

Vladimir S. Osipov<sup>1</sup>  
Veronika V.  
Yankovskaya  
Maksim M. Novikov  
Tatiana V. Aleksashina

**Article info:**

Received 21.09.2022.

Accepted 16.06.2023.

UDC – 005.6

DOI – 10.24874/IJQR17.03-20



## QUALITY OF INCOME AS THE INDICATOR OF SOCIAL JUSTICE: ANALYTICAL METHODOLOGY

**Abstract:** *Social justice is a path to the reduction of inequality and one of the key milestones of sustainable development in the materials by the UN. However, there is a methodological gap, which hinders measuring the level of an economic system's social justice. The discovered gap is filled in here through the development of the analytical methodology of measuring social justice with the help of such criterion as the quality of income.*

*Quality of income is measured from the positions of the influence of the quality of income on the quality of the population's life (according to the materials of "Quality of Life Index of the Numbeo (2021)) and the level of happiness in society (according to the materials of World Happiness Report (2021)). For the treatment of the results of the evaluation, we develop an analytical matrix. According to it, high (nominal, quantitative) income must ensure an increase in the quality of life and an increase in the level of happiness in society. In this case, the quality of income could be deemed high, and society – just.*

*The developed proprietary methodological approach is approbated by the example of various developed and developing countries, which allows characterizing the level and differences in the quality of income and social justice of countries of the selected categories and proposing recommendations for the increase in the quality of income.*

**Keywords:** *Quality of Income, Social Justice, Distribution of Incomes, World Economy, Developing Countries, Developed Countries, Tax Policy*

## 1. Introduction

The growing inequality of incomes was one of the main socio-economic tendencies and the object of many scientific discussions in recent years. Over the recent decades, the rich became richer, while the incomes of most people remained unchanged or reduced. The middle class, which has been always considered an important foundation

of a strong economy and democracy, often faces negative tendencies in the sphere of income.

The issue of the quality of income as an indicator of social justice has always been at the basis of scientific research. Unfortunately, a large level of oligarchization and monopolization of many countries causes a significant social resonance and aggravation of the problem of

<sup>1</sup> Corresponding author: Vladimir S. Osipov  
Email: [vs.ossipov@gmail.com](mailto:vs.ossipov@gmail.com)

distribution of incomes. In developing and developed countries, inequality hinders socio-economic progress and predetermines the imbalance of regional development.

## **2. Methods**

To analyse the distribution of incomes, we use comparative analysis. This approach is based on two forms of distribution of incomes: functional (share of "workforce" in GDP) and household.

Thus, we reveal the percentage of mismatch in measuring the quality of income using the data of the EU member states and Ukraine. The methodology of comparative evaluation of the distribution of incomes and further analysis of the links of distribution relations and factors, which characterise the quality of income, is based on the analysis of the distribution policy of different countries, which is performed according to two most widespread approaches. Unlike the dominating position for the analysis of gross indicators of income per capita or the principle of household, including the evaluation of the corresponding influence on gross economic results (such as GDP and GNP), this research is aimed at studying the influence of quality and inequality of income on the selected specific indicators of social justice.

The functional distribution of incomes characterises the proportion of distribution of national income among the owners of production factors depending on each factor's participation in its creation. On the contrary, the quality of incomes of households reflects the distribution of GNP between different households, regardless of the sources of their incomes and social groups to which they belong. The distribution of incomes is studied based on the statistics of the distribution of aggregate incomes for deciles of a population group in combination with the ratio of the incomes of the upper limit of the ninth level to the incomes of the first decile (P90/P10).

To check the hypothesis on the regularity and connection between the economic results and economic factors of well-being, we use the existing statistical data from the EU and Ukraine (GDP and its components in dynamics) and the data from international reports, which illustrate certain consequences of the government distribution policy.

There is a problem of data incompatibility of the statistical sample is based on several various sources. However, in our case, we use the data of the official surveys of the distribution of incomes of households.

To discover the obvious regularities in the distribution of the quality of income, we use the sample of countries by the level of their economic progress (GDP per capita) and social justice in the distribution of incomes (Gini coefficient). The study of the functional distribution of the quality of income is based on the analysis of national income and gross value added between the production factors.

The current system of statistical indicators allows revealing the regularities of the functional distribution of incomes only between two production factors – labour (workers) and capital (owners of the business). We use this approach in this research. We use the materials of the Quality of Life Index of the Numbeo (2021) and the World Happiness Report (2021). Factors of the indicators are as follows: Human Development Index (X1); the International Property Rights Index (X2); tax burden, % GDP (X3); net migration rate (per 1,000 people) (X4); immigrants (per 1,000 people) (X5), the influencing factors are as follows: gross national income (GNI) per capita (Y1); share of the workforce in GDP (Y2); and distribution of incomes that is measured by Gini coefficient (Y3).

