.8	33453.3	32922.1	34528.7	37459.5
Ukraine	18860.6	12633.5	13348.0	13102.8	14289.0	12671.2

Source: formed on the basis of [4, 14].

The Figure 1, which is constructed based on the data from table 1, clearly demonstrates that Ukraine lags far behind countries in terms of GDP per capita, (current US \$). The fall in GDP in Ukraine in 2022 is obviously the result of Russian aggression.

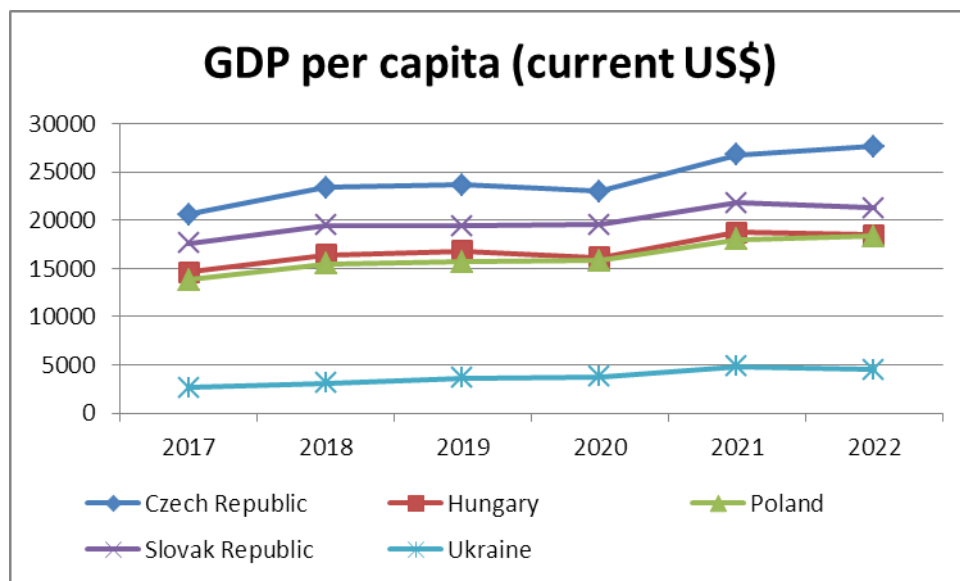


Fig. 1. The results of monitoring the values of GDP per capita

Source: formed on the basis of [15].

Table 3 represents the result of monitoring the values HDI [5, 6] for Ukraine and V4 countries for years 2017-2021.

Table 3. The results of monitoring values of HDI

Country	2017	2018	2019	2020	2021
Czech Republic	0.897	0.894	0.897	0.892	0.889
Hungary	0.845	0.849	0.853	0.849	0.846
Poland	0.875	0.877	0.881	0.876	0.876
Slovak Republic	0.856	0.855	0.862	0.857	0.848
Ukraine	0.782	0.783	0.786	0.775	0.773

Source: formed on the basis of [5, 6].

The Figure 2, which is constructed on the data from table 3, demonstrates that Ukraine significantly behind the V4 countries in terms of HDI for years 2017-2021.

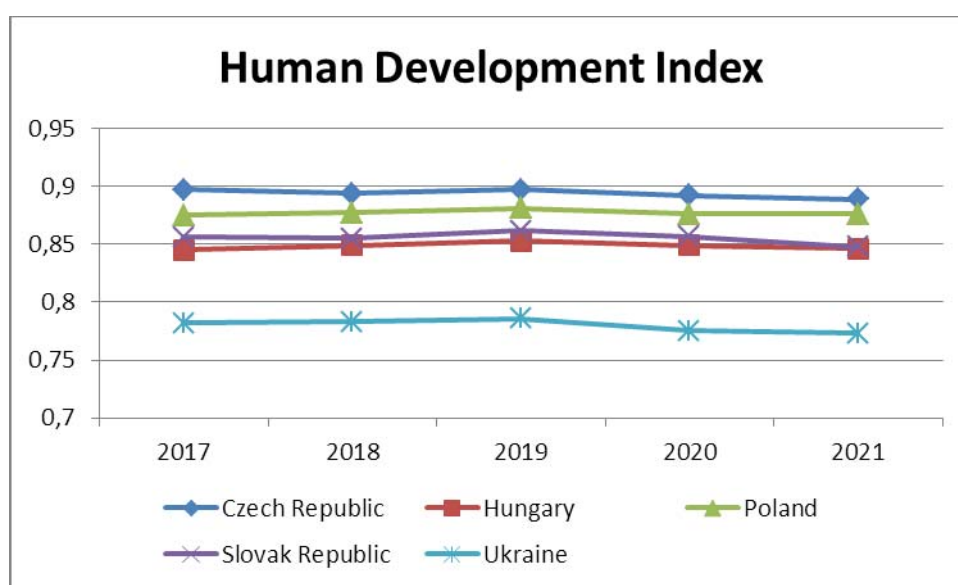


Fig. 2. The results of monitoring the values of HDI

Source: formed on the basis of [5, 6].

