Methodological basis for measuring the quality of life as an economic category

Bases metodológicas para medir la calidad de vida como categoría económica

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ABSTRACT:
The article discloses the concept of quality of life in relation to the level of consumer freedom, which enables a person to develop and realize his/her human potential. The study develops a methodological approach to measuring quality of life as an economic category, based on calculations of the index of consumer freedom. The standard of consumer freedom is defined, the consumer freedom index is estimated for the countries of the European Union and Azerbaijan based on the data on individual consumer spending per capita. A rating of the studied countries is constructed by the level of the consumer freedom index. The country with the highest level of consumer freedom index is detected (Luxembourg) as well as the country with the lowest one (Azerbaijan), which states the existence of consumer inequality in the studied countries. A set of measures is developed to improve the quality of life in countries with low levels of consumer freedom, which includes: development of social entrepreneurship; stimulation of increased social responsibility of business; support of social partnership between government bodies, business and non-profit organizations; attraction of social investments; expansion of economic freedom of individual entrepreneurs.

Keywords: standard of living, living conditions, consumer freedom, human capital, human potential, well-being, economy of happiness

RESUMEN:
El artículo revela el concepto de calidad de vida en relación con el nivel de libertad del consumidor, que permite a una persona desarrollar y realizar su potencial humano. El estudio desarrolla un enfoque metodológico para medir la calidad de vida como una categoría económica, basada en cálculos del índice de libertad del consumidor. Se define el estándar de libertad del consumidor, el índice de libertad del consumidor se estima para los países de la Unión Europea y Azerbaiyán a partir de los datos sobre el gasto individual per cápita del consumidor. Una calificación de los países estudiados se construye por el nivel del índice de libertad del consumidor. Se detecta el país con el índice más alto de libertad de consumo (Luxemburgo), así como el país con el índice más bajo (Azerbaiyán), que establece la existencia de desigualdad del consumidor en los países estudiados. Se desarrolla un conjunto de medidas para mejorar la calidad de vida en países con bajos niveles de libertad del consumidor, que incluye: desarrollo del emprendimiento social; estimulación de una mayor responsabilidad social de las empresas; apoyo a la asociación social entre organismos gubernamentales, empresas y organizaciones sin fines de lucro; atracción de inversiones sociales; expansión de la libertad económica de empresarios individuales.

Palabras clave: nivel de vida, condiciones de vida, libertad del consumidor, capital humano, potencial humano, bienestar, economía de la felicidad

1. Introduction
Over the past decade, significant changes have occurred in approaches to assessing the results of socio-economic development of states. The volume of GDP per capita is no longer considered as the main indicator of social progress, since such an indicator does not always indicate the welfare of the population. This thesis is confirmed by the existence of poverty, unemployment and social inequality in countries with a high level of GDP per capita. In this regard, it is considered more acceptable to assess the quality of life of the population as a result of the development of social production (Stiglitz et al., 2009; Jones & Klenow, 2016; McGregor & Pouw, 2017).

The issue of improving the quality of life is one of the most discussed in the economic literature. The quality of life is considered from various perspectives:
- as a complex characteristic of the standard of living and living conditions;
- as a condition for the well-being of the population;
- as a factor and result of economic development (Carlquist et al., 2016; Clark, 2018; Slottje et al., 2019).

However, the following aspects of quality of life are still not well studied (which necessitates their additional studies):
- impact on the quality of life of human capital;
- consumer freedom of the population;
- the role of quality of life in the realization of human potential

The relevance of this study is due to the insufficient development of theoretical and methodological foundations for measuring quality of life as an economic category. This is explained by the fact that the economic content of the concept of quality of life does not remain unchanged. It is constantly filled with more and more content with the development of social relations and changes in human needs and conditions of existence. In connection with a change in the technological structure of the economy, additional opportunities open up for the realization of human potential.

The practical value of the study lies in the development of a new methodology for assessing the quality of life, based on the calculation of the consumer freedom index. The latter makes it possible to assess the extent of inequality in household consumption among different countries and develop measures to overcome this inequality. The implementation of the set of proposed measures will contribute to population's satisfaction with the quality of life and an increase in overall welfare. The formation of consumer freedom radars of different countries allows visualizing the results of the calculations, which facilitates the comparison of the quality of life between countries.

2. Literature review

Since the quality of life is a multifaceted concept, it is quite difficult to evaluate. One of the first approaches to assessing the quality of life was to use the Human Development Index of the United Nations Development Program (UNDP, 2010). This index took into account only three indicators: life expectancy, number of years of study and income level.

