



ECONOMIC ASPECTS OF THE QUALITY OF LIFE

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Abstract

The aim of the research was to identify and assess the economic aspects of the quality of life in the EU. The research covered all Member States in terms of the selected quality-of-life indicators, which include GDP per capita expressed in purchasing power standards (PPS), average income in euro and severe material deprivation (SMD) expressed as a percentage. Three research methods were used to conduct the research: analysis and criticism of the literature on the national and international scale, analysis of secondary data obtained from the Eurostat database, as well as a statistical method using descriptive statistics, including the use of the dynamics index to estimate the level and direction of changes in the analyzed quality of life measures.

As a result of the conducted research and with the use of the method of aggregating countries in terms of economic indicators describing the quality of life, it was found that rich countries characterized by high socio-economic development featured the highest level of quality of life. They include mainly Luxembourg, and due to the high level of average income and, at the same time, low SMD, Ireland, Austria, and Denmark. The lowest quality of life, but with the highest dynamics of average income, was characteristic of countries such as Bulgaria, Romania, Greece, and Hungary, where GDP was at a low or very low level. It should be added that in these countries, at the same time, some of the lower rates of deprivation dynamics were identified, which was a positive phenomenon. Poland had the lowest SMD dynamics.

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A b s t r a k t

Celem badań była identyfikacja i ocena ekonomicznych aspektów jakości życia w UE. Badaniem objęto wszystkie państwa członkowskie w zakresie wybranych ekonomicznych wskaźników jakości życia, tj. PKB per capita wyrażony w standardzie siły nabywczej, średni dochód w euro oraz poważną deprivację materialną wyrażoną w procentach. Do przeprowadzenia badań wykorzystano trzy metody badawcze: analizę i krytykę literatury w skali krajowej i międzynarodowej, analizę danych wtórnych pozyskanych z bazy Eurostatu oraz metodę statystyczną z wykorzystaniem statystyki opisowej, w tym z wykorzystaniem wskaźnika dynamiki, oszacowaniem poziomu i kierunku zmian analizowanych mierników jakości życia.

W wyniku przeprowadzonych badań oraz z wykorzystaniem metody agregacji krajów pod kątem wskaźników opisujących jakość życia stwierdzono, że kraje bogate, charakteryzujące się wysokim rozwojem społeczno-gospodarczym, cechowały się najwyższym poziomem jakości życia. Należą do nich głównie Luksemburg, a ze względu na wysoki poziom przeciętnych dochodów i jednocześnie niski poziom poważnej deprivacji materialnej: Irlandia, Austria i Dania. Najniższą jakością życia, ale z najwyższą dynamiką przeciętnych dochodów, charakteryzowały się takie kraje, jak: Bułgaria, Rumunia, Grecja i Węgry, w których PKB kształtował się na niskim lub bardzo niskim poziomie. Należy dodać, że w tych krajach jednocześnie zidentyfikowano część niższych wskaźników dynamiki deprivacji, co było zjawiskiem pozytywnym. Polska i Łotwa miały najniższą dynamikę wskaźnika poważnej deprivacji materialnej.

Introduction

The quality of life and work has its source in the humanistic definition of quality. It is believed that it raises the level of culture in society (Chrobocińska *et al.*, 2021, p. 14). Quality of Life (hereafter referred to as QOL) is defined by the World Health Organization as “an individual’s perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns”. Therefore, it is a complex and multifaced notion, as it involves subjective reception of what makes life better, and scholars generally agree that this concept is vague and ethereal

(Barofsky, 2012, p. 625, 626) and there is no single method which would define QOL without certain limitations (Barofsky, 2012, p. 630). Chrobocińska *et al.* (2021, p. 10) state that the quality of life consists of many elements, both the quality of goods, services, products, information, the quality of the environment, as well as the quality of relationships formed with other people. One of the synthetic measures of the quality of life is the commonly used indicator of socio-economic development, the so-called HDI (Human Development Index), which consists of components such as: life expectancy, average number of years of education received by residents aged 25 and older, expected number of years of education for children starting the education process, as well as national income per capita in USD, calculated according to the purchasing power parity of a given currency. It therefore contains indicators of both a social and economic nature. From the perspective of the issues discussed in the paper, those of an economic nature, both quantitative and qualitative, are particularly interesting (Assa, 2021, p. 1).