Tables 4, 5 represent the result of monitoring the values LPI [10] for Ukraine and V4 countries for years 2017-2022.

Table 4. The results of monitoring values of LPI, rank

Country	2017	2018	2019	2020	2021	2022
Czech Republic	26	28	28	29	27	27
Hungary	45	45	46	46	44	43
Poland	32	34	36	36	36	36
Slovak Republic	35	33	32	35	35	35
Ukraine	112	99	96	92	78	81

Source: formed on the basis of [10].

Table 5. The results of monitoring values of LPI, rank for areas, 2021

Areas	Czech Republic	Hungary	Poland	Slovak Republic	Ukraine
Safety and Security	12	34	20	32	134
Personal Freedom	24	81	47	30	73
Governance	31	82	40	41	77
Social Capital	57	48	56	53	102
Investment Environment	28	42	46	30	123
Enterprise Conditions	44	78	40	53	72
Infrastructure and Market Access	28	43	40	44	74
Economic Quality	12	33	39	38	75
Living Conditions	28	37	31	35	76
Health	30	51	56	43	104
Education	31	41	32	49	40
Natural Environment	26	33	44	20	106

Source: formed on the basis of [10].

Chart (figure 3) demonstrates the prosperity of the countries in various spheres in 2021. When comparing multiple countries in the diagram, data points closer to the

center show better performance than points further away from the center.

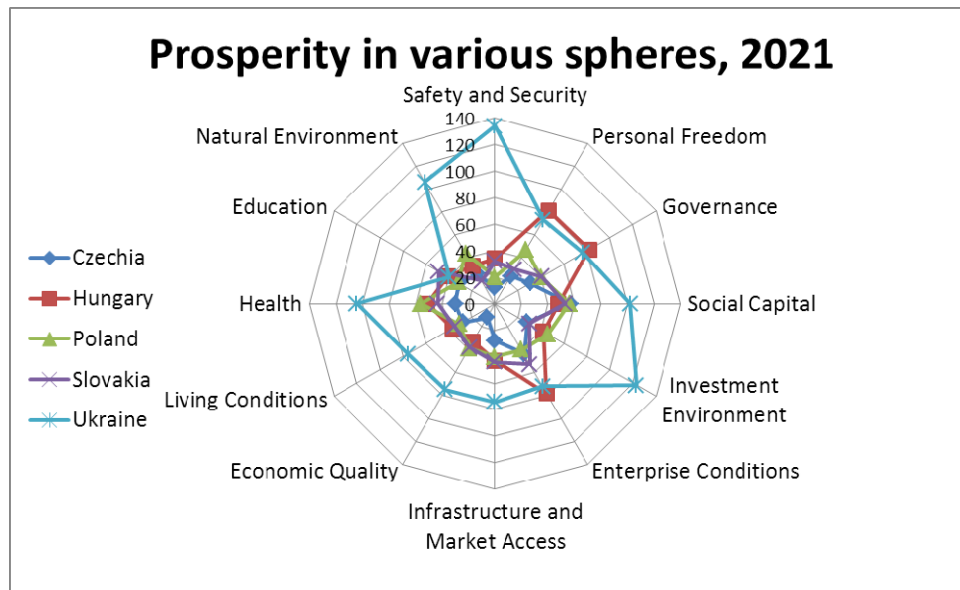


Fig. 3. The results of monitoring the values of LPI in various spheres

Source: formed on the basis of [10].

Table 6 represents the result of monitoring the values HPI [8] for Ukraine and V4 countries for years 2017-2020.

Table 6. The results of monitoring values of HPI

Country	2017	2018	2019	2020
Czech Republic	45.7	46.9	46.8	48.6
Hungary	46.4	45.9	46.6	49.7
Poland	47.6	45.9	45.4	45.7
Slovak Republic	45.0	44.3	45.0	44.9
Ukraine	38.4	40.5	40.9	44.6

Source: formed on the basis of [8].

Table 7 and figure 4 represents the result of monitoring the values BLI [9] for V4 countries in 2020.

Table 7. The results of monitoring values of BLI in 2020

Spheres	Czech Republic	Hungary	Poland	Slovak Republic
Housing	5.4	5.8	5.1	3.6
Income	2.5	1.8	2.6	2.0
Jobs	7.7	7.0	7.2	6.0
Community	9.1	7.9	8.0	8.4
Education	7.8	6.2	8.1	5.9
Environment	6.3	5.2	4.1	4.8
Civic engagement	3.5	3.4	6.3	6.8
Health	6.3	5.2	5.8	6.2
Life Satisfaction	6.7	3.9	4.2	5.5
Safety	8.4	8.0	7.9	8.3
Work-Life Balance	7.0	7.6	6.5	7.1
Average value (BLI)	6.4	5.6	6.0	5.9

Source: formed on the basis of [9].