More comprehensive approaches to assessing the quality of life were proposed later. Thus, OECD uses an approach to assessing the well-being of the population using the Better Life Index. This index takes into account the importance of the tangible living conditions of the population (housing conditions, income, work), along with the quality of life:
- health condition;
- balance between work and personal life;
- education;
- public relations
- realization of civil rights;
- ecology;
- personal safety;
- satisfaction with one's life (Durand, 2015).

Greyling and Tregenna (2017) developed the Composite Index of Quality of Life. Such an index includes objective and subjective, as well as economic and non-economic indicators:
- type of housing;
- availability of electricity for lighting;
- indoor water;
- satisfaction with the amount of time allocated for oneself, one's friends and family;
- income;
- work;
- health;
- duration of education;
- sense of security;
- assessing the correctness of the direction of country's development;
- the opportunity to participate in free and fair political elections.

At the same time, researchers consider it important to compare the quality of life of various demographic and socio-economic groups.

Kuznetsov, Rastova and Rastov (2017) emphasize the need to assess the quality of life of various regions of the country. While not only ranking the list of regions depending on the final assessment, but classifying them according to typical problems in ensuring the quality of life of the population.

There are also other methodological approaches to assessing the quality of life of the population, which involve determining the Living Conditions Index (Vijaya, 2015), the Comprehensive Quality of Life Scale (Cummins,
2009), the Social Progress Index (Pate & Sweo, 2016).

The authors of the current study share the point of view of Slottje et al. (2019) regarding the fact that an ideal index of the quality of life does not exist, since it is impossible to comprehensively evaluate such a multifaceted concept. However, the development of composite indices helps to compare and characterize certain aspects of the quality of life in different countries, as well as to track the dynamics of changes in living standards in general.

The use of objective and subjective assessments of the quality of life is still a debatable issue. For example, Theofilou (2013) believes that the quality of life can be characterized only on the basis of subjective assessments by people of their satisfaction with their lives. While objective indicators of the quality of life should be used to determine the level of economic well-being. In contrast to this approach, Slottje et al. (2019) substantiate the need for a combination of subjective and objective measurement of quality of life. In the authors' opinion, the subjective approach involves assessing the quality of life as a measure of life comfort, psychological satisfaction of a person with his/her life. Whereas an objective approach should be applied in assessing the quality of life as an economic category.

Some authors study the impact of the following aspects on the quality of life:
- economic freedom in the country (Graafland & Lous, 2018);
- institutional environment (Bennett et al., 2016);
- migration flows (Lee et al., 2019) and other factors.

Other scholars study the influence of the level of economic development on the internal state of satisfaction with the life of the population, defining the quality of life as the basis for the formation of the economics of happiness (Carlquist et al., 2016; Clark, 2018).

At the same time, the authors consider the consumer aspect of satisfying human needs as a component of the quality of life to be insufficiently studied. One cannot disagree with the opinion of Stiglitz, Sen and Fitoussi (2009) that the material living standards of the population are best characterized by household income and consumption indicators. Consumption inequalities reflect social inequality to a much greater extent than income inequality (Aguiar & Bils, 2015).

The foregoing actualizes the need for an in-depth study of the quality of life through the prism of the consumer economy. Thus, it is relevant to assess the degree of satisfaction of the consumer needs based on:
- determination of the level of consumer freedom and its impact on living standards;
- clarification of the role of the state in creating favorable conditions for improving the quality of life of the population.

3. Problem statement
The research is aimed at developing the scientific foundations for improving the quality of life of the population in terms of the following:
- improving the concept of “quality of life”;
- systematizing methodological approaches to assessing the quality of life;
- identifying advantages and disadvantages of these approaches;
- developing a methodology for assessing the quality of life as an economic category;
- formation of a set of measures to improve the quality of life in countries with a low level of this indicator.

The aim of the study is to develop the methodological foundations for assessing the quality of life as an economic category.

The following tasks are aimed at achieving this goal:
- analyzing different scientists' definitions of the quality of life concept, and forming authors' interpretation of the economic content of this concept;
- developing a methodology for assessing the quality of life as an economic category based on the calculation of the consumer freedom index;
- forming a set of initial data for calculating the consumer freedom index in the countries of the European Union and in Azerbaijan;
- carrying out the rating of the studied countries according to the values of consumer freedom index;
- determining the countries with the highest and lowest values of this index;
- forming a set of measures to improve the quality of life in countries with the lowest values of the consumer freedom index.