## **3. Literature review**

Kangmennaang and Elliott (2018) in their work "Tableau économique", or "Economic

Table”, were the first to consider the problem of the quality of income within the economic theory. According to Kangmennaang, the flows of incomes are distributed between three classes: landowners, farmers, and other classes, which consumers everything they produced but did not leave anything for the following period. The main idea of the concept is the principle of domination of agriculture over other production spheres.

Representatives of the classical economic school (A. Smith, D. Ricardo) believed that every member of the society had a share in the national income. Smith and Ricardo stated that the well-being of each human depended on the well-being of society (Ricardo, 2017).

J.M. Keynes developed the theory of the distribution of incomes. Keynes (2016) says that there are differences between the revenues of firms and households and develops a concept of investment multiplier.

There are obvious reasons for the difference in the measuring and strategy of regulation of the inequality of income (Koisova et al., 2018)

Barradas and Lagoa study new tendencies in globalization, including changes in education and business cycles (Barradas & Lagoa, 2017).

For developing countries – i.e., Ukraine – the level of income, which determines its effectiveness for satisfying personal needs – remains an important factor that can provoke migration and aggravate the general level of the country’s socio-economic well-being. To substantiate a specific model of the quality of distribution of incomes, which would conform to the interests of all concerned parties in the social spheres, it is necessary to study the experience of countries that are treated as “safe” in all aspects of social relations, including distribution.

The problem of justice and its evaluation by the main vectors, determined in the existing theories of justice, of which the most well-known is the theory of Belabed et al. (2018),

is not the purpose of this paper. This research is aimed at finding the connections between the indicators of distribution of incomes and the key indicators of well-being.

Based on the current research of the quality of income, which is treated as one of the main features of the processes of distribution of injustice, it is possible to state that inequality is preserved due to an increase in the share of incomes and wealth in almost all countries in the recent decades. However, the level of the increase is different, which is a sign of a large role of policies and institutes in specific countries (Kokocinska & Puziak, 2018).

Another threshold that characterizes the ideal equality as to the distribution of incomes is the value of the Palma ratio at the level of 1.0, according to Doyle and Stiglitz (2018). The current distributive studies of justice are based mainly on the gross indicators of the distribution of incomes, including widely used tools of the inequality of income. In this context, it is important to analyse the functional distribution of incomes by economic factors, in particular, the share of "workforce" in GDP, as well as the comparative analysis of the socio-economic well-being of countries, which is connected to the main indicators of the distribution of incomes.

The issues of justice were also studied in Bugdol & Jedynak (2020). The problems of social entrepreneurship were elaborated in Shkromyda et al. (2021) and Gornostaeva & Chernysheva (2021).

## **4. Results**

Let us analyse the Quality of Life Index as of mid-2021 (Table 1). Living standards in countries of the world is assessed according to different indicators, and GDP per capita is just one of them. Other criteria are as follows:

- Freedom of life choice;
- Trust to social and political institutes;
- Lifespan;
- Level of healthcare;
- Social programs, as a sign of a healthy society, which cares for its members.
- Transport support, which influences the population's time savings;
- Environmental and climate characteristics.

Based on the presented estimate results (Table 1), let us analyse the characteristics of the Quality of Life Index and its factors, which ensured the rankings of the considered countries (main leaders and outsiders).

As of mid-2021, Switzerland was ranked 1st in the world by the Quality of Life Index (188.36 points). This value was ensured by a high value of the Purchasing Power Index (102.77 points), which, in its turn, led to the achievement of a high level of the Cost of Living Index (125.02 points). Also, the important indicators of implementing the main parameters of the quality of life in Switzerland are values of the indices that characterise the level of healthcare (74.08 points) and safety (78.38 points) (Table 1). Despite the world leadership in the sphere of the economic well-being of the population, the country has certain problems, the resolution of which is very topical for the citizens. Analysis of Curtale et al. (2021) showed that these problems include the following:

- Problems of mobility due to high traffic by tourists and locals in rural territories, including tourist destinations. Such territories of Switzerland include the rural territories of the Canton Ticino valleys (Verzasca valley, Maggia valley), which are located in the south of Switzerland. According to Curtale et al. (2021), a high level of traffic jams in tourist destinations is caused by the absence of eco-friendly vehicles (insufficient offer in bicycles / electric

scooters rental), which would reduce the load on roads; low level of parking fees, which is an additional argument in favour of using own car; absence of the focus on sustainable development of territories with the population of Switzerland's rural territories. The fact of insufficient involvement of the local population of most of the rural territories of Switzerland in the implementation of the sustainable development concept is due to the low level of interaction between local authorities and citizens and the tendency to use private cars;

- Problems of environmental pollution, connected with a large car flow, which are peculiar for rural territories to a larger extent, compared to urban territories. Despite this, Switzerland has a rather low indicator of pollution (19.86 points), while it is worse compared to Finland and Iceland, where the issue of ecologisation of transport vehicles and reduction of CO2 emissions is solved more effectively (Clarke et al., 2017).