Assuming that the feeling of happiness is essential in a person's perception of their own QOL, it is worth to note that happiness was proven to increase with the increase in the GDP per capita (Dipietro & Anoruo, 2006, p. 708). Empirical research conducted by Tavor *et al.* (2018, p. 2133). shows that the GDP per capita as expressed in Purchasing Power Standards significantly contributes to the high level of happiness. Moreover, its effect is stronger especially in developing countries. It's worth noting that the level of happiness is not affected by the level of the Gini coefficient in general. The Gini coefficient is a measure of wealth distribution in a given population on a scale from 0 to 1 using the Lorentz curve, where 0 means perfectly equal distribution within the population, while 1 means the ownership of all wealth by one person in the population (Farris, 2017, p. 851-853). However, when countries are divided into either a low or high level of the Gini coefficient countries, then high inequality negatively affects the happiness level in developing countries, while low Gini coefficient values have negative effects on the level of happiness only in developed countries (Tavor *et al.*, 2018, p. 2133). It is important to note these conclusions when measuring the level of QOL in the European Union countries, because the EU is composed both of developed and developing countries, and the level of the Gini coefficient is relatively low there. In such circumstances, the GDP per capita in PPS is an appropriate indicator of the QOL in the EU member states.

Due to the limitations in the QOL measurement related to GDP per capita, this study analyzes the quality of life described not only by this indicator (GDP per capita as expressed in Purchasing Power Standards), but also by other economic measures, such as average income or material deprivation. The downside of limiting the measure of QOL to the GDP per capita is that the GDP per capita is solely a division of the country's production value per person. A human needs a certain level of income and access to material goods to transform them into being wealthy, to achieve goals, meet expectations and standards, and cater

to concerns. Income and access to material goods constitute material living conditions. The lack of these goods means material deprivation. A materially deprived person has no capacity to “to ensure normal living conditions for the current stage of development of society” (Cambir & Vasile, 2015, p. 936). Setting measurable objectives as a means to analyze and increase the QOL in the EU member states is in the EU institutions’ focus since the 2000s when the so-called Laeken indicators were created, which are the EU indicators for social inclusion and set the common framework for analysis of poverty in the EU member states. In 2009, the Leaken indicators were complemented with two material deprivation indicators, which were to capture the differences in material conditions across all EU countries. These material conditions are described by 9 items, which include the ability to:

- to cover unexpected expenses;
- to take a one week holiday away from home;
- to pay regular bills and debt on time;
- to buy a full meal 3-4 times a week;
- to keep the right temperature at home;
- afford a washing machine;
- afford a TV;
- afford a cellphone;
- afford a car.

The approach to measuring deprivation according to the above indicator is similar or the same as, for example, in the approach practiced by the Main Statistical Office (*Jakość życia...*, 2017, p. 6).

The EU deprivation rate is the percentage of people living in households who lack at least three of the above. Another indicator, the material deprivation intensity, describes the average shortage of the above things per each deprived citizen. Subsequently, the Europe 2020 Strategy contained further development of the above indicators to capture the risk of poverty, severe material deprivation, and quasi-joblessness (Guio *et al.*, 2016, p. 2, 3). Taking into account theoretical considerations, the aim of the research was to identify and assess economic aspects of the quality of life in the European Union countries.

Research methodology

The aim of the research was to identify and assess the economic quality of life (EQOL) in the member states of the European Union. One auxiliary question was used for its implementation: In which EU countries are the quality of life in terms of economic aspects at the highest level?

Several research methods were used to achieve the goals presented. The first was the analysis and criticism of domestic and foreign literature in the field

of the discussed issues. On its basis, the EQOL in the European Union was defined and determined, and possible ways and methods of its research and measurement were indicated.

The second of the research methods used was the analysis of secondary data obtained from the Eurostat database, concerning selected material living conditions, which are economic measures of the quality of life. The choice of empirical material for the research was made based on the available methodology developed by Eurostat in the field of quality of life, which divides it into nine areas: material living conditions, main type of activity/work, health, education, free time and social relations, economic and physical security, state and basic rights/active citizenship, quality of the environment in the place of residence and subjective well-being. From the perspective of the aim of the study, the first of these areas was analyzed, i.e., material living conditions, which can be aggregated into three general groups related to income, consumption, and other material conditions. Within the scope of the presented research goal, and in the face of the volume limitations of the study, one measure from each of the groups was selected for the analysis. They include, respectively: gross domestic product (GDP) measured in purchasing power standards (PPS), hereinafter referred to as GDP or GDP per capita, average income (in euro) and the severe material deprivation rate (SMD), defined as the percentage of the population affected by this phenomenon. The choice of the last indicator was dictated by the fact that it allowed for a more direct measurement of the standard of living of the population than the previous income indicators (Panek & Zwierzchowski, 2016, p. 180-199). The selection of these three measures was dictated by two reasons. First, all these data were based on quantitative values (the so-called objective approach to the quality of life) and not qualitative ones (subjective approach), which usually provide data related to the level of human satisfaction with the degree of satisfaction of their needs, i.e., lack of money for food or an indicator of poor sanitary conditions (Karmowska & Marciniak, 2016, p. 290). Secondly, the measures selected for the analysis were relatively the most general and “global” in nature in relation to the others (e.g., in relation to the detailed indicator, which is the share of expenditure on food and non-alcoholic beverages in total expenditure, or the extent of extreme or multidimensional poverty (*Jakość życia...*, 2017, p. 4).