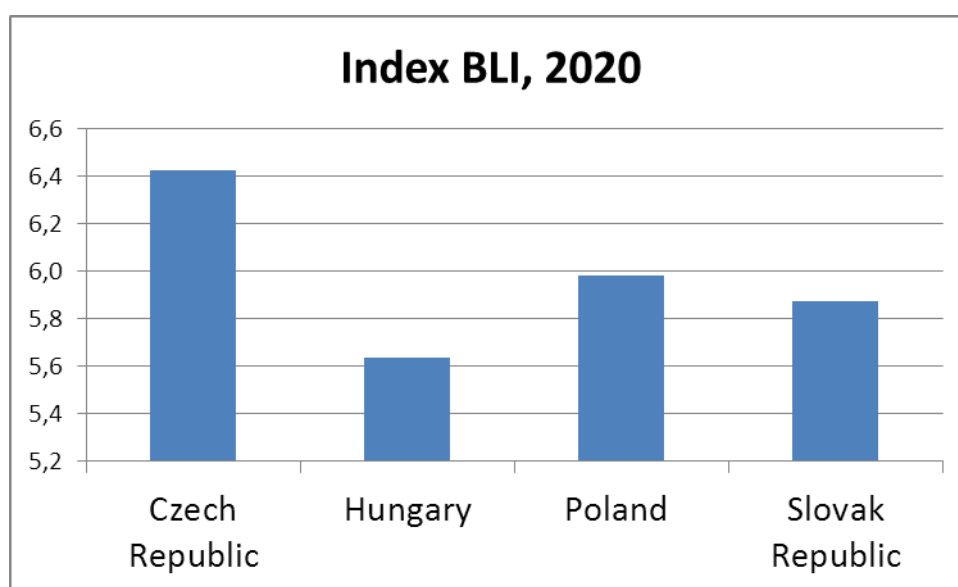


Fig. 4. The results of monitoring the values of BLI in 2020

Source: formed on the basis of [9].

Conclusions and further researches directions.

The research shows the level of well-being in V4 countries and Ukraine according to various indices and indicators.

Value of macroeconomic index GDP is low in Ukraine. For the sake of comparison in 2021 the first place for the level of GDP per capita (current US \$) was held by Monaco with \$234317.1; in United States GDP was \$70219.5. The cited values are higher than those for Ukraine (\$4534.0) by ten times. Moreover, all of European countries outstrips Ukraine by this index including V4 countries (table 1): Poland, Slovak Republic, Hungary, Czech Republic). A bit better for Ukraine is the indicator of GDP according to PPP (purchasing power parity). If we compare Ukraine with the Czech Republic (which has the best indicators among V4 countries), according to table 1 and table 2 the gap between the indicators GDP per capita and GDP per capita PPP decreases by 9%. But we have to admit, that Ukraine is the poorest country in Europe now. According to World Bank estimates, as a result of the war, the poverty level in Ukraine in 2022 increased from 5.5% to 24.2% - 7.1 million people were below the poverty line.

The level of the country by index HDI can be very high (from 0.8), high (from 0.7 to 0.8), medium (from 0.55 to 0.6) or low (less than 0.55). The level of Ukraine belongs to the category of high. At the same time, the V4 countries belong to the category with a high HDI level; from the table 3 and figure 2, Czech Republic has the best indicator's value.

The authors of LPI classify the countries by three levels: high, medium and low. LPI for Ukraine is medium in observed period. "Ukraine is 74th (among 167 countries) in the overall Prosperity Index rankings. Since 2011, Ukraine has moved up the rankings table by 11 places. Ukraine performs most strongly in Education and Social Capital but is weakest in Safety & Security. The biggest improvement compared to a decade ago came in Social Capital" [10]. Table 4 shows that Czech Republic is the leader among V4 countries in terms of index LPI. Figure 3 helps us to understand which sectors need to be reformed for the development of the state: Safety and Security, Investment Environment, Infrastructure and Market

Access, Economic Quality, Living Conditions, Health, Natural Environment. It is also clear that Czech Republic is in the center of such a chart, which indicates its undisputed leadership among V4 countries.

Ukraine's rank by index HPI is "medium" - 103rd place out of 152 countries. By comparison, all the V4 countries have a "high" level. At the same time, Table 6 shows that the gap between Ukraine and the V4 countries is not significant.

The best level of well-being among V4 countries by index BLI is in Czech Republic. When Czechs were asked to rate their overall life satisfaction on a scale of 0 to 10, they gave it a 6.7, equal to the OECD average. The rest of the V4 countries have below-average survey results.

In summary, the level of well-being in Ukraine is low compared to other European countries and V4 countries. In order to increase the level of well-being in Ukraine, it is necessary to implement reforms that will improve social and economic indicators. This will require political stability, the eradication of corruption and the shadow economy, the creation of conditions for investments, the state's focus on health care, support for entrepreneurship, and social security. The Czech Republic, which is ahead of V4 countries in all welfare indices, could become an example of successful reform of certain areas.

It is obvious that as long as Ukraine remains a candidate for EU membership, its support from the EU countries, especially taking into account the war, should be significant, both in terms of the amount of aid and the timing of its provision. The aim of support is bringing its economy and standard of living to European standards.

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