In the studied period, Denmark was ranked 2nd by the Quality of Life Index (186.25 points). Unlike Switzerland, Denmark reached lower results as to the Purchasing Power Index (86.43 points), but the value of the Cost of Living Index (88.53 points) was rather high. Denmark demonstrates a certain tendency for the reduction of the Purchasing Power Index: in mid-2019, this indicator equalled 101.27; in mid-2019 – 110.69 points; mid-2018 – 118.75 points; mid-2017 – 118.75 points (Quality of Life Index of the Numbeo, 2021). Analysis of the works by Hansen et al. (2017) and Harding and Munk (2020) shows that these changes could be explained by the following:

- Influence of the unpredictable reduction in the economic activity and well-being due to the adoption of the law on social distancing, caused by the pandemic. These negative tendencies are caused primarily by COVID-19 (2020-2021);

- Reduction of the economic, educational and socially-oriented model of generations, caused by ageing of the population that is competitive in the labour market and growth of the number of citizens without work experience and knowledge, which are necessary in the labour market;
- Reduction of the distribution of incomes from one generation to another, connected with an increase in the number of immigrants, who are not able to support their children and do not ensure the growth of effective demand;
- Insufficiently effective economic, educational and socio-cultural integration of the generation of immigrants, who were born in the territory of Denmark, which does not allow them to find decent work and receive the income that is necessary for the growth of effective demand;
- Negative influence of the fiscal system, which provides social guarantees for immigrants and refugees, namely tax burden on the incomes of the working population. Since 2015, in the countries of the EU and Nordic countries, including Denmark, there has been a problem of the migration crisis, caused by the growth of the number of refugees from countries with a low level of professional training, education and knowledge of foreign languages. Immigrants of the working age, which came from non-European countries, will not be able to quickly compensate for the national budget's expenditures for social programmes. The financing of these social programmes is implemented through personal income tax. Accordingly, the growing fiscal burden on the working population of Denmark does not reduce, which leads to a gradual decrease in the Purchasing Power Index (Hansen et al., 2017).

According to the statistical data from Table 1, the main factors of the Quality of Life

Index of Denmark are at a rather high position in the corresponding rankings: healthcare (79.79 points); life safety (73.78 points); environmental (21.29 points) and climate spheres (81.80 points).

Under the conditions of development of positive characteristics of these spheres, there are certain problems in the following aspects (Albert et al., 2020):

- Growth of environmental pollution, is caused by the increase in car, industrial and consumer emissions of CO<sub>2</sub>. This is true for Central (including the capital), Southern and Northern Denmark, where the level of urban and industrial activity and, accordingly, the level of environmental pollution are higher;
- Decrease in mobility on the roads (time spent in traffic) within the above macro-regions of the country, with the corresponding influence on the growth of CO<sub>2</sub> emissions. Over 1970 – 2016, Denmark demonstrated downward trends in CO<sub>2</sub> emissions, including due to the reduction of the use of traditional cars with petrol and diesel engines (Bhowmik, 2019). Given the further growth of CO<sub>2</sub> emissions from the transport system and its negative impact on ecology, Denmark's government developed and adopted the strategic directions for decarbonisation of transport and its energy efficiency (Kany et al., 2022). The government strategy envisages the following: a decrease in CO<sub>2</sub> emissions from transport by 70%; wide implementation of vehicle electrification; a proposition to car owners to refuse from driving their cars in favour of electric trains.
- The Netherlands was ranked 3rd by the Quality of Life Index (180.27 points) (Table 1). The key factors of provision of the indicator's level are as follows:
- A rather high level of the Purchasing Power Index (76.65 points), which influenced the formation of the corresponding high level of the Cost of

Living Index (78.93 points). Over the course of three years, the value of the indicator of the Purchasing Power Index reduced by 31.61 points. This is a rather large level of reduction, caused by the influence of the global economic crisis, negative phenomena in various spheres that are connected with the pandemic and the pandemic's consequences. These economic factors predetermined the emergence of negative tendencies in the following spheres: population's well-being; real estate market (Boelhouwer, 2020);

- A high level of the system of healthcare and safety, attractive climate conditions and ecology. Despite a range of problems in these spheres, their development allows the country to remain the leader in the sphere of quality of life for the last decades.