The third and last method used in the conducted research was the statistical method in the field of descriptive statistics (standard deviation and arithmetic mean), which was used to group countries into levels (high, medium, low, very low) according to individual EQOL measures and HDI from 2019. The methodology with which the level of indicators was determined and defined is presented in Table 1. The statistical tool in the form of Statistica version 13.3 was used to develop the analysis of the research material and synthetic presentation of the results. In terms of statistical methods, the analysis of dynamics was also used to present changes in individual measures (Mastalerz-Kodzis, 2016, p. 27).

Table 1

Criteria for grouping countries according to the economic dimension of the quality of life

Level	The basis of grouping	Meter level
I	$d_i \geq \bar{d} + S_d$	high
II	$\bar{d} < d_i \leq \bar{d} + S_d$	medium
III	$\bar{d} - S_d < d_i \leq \bar{d}$	low
IV	$d_i < \bar{d} - S_d$	very low

Source: own elaboration based on Wysocki & Lira (2005).

The research covered the years 2010-2019. For each of the analyzed indicators, the dynamics were calculated to show their changes in individual EU countries. The base year for these calculations was 2010 (100%). Data from 2013 and 2016 are provided for illustrative purposes.

The limitations related to the conducted research resulted from the certainty that the volume of the article was limited, and it was not possible to comprehensively present the situation regarding the quality of life in the EU countries. For this reason, economic measures of a general nature were selected to represent the issue in question.

In the future, however, it is certainly worth exploring the issues raised and, for example, comparing the economic aspects of the quality of life from 2020 or 2021 with previous years. It is interesting if and what changes, not only economic, in the quality of life were caused by the SARS CoV-2 virus pandemic. For now, there are no complete data for 2020 and 2021 to carry out this type of analysis.

Research results – economic quality of life in the EU Member States

The quality of life can be considered from many perspectives using many different types of measures, both quantitative and qualitative. One of the synthetic quantitative measures is HDI. It includes, on the one hand, life expectancy or years of education for children/people older than 25 years, and on the other hand, GDP per capita calculated in PPS. Understood in this way, the HDI in 2019 was defined as very high (values higher than 0.8) in all surveyed countries. Such an interpretation of the results, however, took into account the HDI classification methodology provided by the United Nations Development Program – UNDP (Van Puyenbroeck & Rogge, 2020, p. 1). On the other hand, when prioritizing HDI according to the approach described in the methodological part of the study, the differentiation in the level of the measure in individual countries was much

greater. The highest HDI level in 2019 was recorded in Ireland (0.955), and a high level of this indicator was identified in five more countries where it ranged between the values of 0.947 – Germany, and 0.938 – Finland. In terms of HDI, the lowest value was identified in Bulgaria (0.816). In addition to this, three more countries are classified as very low in terms of HDI. They include Romania, Croatia and Hungary (*Human Development Report...*, 2020, p. 343). It is worth adding that, according to the UNDP methodology, all of the surveyed countries could be classified as having a very high HDI index. The results in the field of HDI have been confirmed by the research carried out in the field of EQOL, which will be discussed later in the paper. Due to the fact that all components of HDI, except GDP per capita, are not strictly related to EQOL, HDI will not be the main topic of considerations later in this paper. The indicators of typically economic specificity included in the study include GDP per capita expressed in percentage values, average income expressed in euro or SMD, calculated as the percentage of the population of a given country affected by the phenomenon of material deprivation.

Further along in the text, detailed analyses of the second and third above-mentioned measures have been made, which are presented according to the decreasing values for the data from 2019. The presented analyses also include considerations regarding the first indicator, i.e. GDP per capita, but without presenting a summary statement (Tab. 2), due to the volume limitations of the article and the fact that these data in many countries were in line with the average income.

The first measure describing the EQOL was the average income in individual Member States. At this point, one should notice an analogy and convergence of the indicator of the average income value in EU countries with GDP per capita, which is confirmed by three situations. The first one concerns Luxembourg and Ireland, where the average income in 2019 was classified as the highest, with income equal to EUR 42,818 and EUR 29,684 respectively (Tab. 2). The GDP per capita indicator was similar in these countries, which was identified in Luxembourg at the level of 260.0% and in Ireland at 193.0%. The reference point was 100% as the EU average. The second situation confirming the analogy between average income and GDP per capita was related to countries such as Denmark and Austria. They recorded an average income of EUR 34,332 and EUR 28,568, respectively, while classifying them to the average level in terms of GDP of 130.0% and 126.4%, which meant a better situation than the EU average (Eurostat data [nama_10_pc], 24.04.2021).