The methodology for assessing the quality of life of the population, developed as a result of the study, will allow one to perform a comparative analysis and track the dynamics of changes in the quality of life in various countries.

The object of this study is the processes of ensuring, measuring and improving the quality of life of the population, the subject is the methodological aspects of measuring the quality of life as an economic category.

4. Materials and methods
To assess the quality of life, it is proposed to carry out calculations of the consumer freedom index for individual countries of the European Union and Azerbaijan based on the use of such a method of data visualization as the radar method (Draper et al., 2009; Feldman, 2013; Albo et al., 2016).

The methodology for calculating the consumer freedom index involves five successive steps. At the first stage, data is collected about the individual consumer expenditures of households in the studied countries. To do this, the relevant statistical resources are used (UNdata, 2017). Data on individual household consumption expenditures include the following indicators:

Var1 – food and soft drinks;
Var2 – alcoholic beverages, tobacco and drugs;
Var3 – clothes and shoes;
Var4 – housing, water, electricity, gas and other fuels;
Var5 – furnishings, household appliances and home maintenance;
Var6 – health;
Var7 – transport;
Var8 – communication;
Var9 – rest and culture;
Var10 – education;
Var11 – restaurants and hotels;
Var12 – other goods and services.

As part of this work, data on individual consumer spending of households of the countries of the European Union and Azerbaijan for 2018 were selected. Unfortunately, data for Bulgaria, Greece, Cyprus, Romania, Finland and Croatia were not available at the time of the study. Since the data of countries that are not members of the Economic and Monetary Union are presented in national currencies, in order to compare them, such data were converted into euros using the average annual exchange rate of national currencies to the euro according to European Central Bank (2018). Further, based on data on the population of countries (World Bank, 2018), the indicators of individual consumer spending of households per capita were calculated.

At the second stage, a vector-standard of individual household consumer spending per capita is determined ($\bar{e}$), which is a vector of maximum values of household per capita consumer spending among the countries studied:

$$\bar{e} = (\text{Var1}_{\text{max}}, ..., \text{Var12}_{\text{max}}).$$  

At the third stage, data on individual household consumption expenditures per capita for each country should be converted from absolute values to relative values ($a_{ij}$):

$$a_{ij} = \frac{\text{Var}_{ij}}{\text{Var}_{ij, \text{max}}},$$

where: $\text{Var}_{ij}$ – the value for an indicator $i$ for the country $j$.

At the fourth stage, based on the data obtained, consumer freedom radars are built and the following indicators are calculated:

$$S_j = \sin \left(\frac{360^\circ}{n} \cdot \frac{\text{Var}_{1j} \times \text{Var}_{2j} \times \text{Var}_{3j} \times \cdots \times \text{Var}_{12j}}{2} \right),$$

where $S_j$ – consumer freedom radar area for the country $j$; $n$ – the number of axes of the radar (the number of indicators, in our case $n=12$); $\text{Var}_{kj}$ – coordinates of indicators $i$ for the country $j$ on the respective axes of the radar.

$$S = \frac{1}{2} R^2 \sin \left(\frac{360^\circ}{n}\right),$$

where $S$ – area of the circumscribed circle of the consumer freedom radar, $R$ – circle radius (in our case $R=1$).

$$CFI = \frac{S_j}{S},$$

where $CFI$ – the Consumer Freedom Index.

At the fifth stage, the studied countries are rated according to the values of consumer freedom index, and the countries with the highest and lowest values of this index are determined.

5. Results

The choice of a method for assessing the quality of life is largely determined by the meaning of this category (e.g. the authors interpret the quality of life as an economic category). Thus, such a category is characterized by a certain level of consumer freedom, which:

- enables a person to develop and realize his/her human potential;
suggests the possibility of assessing the quality of life, based on the calculation of the consumer freedom index.

Moreover, consumer freedom of a person means the freedom to choose among various options and thus satisfy his/her individual consumer needs.

The index of consumer freedom refers to objective methods for assessing the quality of life. The index determines the set of consumer goods that an individual or household can acquire over a certain period of time. Thus, the index of consumer freedom allows one to get a quantitative description of the quality of life in the field of consumption.

The initial data on household consumer spending per capita for the countries of the European Union and Azerbaijan, necessary for determining the consumer freedom indexes of these countries, are systematized in table 1.