Analysis of the data from Table 1 has shown that Bulgaria has the lowest position by the index of the quality of life among the EU member states (126.88 points). In the world ranking of quality of life, the country has 44th position, which is caused by the influence of the range of factors of socio-economic and environmental character. It should be noted that the largest impact on the Quality of Life Index of Bulgaria was performed by the following factors:

- 1) Low level of the Purchasing Power Index (39.49 points) and the Cost of Living Index (38.67 points). Analysis of the dynamics of the Purchasing Power Index shows its changes in the direction of a decrease. As of mid-2020, this indicator equalled 44.11 points, mid-2019 – 51 points, and mid-2018 – 57.21 points (Quality of Life Index of the Numbeo, 2021). The reduction of this indicator by 18.54 points is due to the influence of the negative tendencies of the global economic crisis and internal decline of the economy, caused by the pandemic; insufficient level of government programmes of fighting the

inequality in society; ineffective fiscal policy, which does not ensure a sufficient level of redistribution effectiveness and is concentrated within several social risks (Hallaert, 2020). Against the background of the fight against poverty, Bulgaria is peculiar for the remaining growth of inequality among the population. The specific features of this tendency in Bulgaria in 2010-2021 were economic growth and an increase in well-being of 1.5% of the population (tycoons); gradual emergence of a group of people that could be assigned to the middle class (4-7% of the population, while in Germany this group of the population accounts for 2/3 of the population); the existence of socio-economic problems with the population with the low level of incomes, which is 94.5-91.5% of the population. A high level of inequality in Bulgarian society is caused by the low social corporate responsibility of company owners and management; significant differences in incomes of the citizens of Bulgaria at the level of various regions. The capital – Sophia – and the South-East region are peculiar for a higher level of income, which is due to larger business activities; other regions, especially the Northern region, have a low level of wages and incomes (Tasbasi, 2021). Representatives of the business environment and local authorities do not implement measures on the provision of growth of citizens' incomes and provision of decent jobs.

- 2) The medium level of the system of safety and healthcare, favourable climate conditions, and high level of environmental pollution (Quality of Life Index of the Numbeo, 2021). Despite the rather high climate indicators, the medium level of development of the healthcare and life safety system and the level of negative environmental influence has an important role in the decrease in the Quality of Life Index in

Bulgaria. Environmental problems in Bulgaria include as follows (Ivanova & Slavova, 2018): absence of the systemic national policy of stimulating the entrepreneurial sector on the implementation of the programmes of energy efficiency and ecologisation of processes and production; absence of the practice of using the policy of corporate responsibility in the sphere of ecologisation, energy efficiency with national companies; local personnel's

neglecting the requirements on participation in sustainable environmental development of companies, which use the concept of ecologisation and energy efficiency; growth of pollution from the activities of the coal industry, the reduction of which is slowed down by the absence of investments in the development of green energy and protection of jobs at coal mines and coal-fired power plants.