The third and last phenomenon demonstrating the analogies between the average income and GDP per capita resulted from the situation of Bulgaria, which in the case of both measures was classified at a very low level. Average income EQOL was also very poor in Romania and Hungary, respectively EUR 4,419 and EUR 6,568, although in terms of GDP per capita, these countries were classified as low and ranked 23rd and 20th.

Table 2

Average income in EU countries (in euro)

Country	2010	2013	2016	2019	Level of the indicator in 2019	Dynamics (2010 year =100%)
Luxembourg	36,410	38,442	37,642	42,818	high	117.6
Denmark	26,915	30,082	32,141	34,332		127.6
Ireland	23,965	23,392	25,586	29,684		123.9
Austria	23,576	24,366	26,054	28,568		121.2
Finland	23,528	25,901	26,379	28,061	medium	119.3
Netherlands	22,692	23,125	25,366	27,352		120.5
Sweden	20,070	27,094	27,347	26,356		131.3
Belgium	21,353	23,279	24,264	26,275		123.1
France	23,421	24,713	25,278	26,210		111.9
Germany	21,470	22,471	24,020	26,105		121.6
Italy	18,221	17,932	18,286	19,528		107.2
Cyprus	18,929	19,426	16,943	19,302		102.0
Spain	16,922	15,635	15,842	17,287		102.2
Malta	11,794	13,438	15,505	17,246		146.2
Slovenia	12,653	12,706	13,193	15,236	120.4	
Estonia	6,782	7,846	10,102	12,780	188.4	
Portugal	10,540	9,899	10,562	11,786	111.8	
Czechia	7,981	8,695	8,808	11,068	138.7	
Latvia	5,466	5,732	7,526	9,749	178.4	
Greece	13,974	9,303	8,673	9,382	67.1	
Lithuania	4,975	5,648	7,033	9,264	186.2	
Slovakia	6,785	7,266	7,391	8,523	125.6	
Croatia	6,622	5,817	6,337	8,089	122.2	
Poland	5,116	5,976	6,659	8,022	156.8	
Hungary	4,631	5,027	5,396	6,568	141.8	
Bulgaria	3,498	3,509	3,857	5,551	158.7	
Romania	2,371	2,324	2,746	4,419	186.4	

Source: own elaboration based on Eurostat data [ilc_di03] (25.04.2021).

When considering the changes in the average income, the situation was the best in Estonia, Romania, Lithuania, and Latvia, where the dynamics index was higher than in other EU countries. The largest positive changes in the average income during the period under study were identified in Estonia at 188.4% and was slightly smaller in Romania at 186.4%. It was a positive phenomenon, which may indicate a gradually improving EQOL related to the average income of the population living in these countries. Interestingly, in the countries with the highest middle income, such as Luxembourg or Finland, and the middle-income ones, such as France or Germany, relatively lower dynamics of growth of the average income was observed.

It is also worth adding that among all EU countries, only in the case of Greece was there a decrease in average income. In the analyzed period, the EOQL measured with average income decreased by as much as 32.9%. Undoubtedly, this situation was influenced by an increase in employment, which only in the services sector amounted to approx. 14% in 2016 and compared to 2012 it was an increase of 14.7%, with a simultaneous decrease in production in the same period by 38.6%. Undoubtedly, such a state was also related to the crisis of the Greek economy in the analyzed period 2010-2019 (Decyk, 2020, p. 61, 63).

The generally inverted proportion of the average income level in relation to its dynamics was undoubtedly caused by the financial crisis and the global economic recession which started in 2008. The national economies of Romania, Estonia, Lithuania, and Bulgaria are characterized by a much lower socio-economic potential and were much more affected by the economic recession. As a result, the economies of these countries “entered the following years” (2009 and later) with a very low level of socio-economic development. For this reason, the average income in the analyzed period was, on the one hand, at a low or very low level, and on the other hand, in 2016-2019, these countries showed particularly high (the highest in the EU) dynamics in its scope.

In the case of strong European countries, such as Luxembourg, Germany, France or even Italy, the crisis did not cause a breakdown in average income, and therefore the dynamics of its increase in the analyzed period was less noticeable than in the poorer countries. For this reason, among the countries mentioned, there was a much lower growth rate of the analyzed measure. For example, Luxembourg was at the level of 117.6%, Germany was at 121.6%, and for example Italy was only at 107.2%.