<table>
<thead>
<tr>
<th>Countries</th>
<th>Var1</th>
<th>Var2</th>
<th>Var3</th>
<th>Var4</th>
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</table>
The results of calculations of the consumer freedom index of the studied countries and their ratings are presented in table 2. According to the data in this table, the countries with the highest levels of consumer freedom are as follows:
- Luxembourg (CFI = 0.797);
- the United Kingdom of Great Britain and Northern Ireland (CFI = 0.412);
- Denmark (CFI = 0.395);
- Austria (CFI = 0.389);
- Germany (CFI = 0.360).

Whereas the countries with the lowest levels of consumer freedom within the European Union include the former socialist countries:
- Czech Republic (CFI = 0.067);
- Poland (CFI = 0.050);
- Hungary (CFI = 0.043);
- Bulgaria (CFI = 0.043);
- Azerbaijan (CFI=0.004).

Table 2
Calculation Results of Consumer Freedom Index for Selected Countries, 2018

<table>
<thead>
<tr>
<th>Countries</th>
<th>Var1</th>
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<th>Var4</th>
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<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
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<td>1.00</td>
<td>0.72</td>
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According to the calculation results, Luxembourg is the country with the highest level of consumer freedom:

- household expenses per capita for food and non-alcoholic drinks are 2942 euros;
- alcoholic drinks, tobacco and drugs - 2723 euros;
- clothes and shoes - 1697 euros;
- housing, water, electricity, gas and other fuel - 8072 euros;
- furnishings, household appliances and routine maintenance of the house - 1807 euros;
- transport - 4750 euros;
- other goods and services - 4716 euros.

There are other countries of the European Union that stand out:

- Belgium - the highest cost per capita for health (1297 euros);
- Sweden - for communication (645 euros);
- Denmark - for recreation and culture (2780 euros);
- the United Kingdom of Great Britain and Northern Ireland - for education (530 euros);
- Ireland - for restaurants and hotels (3355 euros).

The consumer freedom radars of the country's population with the highest level of this indicator (Luxembourg), with its lowest level (Azerbaijan) among the studied countries, as well as with the average level of costs in the European Union, are visualized in Figure 1. Comparison of these radars allows the authors to make a conclusion about the presence of significant consumer inequalities in the studied countries. This is explained by the fact that the degree of satisfaction of a person's needs depends on the following:

- his/her available income;
- the availability of desired goods for acquisition;
- the totality of needs that must be satisfied;
- the quality of goods consumed;
- the style of consumption.

Despite the fact that consumer freedom of the population of Azerbaijan is limited, compared with the countries of the European Union, this country is showing progressive changes in socio-economic development, including in the field of human capital development. This result is confirmed by the research of Gulaliyev M.G. et al (2019). It is expected that the development of the oil and gas sector of the economy of Azerbaijan will contribute to the accumulation of the State Oil Fund, part of which is planned to be used to diversify the economy, maintain macroeconomic stability and increase the welfare of the population.
General recommendations for improving the quality of life in countries with low levels of consumer freedom are as follows:

- the development of social entrepreneurship, which involves the construction of such a business model, in which part of the profit goes to solving social problems in society;
- stimulation of increasing the social responsibility of business, which involves the allocation of part of the funds to the social needs of employees, sponsorship, environmental protection and other socially significant goals;
- support of social partnership between government bodies, business and non-profit organizations in solving social problems;
- the formation of the business community’s interest in social investment, which involves the implementation of investment projects with a positive social effect;
- expansion of economic freedom of entrepreneurial activity of the population, contributing to the improvement of the quality of life through personal efforts.

The application of the proposed measures will contribute to the development of human capital, which will increase the level of income and the degree of consumer freedom, expand consumer choice and increase the level of subjective satisfaction with a person’s quality of life.

6. Discussion

The authors present the definition of the essence of the quality of life, which differs from other approaches to the interpretation of this concept (Theofilou, 2013; Slottje et al., 2019). Namely, the definition presented in this study establishes the dependence of the level of quality of life on the degree of consumer freedom, which determines the possibility of realizing human potential. The appropriateness of applying this approach is explained by the fact that today’s economy is, in fact, a consumption economy focused on meeting human needs (homo-consumers) in various goods. It should be noted that human needs do not remain unchanged. When a certain need is met, another arises. The development of needs is facilitated by the creation of more and more new products and the stimulation of demand for them. Therefore, it is logical that the quality of life cannot remain unchanged, but should increase in the course of economic development.