**Table 1.** The Quality of Life Index by countries as of mid-2021.

Country	Quality of Life Index	Purchasing Power Index	Safety Index	Health Care Index	Cost of Living Index	Property Price to Income Ratio	Traffic Commute Time Index	Climate Index
Switzerland	188.36	102.77	78.38	74.08	125.02	8.18	28.67	80.05
Denmark	186.25	86.43	73.78	79.79	88.53	7.00	28.69	81.80
Netherlands	180.27	76.65	72.84	75.28	78.93	7.28	27.64	87.00
Finland	178.95	80.11	72.41	76.19	76.35	8.57	28.91	56.64
Iceland	177.64	67.30	76.25	65.85	99.67	6.11	19.90	68.81
Austria	176.36	68.69	74.46	76.98	74.87	10.91	25.67	77.15
Germany	175.24	89.86	64.21	73.49	67.85	8.88	31.22	82.82
Luxembourg	171.81	87.76	65.87	72.92	85.30	13.00	31.79	82.62
Norway	171.72	73.55	66.28	75.59	103.56	8.09	26.93	68.68
Estonia	171.16	56.58	76.29	72.68	53.77	9.37	24.44	64.28
Sweden	170.19	85.44	52.00	68.82	75.89	7.71	29.77	74.92
Slovenia	165.74	52.08	77.72	65.19	56.40	11.67	26.93	77.56
Spain	163.48	58.50	66.68	78.85	56.64	9.22	29.28	93.65
Lithuania	160.29	52.80	66.58	70.91	46.04	10.49	25.81	69.86
Portugal	159.83	40.54	70.09	71.85	50.65	12.92	29.33	97.81
Czech Republic	157.49	54.80	74.48	75.39	48.20	13.71	29.58	77.13
United Kingdom	156.94	77.47	53.93	75.11	70.64	9.46	34.40	88.21
Croatia	155.41	39.83	75.41	63.95	55.18	13.59	28.07	89.69
France	153.60	76.36	48.01	80.56	77.59	10.04	34.79	90.41
Ireland	150.54	71.58	54.49	52.82	78.55	6.69	38.10	89.13
Belgium	148.18	70.12	55.42	75.37	75.79	7.01	36.82	86.03
Slovakia	147.09	45.65	69.63	60.19	47.32	11.08	27.91	78.13
Latvia	146.80	43.49	61.23	62.02	50.41	8.30	30.86	74.70
Italy	137.77	54.30	55.15	66.99	69.99	8.76	34.04	91.48
Hungary	134.54	47.41	65.64	52.85	42.26	10.64	35.87	79.48
Romania	130.86	41.89	71.70	55.98	36.77	10.25	33.97	77.62
Greece	127.96	35.95	54.15	57.09	58.38	9.61	33.95	92.49
Poland	127.79	43.61	69.50	56.15	41.75	14.13	31.34	76.01
Bulgaria	126.88	39.49	61.79	56.28	38.67	8.30	29.43	82.76
Bosnia And Herzegovina	123.85	38.94	57.01	53.24	36.95	11.02	25.89	80.48
Serbia	117.00	34.16	61.90	51.96	37.62	15.89	30.77	83.23
North Macedonia	108.25	29.92	60.88	56.37	32.76	12.24	26.90	76.30
Ukraine	107.80	30.28	52.58	53.70	31.20	11.21	37.83	70.69
Belarus	107.15	29.87	40.42	44.79	31.58	16.24	30.25	64.37
Russia	97.91	35.53	60.01	58.53	36.76	15.31	44.53	39.84

Source: Compiled by the authors based on Quality of Life Index of the Numbeo (2021)

As a result of the decile distribution of incomes (Table 2), it is possible to calculate other indicators to evaluate the inequality. In particular, an alternative to the ratio Interdecile P90/P10 is the Palma ratio, which is sensitive only to the changes in the upper (10%) and lower (40%) shares of the distribution of incomes. Its value for Ukraine is the lowest as compared to countries of the EU and confirms the results of the ratio

Interdecile P90/P10 as to the relative equality in the distribution of incomes between the upper and lower decile groups of the population. At that, while for the ratio Interdecile P90/P10 the highest inequality in the distribution of incomes between countries of the EU was observed in Belgium, Latvia, and Portugal, for the Palma ratio – in Bulgaria, Luxembourg, and Lithuania.