The analysis of the average income level index should be extended to include the interpretation of two other indicators from the income categories, namely the Gini index and the population at risk of poverty. Analyzing the first of them, from the perspective of all European countries and throughout the analyzed period, the worst situation was in Bulgaria. In this country, the Gini index was at the level of 8.10 in 2019. This means that in this country the greatest disparities in the distribution of the population's income were identified. The situation was antagonistic in the Czech Republic, which throughout the analyzed period showed the most favorable values of the Gini index, and in 2019 its level was almost 2.5 times better (242%) than in Bulgaria and amounted to 3.34 (in 2019 Slovakia also achieved this result). Based on these data, it should be stated that in the Czech Republic and Slovakia, the lowest level of income inequalities were identified in the entire EU (Eurostat data EU-SILC survey [ilc_di11], 1.02.2022).

In terms of the percentage of the population at risk of poverty, understood as 60% of the national median sustainable disposable income, the situation in the analyzed period in the EU was stable, oscillating between 16.5% (2010) and 17.3% (2015 and 2016), which is a change of only 0.95. In 2019, in 13 countries, this indicator was below the value of the entire EU (17.0%), e.g. in Finland,

Slovakia, Slovenia and Hungary. At the same time, the situation of poverty among the population was the most favorable in the Czech Republic. In the entire analyzed period, only in 2019, it slightly exceeded 10% (10.1%), in the remaining years it ranged from 8.6% (2013) to 9.8% (2011). In the remaining 14 countries, poverty was higher than the EU level, e.g. in Latvia, Estonia, Spain, Lithuania or Italy. On the other hand, Bulgaria (22.6%) and Romania (23.8%) had some of the highest percentages of the population at risk of poverty in 2019. The analysis of the Gini indicators and the population at risk of poverty confirmed the 2019 data and is included in Table 2. It concerns the average income in EU countries such as Romania and Bulgaria (Eurostat data EU-SILC and ECHP surveys [ilc_li02], 2.02.2022).

The second analyzed economic indicator, which may prove the quality of life, was the so-called material deprivation presented in percentages. It expresses a situation where families cannot afford four out of nine items, including: paying rent and utility bills, adequately heating the house, unexpected expenses, eating meat, fish or their protein equivalent every other day, one week's vacation away from home, use of a car, washing machine, TV, or telephone (*Skrajne ubóstwo...*, 2017, p. 2). It follows that the positive level of this negative indicator is the one that is as close as possible to zero. The higher its value, the worse the EQOL in each country. The situation is similar with the dynamics of the discussed measure. It is assumed that the lower the SMD dynamics index, the better. The lower value of this measure indicates an improvement in the conditions and EQOL in each country.

In general, material deprivation in most EU Member States developed positively, because of which the EQOL was satisfactory. This was evidenced by the low or very low level of the analyzed indicator, which occurred in as many as 17 countries of the Community (Tab. 3). The remaining 10 countries were characterized by moderate to high levels of material deprivation. The best situation in 2019 was in Luxembourg (1.3%). It is also worth noting that in Sweden in 2016 this rate was only 0.8% and was the lowest for the entire period under study among all EU countries. These countries, like Finland and the Netherlands, were characterized by a high or average level of GDP per capita, and these countries were classified in this respect in the top ten of all EU countries.

The lowest quality of life in the context of material deprivation occurred in the countries of south-eastern Europe, which are characterized by the poorest socio-economic situation and the poorest quality of life resulting from GDP per capita, i.e., in Bulgaria, Greece and Romania, where there are high levels of SMD. In addition, these are new countries in the EU, and this was also correlated with the level of the deprivation rate (Klimczak *et al.*, 2017, p. 17). In the cited countries, the highest percentage of households were not able to provide basic living conditions to people staying in them. In 2019, the worst situation was in Bulgaria, where approximately one in five households (20.9%) indicated a poor

Table 3

Material deprivation in EU countries (in % of a given country's population)

Country	2010	2013	2016	2019	Level of the indicator in 2019	Dynamics (2010 year =100%)
Bulgaria	45.7	43.0	31.9	20.9	high	45.7
Greece	11.6	20.3	22.4	16.2		139.7
Romania	30.5	29.8	23.8	14.5		47.5
Lithuania	19.9	16.0	13.5	9.4	medium	47.2
Cyprus	11.2	16.1	13.6	9.1		81.3
Hungary	21.6	27.8	16.2	8.7		40.3
Slovakia	11.4	10.2	8.2	7.9		69.3
Latvia	27.6	24.0	12.8	7.8		28.3
Italy	7.4	12.3	12.1	7.4		100.0
Croatia	14.3	14.7	12.5	7.2		50.3
Portugal	9.0	10.9	8.4	5.6		62.2
Ireland	5.7	9.9	6.7	5.4		94.7
Spain	4.9	6.2	5.8	4.7		95.9
France	5.8	4.9	4.4	4.7	81.0	
Belgium	5.9	5.1	5.5	4.4	74.6	
Malta	6.5	10.2	4.4	3.6	55.4	
Poland	14.2	11.9	6.7	3.6	25.4	
Estonia	9.0	7.6	4.7	3.3	36.7	
Czechia	6.2	6.6	4.8	2.7	43.5	
Austria	4.3	4.2	3.0	2.6	60.5	
Germany	4.5	5.4	3.7	2.6	57.8	
Denmark	2.7	3.6	2.6	2.6	96.3	
Slovenia	5.9	6.7	5.4	2.6	44.1	
Netherland	2.2	2.5	2.6	2.5	113.6	
Finland	2.8	2.5	2.2	2.4	85.7	
Sweden	1.9	1.9	0.8	1.8	94.7	
Luxembourg	0.5	1.8	1.6	1.3	very low	186.4