The role of the state in ensuring the quality of life of the population remains debatable. In the authors’ opinion, paternalism should be avoided, when the entire responsibility for the quality of life of the population in the country is upon the state. The social responsibility of the state should be reduced to creation of favorable conditions for the development of human capital. Citizens should receive such level of income that will allow them to independently create comfortable living conditions. This opinion is shared by Bennett, Nikolaev and Aidt (2016). The state should create a favorable institutional environment to improve the quality of life of the population and achieve economic prosperity.

The proposed methodological approach to assessing the quality of life of the population based on the calculation of the consumer freedom index complements the existing methodological arsenal of economic science presented in the works of Cummins (2009), Durand (2015), Vijaya (2015), Pate and Sweo (2016), Greyling and Tregenna (2017) etc. The results of the evaluation of the consumer freedom index for the countries of the European Union and Azerbaijan made it possible to:

- determine the standard of consumer freedom;
- establish the countries with the highest values of this index relative to the standard (Luxembourg, United Kingdom of Great Britain and Northern Ireland, Denmark, Austria, Germany);
- establish the countries with the lowest index values (Slovakia, Czech Republic, Poland, Hungary, Bulgaria, Azerbaijan).

This confirmed the conclusion of Bennett, Nikolaev and Aidt (2016) that there is a big gap in the standard of living of the population in countries with developed and developing economies. Along with the costs of household consumption in such countries, which is consistent with the point of view of Aguiar and Bils (2015).

The advantage of assessing the quality of life using the radar method (presented in the works of Draper et al., 2009; Feldman, 2013; Albo et al., 2016) is the visualization of results. The latter allows one to:

- compare consumer freedom radars from different countries;
- identify strengths and weaknesses in ensuring various aspects of the quality of life of the population;
- use this method to rank countries.

The measures developed to improve the quality of life in countries with low consumer freedom cover a wide range of actions aimed at:

- developing social entrepreneurship;
- stimulating the increase of social responsibility of business;
- supporting social partnership between government bodies, business and non-profit organizations;
- attracting social investments;
- expanding economic freedom of individual entrepreneurs.

There are still issues outside the scope of this study:

- convergence of living standards of the population in different countries;
- identification of external and internal threats to a decrease in quality of life;
- assessment of the degree of consumer inequality in countries with developed and developing economies.
An unsolved problem is also the collection of relevant data for assessing the quality of life of as many countries as possible, which will allow different countries to be grouped according to the quality of life of the population. The latter will also allow differentiating measures for improving the quality of life for each of these groups. A promising direction for further research is to ensure the quality of life as the basis for building the so-called "happiness economy". Along with the formation of a set of indicators, as well as the development of methods and criteria for the integral assessment of the "level of happiness" of the population.

7. Conclusion

Quality of life is a comprehensive characteristic of living standards and living conditions of the population. The conditions for the development of human capital in the state have a decisive influence on the quality of life of a particular person. As an economic category, the quality of life is characterized by a certain level of consumer freedom, which enables a person to develop and realize his/her human potential.

The quality of life is subject to both objective and subjective assessment, since it takes into account both objective indicators of the standard of living and the subjective perception of living conditions by the population. Estimating the index of consumer freedom on the basis of data on individual consumer spending of households per capita allows us to obtain a quantitative description of the quality of life in the sphere of consumption. Assessment of the consumer freedom index for the countries of the European Union and Azerbaijan made it possible to:

- determine the standard of consumer freedom;
- establish the countries with the highest values of this index (Luxembourg, the United Kingdom of Great Britain and Northern Ireland, Denmark, Austria, Germany);
- establish the countries with the lowest index values (Slovakia, Czech Republic, Poland, Hungary, Bulgaria, Azerbaijan).

Comparison of consumer freedom radars allows us to make a conclusion about the existence of consumer inequality in the studied countries. The latter necessitates the implementation of a package of measures to improve the quality of life in countries with the lowest consumer freedom index. Such measures should be aimed at:

- developing social entrepreneurship;
- stimulating increased social responsibility of business;
- supporting social partnership between government bodies, business and non-profit organizations;
- attracting social investments;
- expanding the economic freedom of individual entrepreneurs.

The scientific value of the research results consists in the development of the scientific foundations for improving the quality of life in terms of:

- improving the conceptual representation of this concept;
- identifying the role of human capital in expanding consumer freedom of the population;
- the impact of quality of life on the realization of human potential.

The practical value of the study is in the following:

- systematizing objective and subjective approaches to assessing the quality of life;
- identifying the advantages and disadvantages of these approaches;
- developing authors' own methodological approach to measuring quality of life as an economic category based on the calculation of the consumer freedom index;
- forming a set of measures to improve the quality of life and achieve well-being.

Bibliographic references


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