**Table 2.** Distribution of aggregate incomes by decile groups in Ukraine and countries of the EU.

Countries	Decile Group Number										Interdecile Ratio P90/P10	Palma Ratio	Interdecile Ratio P80/P20
	1	2	3	4	5	6	7	8	9	10			
Ukraine	4.8	6.3	7.1	7.9	8.6	9.4	10.5	11.8	13.6	20.0	4.2	0.77	3
Slovakia	3.3	5.9	7.1	8.1	9	9.8	10.9	12.0	13.8	19.9	5.2	0.82	3.7
Slovenia	3.8	5.7	6.9	7.9	8.9	9.8	10.9	12.1	13.9	20.1	6	0.83	3.6
Czech Republic	4.1	6.0	6.9	7.6	8.5	9.4	10.4	11.7	13.8	21.6	7	0.88	3.5
Finland	4.1	5.7	6.7	7.6	8.5	9.5	10.5	11.9	13.9	21.5	7	0.89	3.6
Belgium	3.7	5.4	6.5	7.5	8.6	9.8	11.0	12.5	14.4	20.7	15.2	0.9	3.9
Netherlands	3.6	5.6	6.6	7.5	8.5	9.4	10.6	12.0	14.1	22.1	6.7	0.95	3.9
Austria	3.3	5.5	6.6	7.6	8.5	9.6	10.7	12.1	14.1	22	7.6	0.96	4.1
Sweden	3.1	5.4	6.5	7.6	8.7	9.7	10.9	12.3	14.2	21.8	9.3	0.96	4.2
Denmark	3.3	5.7	6.7	7.6	8.4	9.4	10.5	11.7	13.5	23.1	7.5	0.99	4.1
Hungary	3.3	5.4	6.5	7.4	8.4	9.4	10.6	12.3	14.3	22.6	6.2	1.0	4.2
Malta	3.7	5.2	6.1	7.2	8.3	9.4	10.6	12.2	14.5	22.8	6.1	1.03	4.2
Croatia	2.7	4.7	6.1	7.3	8.4	9.7	11.1	12.6	15.2	22.1	13.6	1.06	5.0
Germany	3.1	5.1	6.3	7.3	8.3	9.4	10.6	12.2	14.5	23.3	8.8	1.07	4.6
Poland	3.0	5.0	6.2	7.2	8.3	9.4	10.7	12.4	14.9	22.9	10	1.07	4.7
Ireland	3.5	5.1	6.1	7.0	8.2	9.4	10.6	12.3	14.4	23.5	12.6	1.08	4.4
EU	2.8	4.9	6.1	7.1	8.2	9.4	10.6	12.3	14.7	23.8	8.5	1.14	5
Luxembourg	2.9	4.8	6.1	7.0	8.0	9.3	10.5	12.3	15.0	24.1	6.8	1.16	5.1
United Kingdom	2.6	5.0	6.0	7.0	8.0	9.2	10.6	12.3	14.9	24.3	4.9	1.18	5.2
Estonia	2.7	4.5	5.5	6.6	7.9	9.3	10.9	13.0	16.0	23.7	6.7	1.23	5.5
Cyprus	3.4	4.8	5.8	6.6	7.7	9.0	10.3	11.9	14.6	25.8	11.1	1.25	4.9
Italy	1.8	4.5	5.8	7.0	8.3	9.6	10.9	12.6	15.1	24.4	7.6	1.28	6.3
Portugal	2.6	4.5	5.7	6.7	7.8	8.9	10.3	12.3	15.4	25.9	13.4	1.33	5.8
Greece	2.0	4.2	5.7	6.8	8.0	9.2	10.8	12.7	15.4	25.1	12.5	1.34	6.5
Spain	2.0	4.2	5.5	6.7	8.0	9.3	10.8	12.9	15.8	24.9	6.9	1.35	6.6

Source: Compiled by the authors based on Quality of Life Index of the Numbeo (2021)

An alternative to the Palma ratio could be – to a certain extent – the ratio Interdecile P80/P20. It reflects the ratio of the incomes of 20% of the richest to 20% of the poorest – based on the fact that the middle class is relatively stable and accounts for 60%.

Differentiation in the distribution of incomes by the indicators could be explained by the methodological specifics of their calculation. The Interdecile P90/P10 ratio reflects inequality in the distribution of incomes by the principle of extreme polarisation. At the



same time, at the basis of the Palma coefficient lies the concept of the middle class, which incomes, in most cases, account for half of the national income, while another half is distributed among the richest and the poorest.

Given this, countries of the EU implement various policies for the formation of the middle class and polarization of population by income. As for Ukraine, serious doubts are caused by demonstrative equality in the distribution of incomes compared to countries of the EU under the conditions of a high level of shadow copying of the national economy. The level of the shadow economy in Ukraine equalled 42.9% in 2020, it was above the critical level of 30% (Vdovtsova, 2018).

Of course, under the conditions of intense “shadow” economic relations, the official statistics cannot objectively reflect the distribution of incomes between the groups of the population. Gini coefficient ensures the integral criterion of quality in the distribution of the population's incomes.

A comparative analysis of the Gini coefficient in Ukraine and EU member states demonstrates a very low level of the inequality of income in the national economy compared to most countries of the EU.

Unlike Ukraine, most EU member states have medium (9 countries) and low (9 countries) level income inequality. At the same time, the inequality in the distribution of incomes could be characterized as high in 8 countries (Bulgaria, Romania, Lithuania, Latvia, Spain, Portugal, Greece, and Italy) (Vdovtsova, 2018).

The analysis (Table 3) shows that in the case of the given model of the distribution of incomes and moderate inequality of distribution, a country might have high rates of economic and social development and vice versa. Let us perform a correlation analysis based on the values of paired correlation, which confirms this hypothesis. We perform the research of the regulatory mechanisms of the influence on the coefficients of quality of distribution by the example of two groups of countries (leader and outsider), with clearly formulated tendencies of the economic and social development.

**Table 3.** Results of the correlation analysis.

		Per Capita	X1	X2	X3	X4	X5
Gross national Income $Y_1$ (GNI) per capita	0.344	1.00	0.960	0.902	0.569	0.575	0.663
Share of wages and $Y_2$ salaries	1.00	0.344	0.349	0.438	0.096	0.2110	0.2080
Gini $Y_3$	-0.279	-0.897	-0.864	-0.923	-0.729	-0.487	-0.843

Source: Compiled by the authors based on Quality of Life Index of the Numbeo (2021)

Based on a preliminary analysis, the first group, in which the social and economic effectiveness is above the average criteria, includes Sweden, Finland, Belgium, the Netherlands, France, and Austria. The second group (social and economic effectiveness below the average level) includes Cyprus, Greece, Spain, Portugal, Estonia, Latvia, Lithuania, Bulgaria, and

Romania (Buitrago Esquinas et al., 2019).