Source: own elaboration based on Eurostat data [ilc_mddd11] (25.04.2021).

quality of life due to SMD. In Romania, 14.5% of such situations were identified. The only positive symptom in the EQOL in these countries was the fact that the dynamics of the interpreted indicator decreased significantly. In the analyzed period, it amounted to 45.7% for Bulgaria, and 47.5% in Romania, which proves a significant improvement in the EQOL and lower material deprivation.

Greece was in the worst situation, where the level of the measure was considered high at 16.2%, and in addition its dynamics tended to increase until 2016. Since then, the value of the indicator has been decreasing, but in 2019 compared to 2010 (11.6%), it is still higher by 4.6 percentage points at 16.2%.

The increase in the rate of growth occurred only in two countries, in Luxembourg and the Netherlands. This would be an alarming phenomenon were it not for the fact that these were countries with very low or low material deprivation rates, respectively 1.3% and 2.5%. The increase in SMD to the level of 1.3% and 2.5%, respectively, did not cause a significant decrease in the EQOL in these countries. In addition, as shown in the previous analysis, these countries are leaders in classifications regarding either average income or GDP per capita, so the EQOL in these parts of the EU is not threatened by a sharp drop in *ceteris paribus*.

The situations in two EU countries are noteworthy. Even though the economic crisis was also visible in their case, they managed to significantly improve their SMD performance. Examples include Latvia and Poland. In Latvia, the deprivation index decreased by more than 14.8 points, which was equivalent to the dynamics of changes at the level of 28.3% and made Latvia the second largest European economy in this respect. Poland came first, with the highest decrease in SMD (by 74.6% from 14.2% in 2010 to 3.6% in 2019). It should be noted and added that this phenomenon is permanent, and since 2016 it has been gradually decreasing by 11-20% year on year. This situation was most influenced by the deprivation component of the possibility of financing a weekly trip once a year. The percentage of people who could not meet this need decreased in 2016 compared to 2008 in Poland by over 22 percentage points (Sergeyuk, 2018, p. 19). A similar trend was observed in the case of extreme poverty in Poland, which also decreased, although less than assumed in the realistic scenario. In 2016, compared to 2015, it decreased by 25%, while a decrease of approx. 30% was assumed. The financial instrument in the form of an allowance for 500+ families was to provide support both in the case of poverty and SMD. In fact, both indicators decreased, but it should be noted that material deprivation showed a lower dynamic of decline in 2015-2016 compared to the previous years (*Skrajne ubóstwo...*, 2017, p. 4, 5).

Comparing the research results to those conducted by Raczkowska (2016, p. 518) from earlier years (2006–2014), it should be noted that there were some analogies. For example, the countries with the highest SMD index included Bulgaria, Romania, and additionally the situation from 2006 in Latvia and Poland. The research of the mentioned author showed that material deprivation dropped significantly in Bulgaria by 24 percentage points, similarly (as in the authors' own research, by 24.8 percentage points), as well as in Latvia and Lithuania.

Conclusions

The aim of the research was to identify and assess the quality of life in the Member States of the European Union, and as mentioned in the methodological part, 3 economic indicators that determine it were analyzed. The methodology

used in the work allowed for the identification and assessment of the quality of life of countries in terms of the analyzed economic indicators. Based on the collected empirical material and the analyses carried out within the methodological assumptions (dynamics index), the assumed goal was achieved, and several important conclusions were obtained. Firstly, it should be noted that the highest EQOL in the analyzed period was recorded in Luxembourg (all indicators at the appropriate level), followed by Ireland, Austria, and Denmark, which achieved a high quality of life in terms of average income and a low deprivation rate (Tab. 4). All these countries were among the top five EU countries in terms of GDP per capita. Additionally, in the case of Ireland and Denmark, the results in terms of quality of life considered in the economic context confirmed the HDI values, which were at the highest level.