To discover the level of the correlation between the factors of effectiveness and the related socio-economic factors of well-being, we use the data on the workforce in GDP and the specific indicators of socio-economic development.

## 5. Discussion

In this research, we focus on the study of the links between the quality of distribution of incomes and the key indicators, which create the economic and social foundations for the success of all other actions of the government – in the provision of financial stability and other spheres.

We suggested using the given approach to the combination of the functional and household distribution of incomes – to study the foundations of the formation of inequality of income, which are connected to the socio-economic well-being of a country. We also considered the method of ranking of countries by the level of the distribution of incomes of households and GDP per capita due to the analysis of the corresponding dependencies of the distribution proportions. Based on the experience of the EU, it is possible to state that the quality of the distribution of incomes and social justice does lead to economic progress and social well-being.

## 6. Conclusion

The factor distribution of the quality of income between “labour” and “capital” in Ukraine and the EU demonstrates its relative justice. At the same time, countries of the

EU have a large difference in the share in incomes in favour of hired help and entrepreneurs. In countries of the EU, the distribution of incomes of households by different indicators shows different results. This, by Interdecile P90 / P10 ratio, the highest polarization of incomes is observed in Belgium, Latvia, and Portugal (incomes of 10% of the richest are by 13.4–15.7 times higher than incomes of 10% of the poorest); the lowest polarisation of income is observed in the UK and Romania (4.9-5.3 times). The correlation analysis of the connection between the Gini coefficient and a range of socio-economic indicators (Human Development Index, International Property Rights Index, net migration rate, and tax burden, % of GDP) shows a connection between the distribution of the quality of income and the indicators of the economic and social development (Arestis & Baltar, 2018). Besides, the high level of income per capita and the corresponding share of GDP belonging to employees are also factors of socio-economic development. Thus, the experience of the EU demonstrates that the intended policy of the distribution of incomes, which eliminates the excessive inequality in their distribution, is the basis of human development and socio-economic progress.

## References:

- Albert, O.-O. K., Marianne, T., Jonathan, L., Nino, J. L., & Dario, C. (2020). Tracking the carbon emissions of Denmark's five regions from a producer and consumer perspective. *Ecological Economics*, 177, 106778. URL: <https://www.sciencedirect.com/science/article/pii/S0921800919319305>
- Arestis, P., & Baltar, T. C. (2018). Income distribution and economic growth: A critical approach. *Panoeconomicus*, 64, 125-138.
- Barradas, R., & Lagoa, S. (2017). Functional income distribution in Portugal: The role of financialisation and other related determinants. *Society and Economy*, 39, 183-212.
- Belabed, C., Theobald, T., & van Treeck, T. (2018). Income distribution and current account imbalances. *Cambridge Journal of Economics*, 42, 47-94.
- Bhowmik, D. (2019). Decoupling CO2 Emissions in Nordic countries: Panel Data Analysis. *SocioEconomic Challenges*, 3(2), 15-30.