Table 4

Comparison of different levels of indicators in the UE countries

HDI value		Countries
High	0.938-0.955	IE, DE, SE, NL, DK, FI
Medium	0.900-0.931	BE, AT, SI, LU, ES, FR, CZ
Low	0.860-0.895	MT, EE, IT, EL, CY, LT, PL, LV, PT, SK
Very low	0.816-0.854	HU, HR, RO, BG
Average income in euro		Countries
High	28,568-42,818	LU, DK, IE, AT
Medium	17,287-28,061	FI, NL, SE, BE, FR, DE, IT, CY, ES
Low	80,22-17,246	MT, SI, EE, PT, CZ, LV, EL, LT, SK, HR, PL
Very low	4,419-6,568	HU, BG, RO
SMD in % of population		Countries
High	14.5-20.9	BG, EL, RO
Medium	7.2-9.4	LT, CY, HU, SK, LV, IT, HR
Low	1.8-5.6	PT, IE, ES, FR, BE, PL, MT, EE, CZ, SI, DE, AT, DK, NL, FI, SE
Very low	0.0-1.3	LU

Source: own elaboration.

Secondly, the countries with the lowest EQOL according to the research included Bulgaria and Romania, where the worst quality of life was identified in the context of the analyzed indicators, as well as Greece (high SMD) and Hungary (very low average income measure). The analysis of the Gini index and the poverty of the population, carried out complementary to the average income index, confirmed the lowest values of average income in the EU in Bulgaria and Romania. At the same time, it was noticed that these countries had one of the highest indicators of the dynamics of average income. This phenomenon can be explained by the fact that these countries have been presenting a very low economic potential for many years in relation to other EU countries, and

the economic crisis of 2008 exacerbated these disproportions even more. At the same time, it has caused the EQOL indicators to look more favorable every year since then. Although their average income is one of the lowest in the EU, its dynamics in the analyzed period was particularly high. The deprivation rate also improved from 2010-2019 as it decreased, except for Greece, which, apart from the global crisis, is also experiencing internal economic problems. Despite the aforementioned high dynamics in terms of the quality of life in economic terms, in countries such as Bulgaria, Romania and Hungary, the HDI level was described as very low. In the case of these countries, the economic indicators analyzed in the studies were additionally confirmed by the conclusions drawn from the interpretation of the HDI index.

The last conclusion worth mentioning that enables the assessment of the quality of life in EU countries is the one concerning the quality of life in Poland, especially in the context of SMD. This country saw the highest decrease in the SMD dynamics in the analyzed period among all countries. This situation was undoubtedly influenced by greater possibilities of financing individual aspects related to deprivation, including in particular financing a weekly trip once a year, but also the possibility of covering unexpected, larger expenses, heating the apartment according to the needs, as well as maintaining an appropriate diet.

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References

- Assa, J. (2021). Less is more: The implicit sustainability content of the human development index, *Ecological economics*, 185, 1-13. <https://doi.org/10.1016/j.ecolecon.2021.107045>.
- Banaszek, M. (2016). Ekonomia współdzielenia jako alternatywny kierunek rozwoju miast, *Ekonomia Społeczna*, 1, 51-59. <http://dx.doi.org/10.15678/ES.2016.1.04>.
- Barofsky, I. (2012). Can quality or quality-of-life be defined? [Editorial Material]. *Quality of Life Research*, 21(4), 625-631. <https://doi.org/10.1007/s11136-011-9961-0>.
- Cambir, A., & Vasile, V. (2015). Material dimension of life quality and social inclusion. In S. Daniel (Ed.), *Emerging Markets Queries in Finance and Business 2014, Emqfb 2014*, 32, 932-939. [https://doi.org/10.1016/s2212-5671\(15\)01551-8](https://doi.org/10.1016/s2212-5671(15)01551-8).
- Chrobocińska, K., Decyk, K., & Szule, R. (2021). *Jakość w działalności gospodarczej*. Olsztyn: Instytut Badań Gospodarczych.
- Decyk, K. (2020). Potencjał produkcyjny sektora usług w krajach członkowskich Unii Europejskiej. *Zeszyty Naukowe SGGW, Polityki Europejskie, Finanse i Marketing*, 24(73), 54-69. <https://doi.org/10.22630/PEFIM.20.20.24.73.27>.
- Dipietro, W.R., & Anoruo, E. (2006). GDP per capita and its challengers as measures of happiness. *International Journal of Social Economics*, 33(10), 698-709. <https://doi.org/10.1108/03068290610689732..>
- Eurostat data EU-SILC survey [ilc_di11] (1.02.2022).
- Eurostat data EU-SILC and ECHP surveys [ilc_li02] (2.02.2022).
- Eurostat data [nama_10_pc] (24.04.2021).
- Eurostat data [ilc_mddd11] (25.04.2021).
- Eurostat data [ilc_di03] (25.04.2021).

- Farris, F.A. (2010). The Gini Index and Measures of Inequality. *The American Mathematical Monthly*, 117(10), 851. <https://doi:10.4169/000298910x523344>.
- Guio, A.C., Marlier, E., Gordon, D., Fahmy, E., Nandy, S., & Pomati, M. (2016). Improving the measurement of material deprivation at the European Union level. *Journal of European Social Policy*, 26(3), 219-233. <https://doi.org/10.1177/0958928716642947>.
- Human Development Report 2020. The next frontier. Human development and the Anthropocene.* (2020). New York: United Nations Development Programme.
- Jakość życia w Polsce edycja 2017.* (2017). Główny Urząd Statystyczny. Retrieved from <https://stat.gov.pl/obszary-tematyczne/warunki-zycia/dochody-wydatki-i-warunki-zycia-ludnosci/jakosc-zycia-w-polsce-edycja-2017,16,4.html> (4.04.2021).
- Karmowska, G., & Marciniak, M. (2016). Poziom i jakość życia w krajach Europy Środkowo-Wschodniej. Konwergencja czy dywergencja? *Journal of Agribusiness and Rural Development*, 2(40), 289-303. <https://doi.org/10.17306/JARD.2016.33>.
- Marks-Bielska, R., Lizińska, W., Wojarska, M., & Babuchowska, K. (2020). Institutional efficiency versus stability of local governments in basic areas of activity: the case of Poland. *Equilibrium. Quarterly Journal of Economics and Economic Policy*, 15(3), 463-487. <https://doi.org/10.24136/eq.2020.021>.
- Mastalerz-Kodzis, A. (2016). Dynamika przemian społeczno-ekonomicznych krajów Unii Europejskiej. *Studia Ekonomiczne, Zeszyty Naukowe Uniwersytetu Ekonomicznego w Katowicach*, 265, 26-37. Retrieved from <https://www.sbc.org.pl/dlibra/publication/256108/edition/242241/content> (19.04.2021).
- New Data Navigation Tree. European Commission. Eurostat. Data. Database. Retrieved from https://ec.europa.eu/eurostat/web/main/data/database?p_p_id=NavTreeportletprod_WAR_NavTreeportletprod_INSTANCE_nPqeVbPXRmWQ&p_p_lifecycle=0&p_p_state=normal&p_p_mode=view (22.04.2021).
- Panek, T., & Zwierzchowski, J. (2016). Ubóstwo w krajach Unii Europejskiej. *Ekonomista*, 2, 180-199. Retrieved from <http://www.pte.pl/pliki/1/8905/Ekonomista2016-2-strony-29-48.pdf> (22.04.2021).
- Klimczak, W., Kubiński, G., & Sikora-Wiśniewska, E. (2017). *Wykluczenie społeczne w Polsce – wybrane zagadnienia*. Wrocław: Wydawnictwo Exante. Retrieved from https://jbc.bj.uj.edu.pl/Content/478677/NDIGO_Z031296.pdf (21.04.2021).
- Rutkowska, A. (2018). Społeczno-ekonomiczne przejawy sharing economy. *Zarządzanie i Finanse*, 16(4, 1), 165-178. Retrieved from http://www.wzr.ug.edu.pl/zif/13_12.pdf.
- Siergiejuk, M. (2018). *Ubóstwo i wykluczenie społeczne w Polsce i innych krajach Unii Europejskiej w latach 2008-2016*. Warszawa: Departament Analiz Ekonomicznych i Prognoz Ministerstwo Rodziny, Pracy i Polityki Społecznej. Retrieved from <https://www.gov.pl/web/rodzina/ubostwo-i-wykluczenie-spoeczne-w-polsce-i-innych-krajach-unii-europejskiej-w-latach-2008-2016> (18.04.2021).
- Skrajne ubóstwo i pogłębiona deprivacja materialna w Polsce w latach 2014-2016.* (2017). Polski Komitet Europejskiej Sieci Przeciw Ubóstwu. Retrieved from https://www.atd.org.pl/wp-content/uploads/2013/03/Skrajne-ubostwo-i-pog%C5%82%C4%99biona-deprivacja-materialna-w-Polsce-w-latach-2014-2016_EAPN-Polska.pdf (29.04.2021).
- Tavor, T., Gonen, L.D., Weber, M., & Spiegel, U. (2018). The Effects of Income Levels and Income Inequalities on Happiness [Article]. *Journal of Happiness Studies*, 19(7), 2115-2137. <https://doi.org/10.1007/s10902-017-9911-9>.
- Van Puyenbroeck, T., & Rogge, N. (2020). Comparing regional human development using global frontier difference indices. *Socio-Economic Planning Sciences*, 70, 1-8. <https://doi.org/10.1016/j.seps.2018.10.014>
- Wysocki, F., & Lira, J. (2005). *Statystyka opisowa*. Poznań: Wydawnictwo Akademii Rolniczej im. Augusta Cieszkowskiego.