- Boelhouwer, P. (2020). The housing market in The Netherlands as a driver for social inequalities: proposals for reform. *International Journal of Housing Policy*, 20(3), 447-456.
- Bugdøl, M., Jedynak, P. (2020). Bonus for quality of products and services in the TQM concept. The problems of reality and justice. *International Journal of Quality Research*, 14(3) 717-738 <http://doi.org/10.24874/IJQR14.03-05>
- Buitrago Esquinas, E. M., Caraballo Pou, M. Á., & Roldán Salgueiro, J. L. (2019). Do tolerant societies demand better institutions? *Social Indicators Research*, 143, 1161-1184.
- Clarke, J., Heinonen, J., & Ottelin, J. (2017). Emissions in a decarbonised economy? Global lessons from a carbon footprint analysis of Iceland. *Journal of Cleaner Production*, 166, 1175-1186.
- Curtale, R., Sarman, I., & Evler, J. (2021). Traffic Congestion in Rural Tourist Areas and Sustainable Mobility Services. The Case of Ticino (Switzerland) Valleys. *Tourism Planning & Development*, 1. URL: <https://www.tandfonline.com/doi/full/10.1080/21568316.2021.2001034?scroll=top&needAccess=true>
- Doyle, M. W., & Stiglitz J. E. (2018). Eliminating extreme inequality: A sustainable development goal, 2020–2030. *Ethics and International Affairs*, 28, 5–13.
- Gornostaeva, Z. V., & Chernysheva, Y. S. (2021). Marketing management of quality based on industrial and manufacturing engineering of project activities: social entrepreneurship vs. technological entrepreneurship. *International Journal of Quality Research*. <http://doi.org/10.24874/IJQR16.01-04>
- Hallaert, J.-J. (2020). *Inequality, Poverty, and Social Protection in Bulgaria*. IMF Working Papers. URL: <https://www.imf.org/-/media/Files/Publications/WP/2020/English/wpiea2020147-print-pdf.ashx>
- Hansen, M. F., Schultz-Nielsen, M. L., & Tranæs, T. (2017). The fiscal impact of immigration to welfare states of the Scandinavian type. *Journal of Population Economics*, 30, 925–952.
- Harding, D. J., & Munk, M. D. (2020). The Decline of Intergenerational Income Mobility in Denmark: Returns to Education, Demographic Change, and Labor Market Experience. *Social Forces*, 98, 4, 1436-1464.
- Ivanova, V., & Slavova, I. (2018). Ecological Transformation in Bulgaria – New Challenges to the Businesses and the Government. *European Journal of Economics and Business Studies*, 4, 2 20-32.
- Kangmennaang, J., & Elliott, S. J. (2018). Towards an integrated framework for understanding the links between inequalities and wellbeing of places in low and middle income countries. *Social Science and Medicine*, 213, 45-53.
- Kany, M. S., Mathiesen, B. V., Skov, I. R., Korberg, A. D., Thellufsen, J. Z., Lund, H., Sorknæs, P., & Chang, M. (2022). Energy efficient decarbonisation strategy for the Danish transport sector by 2045. *Smart Energy*, 5. URL: <https://www.sciencedirect.com/science/article/pii/S2666955222000016>
- Keynes, J. M. (2016). *The General Theory of Employment, Interest, and Money*; Macmillan Cambridge University Press: Cambridge, UK.
- Koisova, E., Masarova, J., & Habanik, J. (2018). Regional Differences in the Labour Market in Slovakia and the Czech Republic. *Journal of Competitiveness*, 10, 104–117.

- Kokocinska, M., & Puziak, M. (2018). Regional Income Differences and their Evolution after EU Accession. The Evidence from Visegrad Countries. *Journal of Competitiveness*, 10, 85–101.
- Quality of Life Index of the Numbeo* (2021). URL: [https://www.numbeo.com/quality-of-life/rankings\\_by\\_country.jsp](https://www.numbeo.com/quality-of-life/rankings_by_country.jsp)
- Ricardo, D. (2017). *On the Principles of Political Economy and Taxation (1821)*. Kessinger Publishing: Whitefish, MT, USA.
- Shkromyda, N., Shkromyda, V., Gnatiuk, T., Franchuk, I., & Viter S., (2021). Development of social entrepreneurship: accounting, analesis and quality standards. *International Journal of Quality Research*, 15(4), 1287-1300. <http://doi.org/10.24874/IJQR15.04-17>
- Tasbasi, A. (2021). A threefold empirical analysis of the relationship between regional income inequality and water equity using Tapio decoupling model, WPAT equation, and the local dissimilarity index: evidence from Bulgaria. *Environmental Science and Pollution Research*, 28, 4352-4365.
- Vdovtsova, S. (2018). Motivation Mechanisms of Youth Behavior on Ukrainian Labour Market. *Economics and Sociology*, 1, 104-109.
- World Happiness Report (2021). URL: <https://worldhappiness.report/ed/2021/>).

---

**Vladimir S. Osipov**

Moscow State Institute of  
International Relations  
(University) of the Ministry of  
Foreign Affairs Russian  
Federation,  
Moscow,  
Russia  
[vs.ossipov@gmail.com](mailto:vs.ossipov@gmail.com)  
ORCID 0000-0003-3109-4786

**Veronika V. Yankovskaya**

Plekhanov Russian University  
of Economics,  
Moscow,  
Russia  
[veronika28-2@mail.ru](mailto:veronika28-2@mail.ru)

**Maksim M. Novikov**

Diplomatic Academy of the  
Ministry of Foreign Affairs of  
the Russian Federation,  
Moscow,  
Russia  
[Maxim@e-artteam.ru](mailto:Maxim@e-artteam.ru)  
ORCID 0000-0002-7233-1680

**Tatiana V. Aleksashina**

Holmes Institute Higher  
Education,  
Melbourne, Victoria,  
Australia.  
[altavip@yandex.ru](mailto:altavip@yandex.ru)  
ORCID I0000-0002-4725-4994

---